

February 2017 RM10.49 (with GST)



Assistants Of
The Future

Living The
Drone Dream

ESL One
Genting 2017

CES 2017

Wearables. IoT. Enthusiast computing. Consumer electronics. This year, CES brings the masses a deluge of things to look forward to in 2017

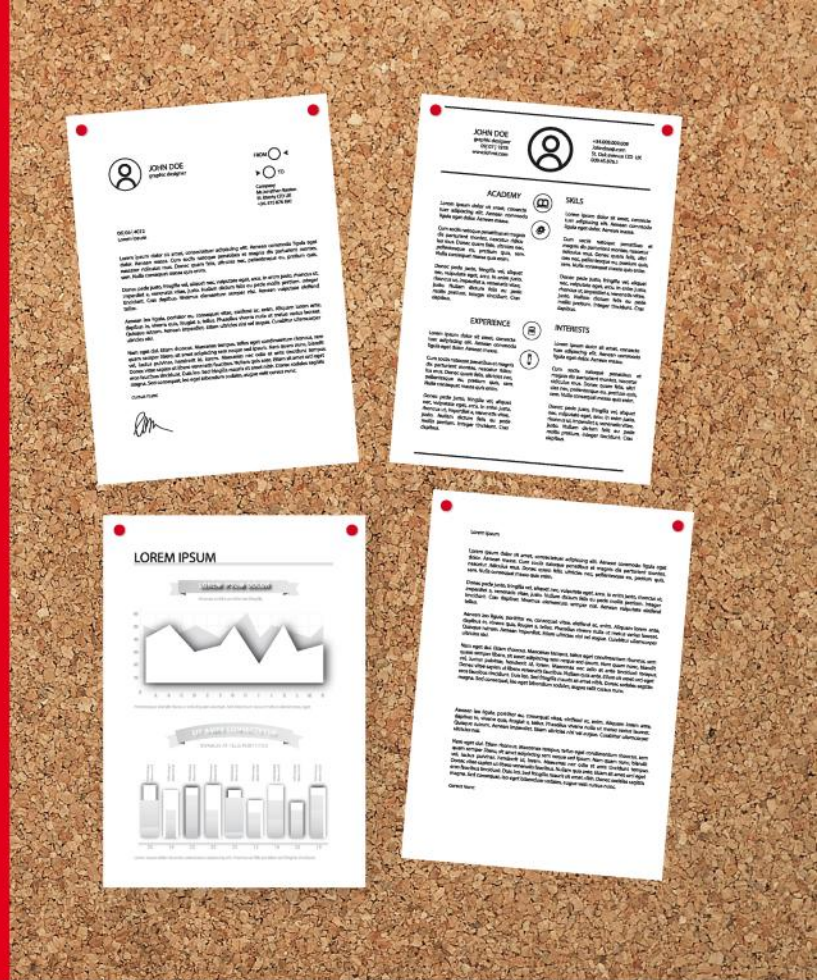


Reviews: MSI GT62VR Dominator Pro, Acer Swift 7, Lenovo Miix 510, MSI Z270 Gaming M7, Klipsch Reference Bluetooth, Sony a6500, Dell Alienware Aurora R5



OKI

JAPAN • 1881



MFP

MB472dnw / MB492dn
ES5162



Printer

B412dn / B432dn / B512dn
ES4132dn

- Fast print speed up to 45ppm
- Duplex and network ready, optional Wireless
- Apple AirPrint and Google Cloud Print ready
- Banner printing up to 1.3m long
- Secure printing to protect confidential documents



High performance A4 mono printer & A4 mono multifunction printer for more demanding user



TOLL FREE NO.: (9am-6pm, Mon-Fri)

1-800-88-1177

www.oki.com.my

Final February

The month of January has been a whirlwind of sorts. For starters there is the Consumer Electronics Show where everyone in the tech space is showing off their brand new and very innovative products. Some deserved mentions include Razer with the Project Valerie 3-screen prototype laptop, which was unfortunately stolen, the Cowarobot R1 autonomous luggage back, and the Kingston DataTraveler Ultimate GT 2TB flash drive.

Wearables and Internet of Things technology also seem to be making a big return this year, with one of the more interesting things on show being the Faraday Future, which showed off its new FF91 autonomous car, which many expect to rival Tesla's own vehicles.

On the local front, things have been quiet last month, some exceptions being Acer, Lenovo and a couple of other companies launching or at least announcing the availability of products that were shown at the event in Las Vegas.

As always, we've got quite a number of interesting features this month, one of them about drone flying. We've reviewed the DJI Phantom 4 a few months back, and besides some teething problems, we found it to be quite a fun activity, provided you don't crash it into anyone, or anything.

Continuing the IoT trend, Amazon has recently unveiled its own household digital assistant, in the form of the Echo and the Echo Dot. The assistant's name is Alexa, and she's about to show you how your own home experience can be enhanced even further with Amazon's help.

Not only that, we've also got two features about AMD's upcoming processor, Ryzen. Judging from the hype surrounding it, we finally have an alternative to Intel's stronghold of the desktop processor market, which should hopefully make things a bit more interesting for PC enthusiasts.

On the review front, we've got quite a number of cool stuff too, such as Dell's Alienware Aurora R5 gaming desktop pc, the Lenovo IdeaPad Miix 510, the MSI GT62VR Dominator Pro, which is features Intel's new Kaby Lake processor, and more. But as usual, you'll have to turn the pages to find out more.

We also would like to wish our Chinese readers Happy Chinese New Year!

Nazrin Zain
Deputy Editor



Managing Director Noor Azman

Head of Department YK Cheah

EDITORIAL

Deputy Editor Nazrin Zain

Senior Writer Matthew Yap

Writer Nixon Ng

Contributors Edwin Lee, Christoph Schmidt, James E. Curtis, Caren Stella Geiger, R. Mattgey, Jörg Geiger, Robert Di Marcoberardino, Markus Mandau, Leo Joscha, Fabian von Keudell

Design & Layout Halijah Ismail, Nurul Huda Mohd Dan

Cover Design Nurul Huda Mohd Dan

SALES & MARKETING

Senior Manager YK Cheah

Consultant Muffadzlee Dato' Sufian

ADMINISTRATION

Admin Manager WP Lim

ONLINE

www.chip.com.my

@CHIPMY

CHIP Malaysia

PUBLISHER

Online Dynamics (M) Sdn. Bhd.
A-5-07 Block A, Neo Damansara
Bandar Damansara Perdana, Jalan PJU 8/1
47820 Petaling Jaya, Selangor, Malaysia
Tel: (03) 7727 6554 Fax: (03) 7727 3554

PRINTED BY

Unipress Printer Sdn. Bhd.
117-G, Jalan Tiaj 1/4, Taman Industri Alam Jaya,
42300 Bandar Punchak Alam,
Selangor Darul Ehsan.
Tel: (03) 6038 5578 Fax: (03) 6038 3944

DISTRIBUTED BY

MPH Distributors Sdn. Bhd.
Ground Floor Warehouse, Lot 2, Bangunan TH,
No. 5, Jalana Bersatu, Section 13/4,
46200 Petaling Jaya, Selangor
Tel: (03) 7958 1688 Fax: (03) 7956 5995

© This edition of CHIP is a publication of Online Dynamics (M) Sdn. Bhd. licensed by Vögel Burda Holding GmbH, 80336 Munich, Germany.

© Copyright of the trademark 'CHIP' by Vögel Burda Holding GmbH, 80336 Munich, Germany.

No part of CHIP magazine / shall be reproduced without the publisher's written permission.

All views expressed in the magazine are solely those of the writer and do not necessarily represent those of CHIP magazine / the publisher.

All information in the magazine is provided 'as is' and 'as available' and CHIP magazine / the publisher makes no representations and gives no warranty of any kind, implied, express or statutory as to the accuracy, adequacy, completeness, non-infringement of 3rd party rights, title, merchantability and / or suitability / fitness for a particular purpose with respect to the said information.

Under no circumstances whatsoever shall the CHIP magazine / the publisher be liable for any direct, indirect, special or consequential damages whether in contract or in tort arising out of or in connection with the use of the information made available in CHIP magazine.

All prices, product versions and URLs' are correct at the time of printing.

International Members of the CHIP Family



China



Czech Republic



Germany



Hungary



India



Indonesia



Italy



Netherlands



Poland



Romania



Russia



Thailand



Turkey



Ukraine



COVER STORY

NEWS & TRENDS

FEATURES

064 CES 2017

Consumer Electronics Show this year showcases the year's consumer tech products, ranging from PCs, wearables and IoT devices

006 Local News

Coverage of the latest news and events right on our shores

030 World Wired Web

All the latest tech happenings around the world

026 Security Reports

Monthly dose of security news

042 Making Secure Payments Online

Using Germany's advancements in tech, we take a look at how we can make online payments safe

050 Living The Drone Dream

Want to get in on the latest hype that is drone-flying? We take a look at a few options

054 Assistants Of The Future

We take a look at some option for home-based digital assistants





TEST LAB

077 Test Lab: The Tools

Test Labs' tools of the trade

078 Test Lab Contents

Take a pick and get started!

086 Reviews

Professionally conducted reviews following our stringent tests and benchmarks

LITE & LEISURE

108 E-Sports Express

What's the latest gossip in the e-sports world?

106 Final Fantasy XV

The long-awaited roadtrip of a lifetime is finally here!

PRACTICE

116 Replace The Xperia Z Battery

Here's how you can replace the battery on an Xperia Z tablet yourself

REGULARS

001 Welcome Note

118 Tips and Tricks

080



CHIP Downloads February 2017

We're back with our monthly dose of interesting, free and handy tools for you to enhance your PC experience. If you want to know how you can get these files, follow the instructions below:

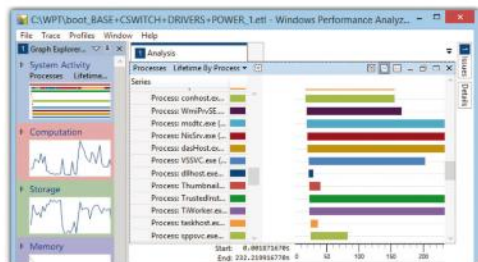
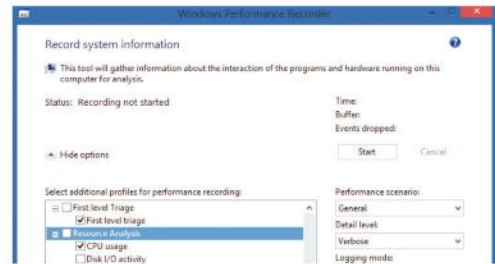
1. Head on our website @ www.chip.com.my and right at the top, click on the "Downloads" tab
2. After that, click on the respective month's post. You will then be prompted for a password. The password can be found on this page monthly.
3. Navigate using the tabs and pick the categories you want to download the files from. Once you find the file you want, just click on it and you're good to go!

And it's as easy as that!

PASSWORD FOR JANUARY 2017 - CES2017

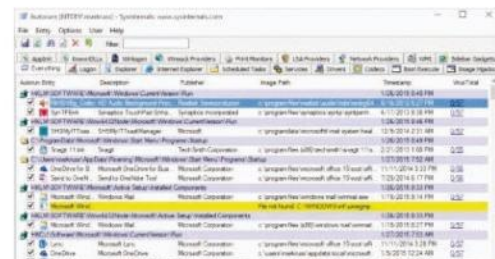
Featured Tools Windows Performance Recorder

WPR is a powerful recording tool that creates Event Tracing for Windows recordings. You can run WPR from the user interface or from the command line, and it provides built-in profiles that you can use to select the events that are to be recorded. Alternatively, you can author custom profiles in XML. WPR and WPA share the same installation file, so using the installation file will allow you to install both.



Windows Performance Analyzer

WPA is a powerful analysis tool that combines a very flexible UI with extensive graphing capabilities and data tables that can be pivoted and that have full text search capabilities. WPA provides an Issues window to explore the root cause of any identified errors. WPA shares the same installation file as WPR, so using the same installation you can install both.



Autoruns

This utility has the most comprehensive knowledge of auto-starting locations of any startup monitor, it shows you what programs are configured to run during system bootup or login, and when you start various built-in Windows applications like Internet Explorer and media players. Autoruns helps you zoom in on third-party auto-starting images that have been added to your system and it has support for looking at the auto-starting images configured for other accounts configured on a system.

Essentials

Our list of essentials consists of programs and software such as graphic drivers, browsers, compression software and even Cloud storage software that will improve a PC user's experience. The links on our website won't provide you with the files, instead it will lead you to the developers' official website, where you can find the right file for you.

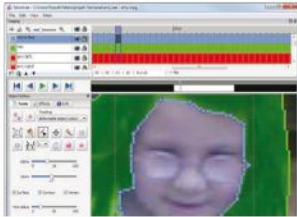


The Monthly Downloads

MediBang Paint Pro

Operating system: Windows 7/8.1/10

MediBang Paint Pro is a free digital painting and comic creation software available on both PC and Mac. It also comes loaded with features like easy comic panel creation and management along with pre-made tones and backgrounds.



Sensarea

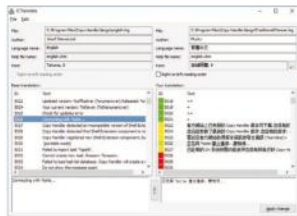
Operating system: Windows 7/8.1/10

Sensearea is an authoring tool for video object editing and ground truth video annotation, the tool is specially developed for scenario's where you wish to edit or alienate an object within a video.

MP3 Skype Recorder

Operating system: Windows 7/8.1/10

Ever wanted to record a Skype conversation where you and your friends shared great ideas? Now you can with MP3 Skype Recorder, it's free and can automatically record skype conversations the moment you make a Skype call.



Copy Handler

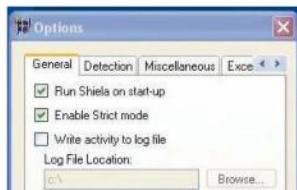
Operating system: Windows 7/8.1/10

Much like Tera Copy and Fast Copy, Copy Handler is an open source, free software for Windows that allows you take full control over the file copy and move operations, and also integrates into Windows Explorer.

ShareX

Operating system: Windows 7/8.1/10

ShareX is an advanced screenshot capture software with various methods of capturing screenshots, along with customisable after-capture tasks such as annotating, adding effects, watermarking, uploading, printing and other actions.



Shiela USB Shield

Operating system: Windows 7/8.1/10

Shiela USB Shield is a powerful first line defense against virus from infected removable drives, it locks autorun.inf files and associate executable files in multiple instances. It will delete and/or freeze shortcut and clone files, and restores the original automatically.

WiFiHistoryView

Operating system: Windows 7/8.1/10

A simple tool for Windows Vista/7/8/10 that displays the history of connections to wireless networks on your computer. For every event that the computer connected to a wireless network or disconnected from it, information is stored and displayed on the program.



AutoIt

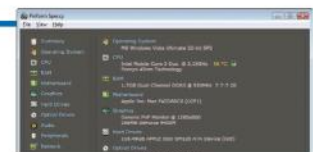
Operating system: Windows 7/8.1/10

AutoIt is a simple tool that can simulate key presses, mouse movements and window commands in order to automate any windows based task. It was primarily designed to assist in automatically installing software that cannot be installed automatically by other means.

Piriform Speccy

Operating system: Windows 7/8.1/10

Piriform Speccy is an application that scans through your system and displays all the hardware and software specifications of your PC for a quick glance. The Summary tab will show you all hardware specifications including processor, RAM, motherboard, graphics card, hard disk drive, optical drives, audios, as well as operating system.





Don't Skimp On Big Printers Anymore

OKI introduces affordable large format printing solution

Companies that deal with large format printing will be happy to know that OKI has introduced the ColorPainter E-64s, a 64-inch wide-format printer equipped with its proprietary low-odor, eco-solvent SX ink designed for low- to mid-volume sign and graphics business in the global market.

The E64s utilises OKI's advanced SX ink and proven print technologies, which has been proven to help keep cost of adoption low, which is also used in high-end printers such as the ColorPainter M-64s and ColorPainter H3-104s.

The SX ink has low amounts of odour, which also improves working environments while achieving a wide color gamut, vivid glossy prints, high-density color, superior outdoor durability, and low operating costs, making it ideal for a broad range of interior and exterior applications from vehicle wraps to backlit displays.


The ColorPainter E-64s inherits certain features from the higher-end models, including automatic print adjustments using optical colour sensors that automatically

perform both media advance and bi-directional position adjustment; Smart Pass Technology 4 (SP4) which realises stable, high-quality printing through optimal dot size; and Smart Nozzle Mapping 3 (SNM3), which automates the process of nozzle compensation, something previously done manually. It is a powerful tool for customers to improve workflows and efficiency.

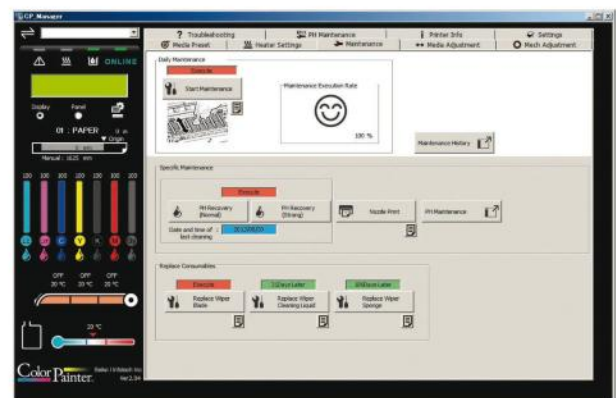
SX Inks are said to provide superior indoor and outdoor image durability, with images staying consistent for up to 36 months outdoors, unlike competitive inks that fade significantly after a few months. SX inks are also said to provide a low cost, as they carry a high pigment load, which significantly reduces ink usage and running costs.

On top of that, a Safe Scanning System detects when there is contact between the print heads and the media, allowing the operator to adjust during the print run without cancelling it, helping reduce ink and media waste, while improving efficiency and productivity.

Users can also utilise OKI's CP Manager Controller Software, which is developed specifically for ColorPainter printers. It allows users to operate the printer from a PC, as well as communicate with the printer via email and Twitter.

The OKI E-64s was launched sometime in September last year, and is already globally available. 

www.oki.com.my



OKI's CP Manager Controller software is specifically designed for use with ColorPainter printers allows users to control a variety of features of the printer

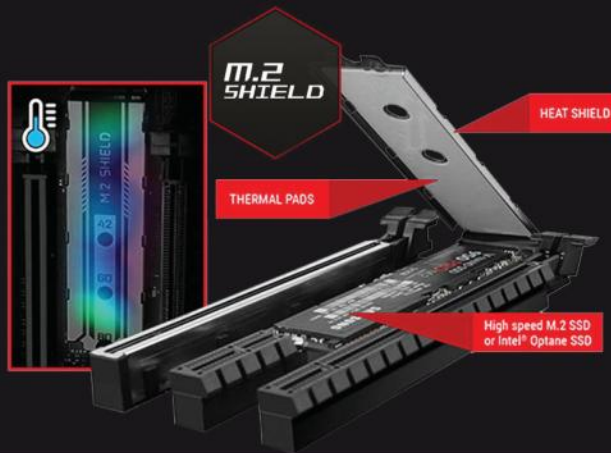


MSI GAMING EVOLUTION

If you're looking to upgrade your desktop PC, check out MSI's new Kaby Lake-based motherboards – the Z270 Gaming series

SSD POWER UP

Going the way of M.2? These new motherboards have a M.2 Shield, which is basically a bunch of cooling pads used to reduce the operational temperature of your M.2 SSD to prevent possible thermal throttling.



VR READY

The MSI Gaming motherboards are designed to bring you to the next level of gaming – VR gaming. Using the VR Boost USB port for your VR headset ensures that you get a strong signal, so that you can enjoy a smooth VR experience. It also has a One Click VR feature that will optimised your system for VR.



STORAGE UPGRADE

A fast loading speed is required for your games to feel as seamless as possible. The X-BBOOST feature will improve the performance of your storage drives by up to 20%, which helps make your system and games load faster.



AUDIO BOOST

Games are not complete without high quality audio, but that's not a problem here either. Thanks to the Audio Boost 4 PRO feature, you get the kind of high fidelity audio in both stereo or surround.



RGB LIGHTS EVERYWHERE

There's nothing like rainbows to brighten up your game. The Mystic Light Sync feature allows you to control any RGB LED-enabled products like gaming peripherals or PC chassis, making it possible to sync the colours and effects.

* FEATURES AND SPECIFICATIONS MAY VARY PER MODEL.



Acer XR342CK



Predator XB321HK

Acer Brings New Monitors This CNY

New high resolution monitors are now available in Malaysia

It's new resolutions for a new year with Acer Malaysia, for the brand has launched three new high-end monitors just in time for Chinese New Year. With the Acer ET430K, Acer XR342CK and Predator XB321HK monitors, consumers are expected to gain tremendous image quality for different viewing purposes.


The first monitor Acer introduced was its new Acer ET430K, a 43-inch monitor that provides wide angles. Suitable for entertainment or work, this monitor is ideal for presentations, graphic designing, or watching movies. It's a 4K monitor that has Picture in Picture (PIP) for multi-tasking, a set of built-in 7W speakers, 10-bit colour depth, and Acer's Super Sharpness technology. Its other features include BlueLightShield, Flicker-less and ComfyView technology, all designed to reduce eye fatigue and provide a comfortable viewing experience to the user.

Next is a 34-inch Ultrawide QHD (3440 x 1440 resolution) monitor – Acer XR342CK. This is a gaming monitor with a 21:9 display ratio and a 1900R curvature for immersive viewing. It has useful features like PIP, multi-monitor via daisy

chaining, LEDs for ambient light, and more. In addition, the IPS panel delivers excellent viewing angles, comes with a 6-axis colour adjustment for those who prefer to do manual colour calibration, and has a built-in speaker that uses DTS Sound. On top of all that, the XR342CK supports AMD FreeSync technology.

Last but not least is the Predator XB321HK gaming monitor, which has the GameView technology designed to provide critical advantages to gamers in-game. Made with a wide variety of game genres in mind, the GameView setting allows users to set three custom profiles that can be switched easily using the On-Screen Display (OSD).

Currently the brand's flagship gaming monitor, the Predator XB321HK is a gaming monitor that can output 4K resolution at 60Hz refresh rate. It uses NVIDIA's G-SYNC technology to ensure smooth, tear-free visuals, and supports the full 100% sRGB colour gamut for highly vivid visual quality. In addition to the above, it has a relatively fast (for a 4K monitor) 4ms Grey to Grey (GTG) response time, which also helps to eliminate any ghosting.

All three models have been made available at local stores and will retail for the following prices: Acer ET430K for RM2,299, Acer XR342CK for RM3,899, and Acer Predator XB321HK for RM4,799. 

www.acer.com.my



Available
Now!



ROG STRIX Z270F GAMING

ROG MAXIMUS IX HERO

PRIME Z270-A

TUF Z270 MARK 1

ASUS Z270 SERIES MOTHERBOARDS

OUTSHINE THE COMPETITION



BEST-SELLING

- World's No.1: Most motherboard sales for over 10 consecutive years, with over 500-million sold since 1989.

**WORLD'S
NO.1**
MOTHERBOARD BRAND

EASY TO USE

- Aura Sync: World's 1st synced RGB lighting with intuitive and comprehensive controls to orchestrate Aura Sync-capable hardware.
- 5-Way Optimization: One-click system-wide overclocking and cooling tuning, with uniquely tailored profiles.



STABLE

- 5X Protection III: Multiple hardware safeguards to protect components from damage by power or electrical surges.
- 790+ DDR4 Modules Supported: Industry-leading DDR4 memory compatibility for best flexibility and reassurance. *Precise support varies by model.

5X
PROTECTION III

TRUSTED

- Most Awards from last gen: 2X more accolades than all other brands combined, making ASUS the brand you can trust.

2X AWARDS
THAN OTHER BRANDS COMBINED

The **BEST** Motherboard – **Best-selling** | **Easy to use** | **Stable** | **Trusted**

MSI x ESL One Genting 2017 – Best Meets Best, Reaching New Heights

Always in front of the pack, MSI continues to keep up with the latest and greatest tech to provide gamers the best gaming experience possible

In January 2017, the latest MSI gaming notebooks were shown off at ESL One Genting sporting the latest seventh generation Core i7 platform. Gamers are expected to experience 10 percent to 20 percent increase in CPU performance on gaming, arithmetic, 4K video transcoding, multimedia, and VR performance.

At the event MSI launched their (GT83VR, GT73VR, GT72VR, GT62VR, GS73VR, GS63VR, GS43VR, GE72VR, GE62VR, GP62VR, GP72VR, GP62MVR, GP72/GP62 and GL72/62 series) into the market, aligning with Intel to move forward for all users who desire better VR experience and 4K video/gaming. MSI always strives to give their fans and users

the latest, coolest, and high performance gaming platforms.

In addition to the new CPU, the latest MSI GS, GE, GP, and GL series laptops will be upgraded with NVIDIA GeForce GTX 1050 and GTX 1050 Ti graphics cards. The new graphics cards adds to MSI's arsenal, allowing gamers of different calibres to enjoy an even more personalised gaming laptop for work, or school. The GTX 1050 Ti provides a 15 percent higher performance compared to previous GTX965M, and is set to replace the market position of the GTX960M for performance level gamers and advanced users.

MSI has also improved the audio



MSI Sales And Marketing Director, Henry Chung was there to head the launch event of Best Meets Best




Connor Flanagan, Worldwide OEM Marketing Manager, Microsoft Corporation, made an appearance sharing their intention to work closely with vendors and manufacturers like MSI



A model holding one of the newly launched Kaby Lake gaming laptop from MSI

experience of their MSI laptops with ESS SABRE HiFi, which has passed the certification for Hi-Res Audio. That makes the MSI GT83VR, GT73VR, GS73VR, GS63VR and GS43VR series laptops support the finest audio quality though SABRE HiFi DAC to output to high-end headsets. Furthermore, Nahimic 2+ can be found on all new gaming notebooks launched at CES 2017, featuring more features and higher compatibility for VR games.

At the moment we have the specifications and prices of a few of their newly launched laptops with more to come soon. At the event it was revealed the GE62 7RE Apache Pro has an i7-7700HQ and a GTX 1050 Ti which will be priced at RM6,299. The GL62M 7RD also sports an i7-7700HQ but instead a GTX 1050 and is priced at RM4,599.

Priced slightly higher at RM5,199 is the GP62M 7RD Leopard with the same processor and graphics card as the GL62M 7RD, but comes with exclusive silver lining printed keys with a SteelSeries single colour backlighting keyboard, and also an upgraded Killer Gigabit LAN Controller, Killer Shield and 802.11ac. Finally their Prestige series PE60 7RD comes with a i7-7700HQ and GTX 1050, providing you an elegant workstation that games just as well as gaming laptops. 

<http://gaming.msi.com>

msi®

WORLD'S
FIRST



BEST MEETS BEST REACH NEW HEIGHTS

62MVR Leopard Pro | 62M

72VR | 62VR Apache Pro

GEARED WITH LATEST 7th GEN. INTEL® CORE™ i7 7700HQ PROCESSOR

7th GEN. INTEL® CORE™ i7 PROCESSOR	WINDOWS 10 HOME	
GEFORCE® GTX 1060 / 1050 GRAPHICS	NVMe M.2 SSD	
STEELSERIES GAMING KEYBOARD	SOUND BY DYNAUDIO	
NAHIMIC 2 VR	KILLER E2400 LAN	VR READY

INTEL INSIDE®. EXTRAORDINARY PERFORMANCE OUTSIDE.



Start from RM 4,499

Intel, the Intel Logo, Intel Inside, Intel Core, and Core Inside are trademarks of Intel Corporation in the U.S. and/or other countries.

Product Info Centre:
1300-22-1986
Mon - Fri
(9am - 6pm)

WEB:
my.msi.com

YOUTUBE:
MSI Gaming Global

FACEBOOK:
MSI Malaysia Notebook



The Neffos team presenting the new X1 and X1 Plus

Neffos Launches Two New Android Smartphones

TP-LINK expands its personal devices portfolio with more Android devices

When most brands were away at CES 2017 or gearing up for the year, Neffos was quick out of the gates with a local launch of two new smartphones – the Neffos X1 and X1 Max. First featured in last year's IFA, the two smartphones come with decent specs and good looks, both aspects that are valued by the average consumer.

Both devices have metallic bodies, with a dual-curved back that evens out as it approaches the sides. Neffos says that this allows for a more ergonomic fit, essentially making it easier to hold in one hand. Moreover, the two phones have very thin bezels and shorter bodies, adding up for an impressive screen-to-body ratio of 76%.

Neffos' smartphones are designed to cater to consumer needs. The brand's mantra is 'Close to You', signifying that the Neffos X1 and X1 Max are designed to 'connect people and technology together'. To put it


simply, Neffos aims to create devices that are easier to use.

Knowing that a fast camera is one of the key features any smartphone can have, Neffos equipped the X series devices with a 13-megapixel Sony sensor at the rear that can autofocus in 0.2 seconds thanks to a fast PDAF (phase-detection auto-focus) feature. In addition, the rear cameras can take decent low-light shots thanks to a f/2.0 aperture lens, as well as a Real-time Night shooting mode and dual-tone flash. Besides that, the camera software will allow users to shoot HDR, Time Lapse, and Panorama images.

Another useful feature that the Neffos X smartphones have is a fingerprint sensor, which unlocks in 0.2 seconds. Neffos also said that the sensor is programmed to become more accurate over time.

Underneath all the features and bling, the Neffos X1 and X1 Max aim to stack up to the competition using MediaTek's Helio P10

chipset, but will have varying specifications. As for battery capacity, the X1 will house a 2,250 mAh battery, which is significantly smaller than the X1 Max's 3,000 mAh battery.

The Neffos X1 is now available for sale and will come in a version with 2GB RAM 16GB internal storage for RM769, as well as another with 3GB RAM and 32GB internal storage for RM849. However, the X1 Max will only be available in March this year. We do know that it will be priced at RM999 and RM1,199, for its two respective variants (3GB RAM and 32GB storage, 4GB RAM and 64GB storage). Both models will come in Cloudy Grey and Sunrise Gold colours. 

www.neffos.my



Neffos X1

**HOME CINEMA PROJECTOR
EH-TW8300**

EPSON
EXCEED YOUR VISION



**HIGH DEFINITION HOME THEATRE
PROJECTOR WITH ULTRA BLACK LEVELS.**



Sit back, relax and enjoy your favourite movies in true Cineplex quality at home – just the way how filmmakers intended. See incredible colours and movements, made possible by Epson's 4K Enhancement Technology.

- Experience 4K Enhancement for unbelievable sharpness & detail
- 2,500 lumens WHITE LIGHT OUTPUT & COLOUR LIGHT OUTPUT
- Stunning picture uniformity and lenses positioning flexibility
- Compatible with latest HDR format
- Convert 2D to 3D for unlimited 3D content



Full HD
1080p



High
Contrast Ratio



2500
Lumens



2 x HDMI



*Compared against similarly-priced leading 1-chip DLP® business and education projectors based on NPD data from July 2011 through June 2012 (available from www.npd.com). Colour brightness (colour light output) measured in accordance with ICMS 15.4. Actual colour brightness will vary depending on actual usage conditions. 3LCD® is a registered trademark of Seiko Epson Corporation. DLP® is a registered trademark of Texas Instruments, Inc. and its use here does not imply any affiliation with or endorsement by them.

Visit www.epson.com.my/projectors or call **1800-8-17349 (Toll-Free)**.

f EpsonMalaysia **@**EpsonSEA **YouTube** EpsonSoutheastAsia **in** Epson Southeast Asia

ENGINEERED FOR BUSINESS

Epson Malaysia Sdn Bhd (211204-X) 3rd Floor, East Tower, Wisma Consplant 1, No. 2, Jalan SS16/4, 47500 Subang Jaya, Selangor Darul Ehsan. Tel: 603-56 288 288 Fax: 603-56 212 088
Epson is the registered trademark of Seiko Epson Corporation. All other product names and other company names used herein are for caption purposes only and are the trademarks or registered trademarks of their respective owners. EPSON disclaims any and all rights in those marks. Scan/Print samples shown here are simulations. Specifications are subject to change without notice.

It's All Clear With the OPPO R9s

The latest smartphone in OPPO's stable of smartphones aims to deliver a greater photography experience

OPPO has brought its latest R9s smartphone to Malaysia. The device is to be the first device that is part of OPPO's plan this year, to develop and market their smartphones as a complete photography package, instead of just for selfies.

'As this year will be the year of mobile photography, we at OPPO Malaysia would like provide users with a camera that is able to capture photos that are crisp, clear and bright. With the R9s, now it's clear", said Chen Lu, Brand Director of OPPO Malaysia.

Having dedicated 2016 to delivering smartphones with great front cameras, OPPO has decided to move onto delivering the whole shebang. The OPPO R9s comes with a powerful 16-megapixel rear camera that's using Sony's new IMX398 sensor, which can capture images at an extra-wide angle. It'll also have a f/1.7 aperture and feature a new Dual PDAF (Phase Detection Auto Focus) technology.

According to Ken Ng, Product Manager for OPPO Malaysia, the typical user



dissatisfaction with rear cameras on smartphone is that images tend to be blurry, or are too dark and have poor 'per pixel performance". To solve that, OPPO developed the new Dual PDAF technology doubles a sensor's pixel array size, which helps deliver greater image quality and focusing speed even in low-light conditions.

The design of the phone, based on what OPPO calls the 'six-string" design, is more

than just about aesthetics. Instead of the standard antenna band found on most phones, OPPO has replaced it with two sets of three ultra-fine lines that enables the device to run on six frequency ranges. This adds a touch of elegance to the phone's design, while also allowing it to dynamically switch between 4G or WiFi signals.

Of course, the OPPO R9s can do more

than take photos. Thanks to a Qualcomm octa-core processor, 4GB RAM and 64GB onboard storage (microSD support provided), this device should be able to handle any task thrown at it and run multiple apps at the same time. Battery shouldn't be a problem for the R9s, due to the 3,010 mAh battery and the ability to quickly charge the phone using the included VOOC

Flash Charger.

'Though we received recognition from Malaysian consumers for the F1s and F1 Plus in 2016, we wanted to continue to bring the best in premium camera phone experience to our fans. This is reflected in the R9s", said William Fang, CEO of OPPO Malaysia.

The OPPO R9s is now available for purchase nationwide for RM1,798. www.oppo.com.my



William Fang (middle), CEO of OPPO Malaysia, shows off the new device with his team and invited guests

acer



Swift 7 POWERFULLY THIN.

#NeverUnderestimate



9.98mm



Redefine laptop thickness: only 9.98mm thin



Up to 9-hour battery life



13.3" Full HD IPS Corning® Gorilla® Glass

The Lightweight With A Powerful Punch

At 9.98mm the Acer Swift 7 is the thinnest¹ laptop in the Acer range. With 9 hours² of battery life, you'll have immense power in your hands.

Swift 7

- 7th Gen Intel® Core™ i5 processor • Windows 10 Home • 8GB DDR3L
- 256GB SSD • 13.3" Full HD IPS (1920x1080) • Corning® Gorilla® Glass

Intel Inside®. Extraordinary Performance Outside.

www.acer.com.my

[/AcerMalaysia](https://www.facebook.com/AcerMalaysia)

Call 1800 88 1288 for more product info



¹ Based on Acer's internal survey as of August 31, 2016 of competitors shipping > 1 million units worldwide annually with clamshell design.

Windows or OSX, measured at z-height, Intel Core i-processor, non-detachable keyboard.

² Battery life varies depending on power settings and usage.

©2016 Acer, Inc. All rights reserved. Intel, the Intel Logo, Intel Inside, Intel Core, and Core Inside are trademarks of Intel Corporation in the U.S. and/or other countries.

Live Unplanned With Samsung's New Galaxy A Smartphones

Samsung's new Galaxy A series of smartphones feature premium specs at affordable prices

As advancements in smartphone technology become more apparent, so does the standards people hold towards what constitutes as a good mobile device these days. Having affordable devices now no longer mean that you can skimp on various features and performance metrics as these same people are looking for the best bang for their buck.

Enter Samsung's new Galaxy A series of smartphones. The latest line-up in the Korean tech giant's A-series of smartphones are the first to get an IP68 rating for dust and water resistance, promising uncompromised fun all day long. Users now no longer need to worry



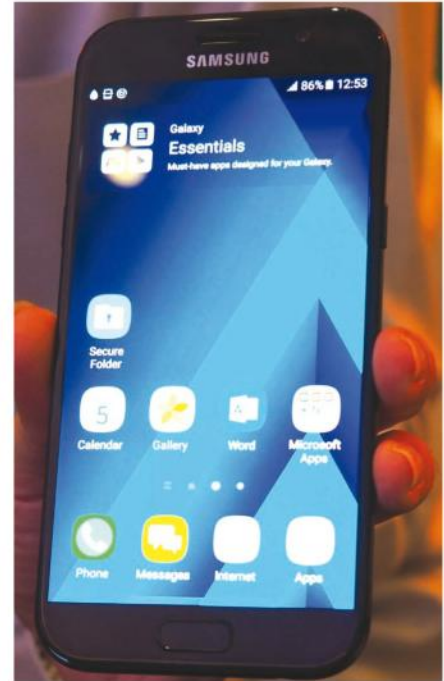
Both phones sport a 16MP rear and front-facing camera

about sweat and dust getting into their phones as they do more physically demanding outdoor activities.

These two phones, the Samsung Galaxy A5 and A7 smartphones each sport Full HD 5.7 and 5.2 inch Super AMOLED displays respectively, and are both powered by the same 1.9GHz octa-core processor, with 3GBs of RAM and 32GBs of built-in storage, which can be expanded up to 256GBs via a microSD card.

Not only that, both the Galaxy A5 and A7 also comes with 16MP rear and front-facing cameras which feature an aperture count of f1.9 as well as the Light+ Camera feature which provides users with sharper images be it in the brightest or darkest of lighting conditions. Another new feature that is baked into the camera software is the Floating Camera Button which can be moved freely on the screen to take selfies easily.

If you're worried about lacklustre battery life plaguing the A-series phones like many other similarly-priced devices, fret not as



The Samsung Galaxy A7 features a 5.7 inch screen, powered by a 1.9GHz processor and 3GBs of RAM

the phones each come with a 3,600mAh and 3,000mAh battery for the Galaxy A7 and A5 models respectively. The phone also comes with quick-charging capabilities via USB Type-C, as well as an Always-On display that is only seen on Samsung's high-end phones.

Available in Black Sky and Gold Sand, the new Samsung Galaxy A series of smartphones will be made available at all Samsung brand stores nationwide from 25th of January onwards. The Samsung Galaxy A7 will retail for RM1,899, while the Galaxy A5 will be sold for RM1,699. 🇲🇾

www.samsung.com/my

Models taking a selfie with the new Samsung Galaxy A7



D-Link®

ULTRA PERFORMANCE SERIES

Happy Valentine



DCS-936L

Available on the
App Store

ANDROID APP ON
Google play

Meet the HD Wi-Fi Camera

Simple, Smart Security for your HOME



120° degree Wide Angle view
With a 120° wide angle lens, you can see more of your rooms, pets and kids.



No Monthly Fees
Affordable home security that doesn't nickel and time.



Smart Alerts
Get push notifications sent to your phone so you will know as it happens.



Remote Viewing
Check in from anywhere on your mobile devices.

LOCATOR

Built-in Wi-Fi Signal
Find the BEST placement for optimal performance.



Simple Setup
Out of the box and into your home in minutes.

SAY BYE TO WIFI DEAD SPOTS!

DA7-1860

WI-FI RANGE EXTENDER

AC 2600

MU MIMO



Universal Compatible



Gigabit Connection



MU-MIMO Technology
4 x 4 Data Streams



AC2600



Ultra Coverage



Easy Setup



Authorised Distributors
Advancenet

LAB SEVEN (M) Sdn Bhd

f DLINKMALAYSIA y DLINKINTL w www.dlink.com.my

24 x 7 Technical Hotline 1800-88-2880



Mr. Hideyuki Wada, GM of Marketing of Sony Malaysia; Mr. Satoru Arai, Managing Director of Sony Malaysia; Mr. Loo Kah Kit, Alpha Product Manager of Sony Malaysia, unveiling the new Alpha 99 II, 6500 & RX100 V cameras.

Photograph To Your Heart's Content

Sony unveils new refresh models of its Sony Alpha cameras

In conjunction with the 10 years of Sony Alpha, Sony Malaysia has officially launched the whole new high speed AF series, α 99 II and α 6500 to the Alpha family together with its popular Cyber-Shot RX100 V compact camera.

'We are continuing to push the boundaries of modern innovation in digital imaging, in particular within the mirrorless space,' said by Mr. Satoru Arai, Managing Director of Sony Malaysia. 'Sony as an overall leader in digital imaging and the world's largest image sensor manufacturer.'

The Sony Alpha α 99 II is the company's flagship full frame camera, now featuring newly developed high-speed high-precision Hybrid Phase Detection AF, AF/AE tracking in 12fps continuous shooting, and alongside it, a built-in 5-axis image stabilization, and advanced 4K movie functions.

Sony's Translucent Mirror Technology enables the Hybrid Phase Detection AF System consisting of two AF sensors. The dedicated 79-point AF sensor provides high-precision focusing and depth detection, while the



The Sony Alpha a6500 is Sony's latest mirrorless interchangeable lens camera

399-point focal-plane AF sensor on the image sensor supplies wider coverage.


The α 6500 meanwhile is Sony's compact mirrorless camera, featuring a 24.0MP APS-C sensor, utilizing Sony's E-mount lenses. An enhanced buffer for continuous shooting of up to 307 shots, built-in 5-axis optical image stabilisation, touchscreen control, super-speed AF and High-density Tracking AF Technology extend the range of your shooting capabilities.

With the α 6500, you can also shoot and internally record 4K movies generated from 6K equivalent (20MP) data in Super 35mm10 format. Intuitive Touch Focus and 5-axis image stabilisation extend shooting freedom. If you're a professional videographer, the camera also features S-Gamut/S-Log which enables wide dynamic range (max. 1,300%) shooting for more expressive moviemaking in post-production.

Finally, the Sony Alpha RX100 MkV is Sony's latest compact point and shoot camera.

The camera utilises the RX100 series' renowned 1.0-type image sensor, and advances with blazing-fast 0.05-second autofocus, 315 AF points for the world's most comprehensive phase-detection coverage of its kind, continuous shooting up to 24 fps with AF/AE tracking, as well as outstanding 4K movie capabilities.

The newly developed 20.1 effective megapixel Exmor RS CMOS image sensor featuring focal plane phase-detection AF sensor, the high-speed BIONZ X image processing engine and upgraded front-end LSI that supports image processing are efficiently controlled.

All of these cameras are already available in the market, with the α 99 II priced at RM 12,299, the α 6500 at RM6,499, and the RX 100 MkV at RM4,599. 

www.sony.com/my

**AMBIL
SENASKHAH,
POPULARITI
BERTAMBAH**



WARTA
MINGGUAN WARTA PERDANA

Ambil. Baca. Kongsi.

PERCUMA TERBIT SETIAP RABU

Boleh didapati di stesen LRT berhampiran anda

www.warta.my



From left to right eGG Network Gaming Personality, PindaPanda; Director of Enterprise Business, CE Division, Hui Whye Leong; Director of Enterprise Business, IT Division, Wong Man Ngee; President of Samsung, Lee Sang Hoon; Chief Marketing Officer, Elaine Soh; Business Manager of Enterprise Business, Austin Park; and YouTube Personality, JinnyBoy were present at the launch of Samsung's first ever curved gaming monitor

CFG70, Samsung's First Curved Gaming Monitor Now In Malaysia

Samsung enters the gamers battlefield with the first ever Quantum Dot curved monitor

Samsung Malaysia Electronics enters the competitive gaming scene with the launch of its latest curved CFG70 Gaming Monitor, which utilises Samsung's Quantum Dot Technology, improving the delivery of a highly impactful and immersive visual experience.


As the company's first curved gaming monitor to feature quantum dot technology, the CFG70 monitor expresses brilliant and accurate colours across a 125 percent sRGB spectrum. This added luminance produces a 3,000:1 contrast ratio and amplifies previously hidden gaming details in both light and dark settings.

"Our Quantum Dot display gaming monitor creates an unprecedented visual experience that no gamer has ever experienced," said Lee Sang Hoon, President of Samsung Malaysia

Electronics.

The CFG70 features an industry-best 1,800R curvature and a 178-degree ultra-wide viewing angle. It also sports complementary sound-interactive LED lighting that further creates a lifelike presentation and keeps users focused during the most intense of moments. The CFG70 also uses an advanced VA panel, and is the first curved monitor to produce a 1ms moving picture response time.

The CFG70 also leverages integrated AMD FreeSync Technology over HDMI to sync the screen's 144Hz refresh rate with users' AMD graphics cards. Samsung takes it a step further and includes a dedicated gaming interface with an intuitive settings dashboard to better allow gamers to modify and personalise their gameplay settings.

To further inspire games immersion, each CFG70 monitor undergoes rigorous pre-shipment calibration. This process optimises various settings, including contrast ratios, black gamma levels for enhanced brightness and white balance levels for temperature management. As a result, gamers can enjoy a sharp and brilliant picture regardless of the game being played. The monitor comes in two variants, one being the 24-inch model priced at RM1,699, while the 27-inch model is priced at RM2,099. 

news.samsung.com



The curved gaming monitor with a curvature of 1,800R is held up by a double hinge stand that allows for a great range of movement and personalisation

Dell To Bring In Its CES 2017 Highlight Products

Some of the new products were featured at this year's premiere tech trade show – Consumer Electronics Show 2017



The Dell XPS 15 sports Intel's new Kaby Lake CPU, as well as an NVIDIA Pascal graphics card

Products showcased at CES tend to take some time before they make their way over to Malaysia, but although there has been no firm claims, Dell seems to be making plans to bring some of its new Consumer Electronics Show 2017 showcase products to Malaysia.

The first of many is the Dell Canvas, a smart workspace that aims to help content developers and designers improve their creative productivity. It's a 27-inch system that can be placed at an angle or flat on a desk, which is the two main methods that professionals would use. Using touch, a digital pen or totems, the Dell Canvas is capable of turning drawings into a part of the professional's digital workflow and also enhance collaboration between users.

Every year we see a new version of the XPS series and this year the new Dell XPS 15 will be making its way to Malaysia. Sporting a 15.6-inch display, an Intel Kaby Lake CPU, a NVIDIA Pascal-based GeForce GTX 100 GPU, and a fingerprint reader to a faster, password-free login to the device.

Next is a new All-in-One (AIO) PC, the Precision 27 AIO. It comes with a set of 10

built-in speakers that have a rated power of 50W per channel. With the addition of a 4K touch-screen display that can output the full Adobe RGB colour gamut, this AIO would be ideal for entertainment. But at its core, the Precision 27 AIO is made for professional work. It comes with an Intel Xeon CPU, AMD Radeon Pro GPU, ISV certifications, and top-notch security and management software.

Easily our favourite Dell showcase for CES 2017, the UltraSharp 32 Ultra HD 8K monitor

is the world's first 32-inch monitor that outputs 8K resolution. This translates to 280 ppi, four times more than what a 4K display is capable of. In addition, it can deliver over 1 billion colours, making it full Adobe RGB and sRGB colour gamut compliant.

Dell will also be looking to bring in other products within the year and have provided a tentative list of pricing and launch dates. You can find out more from the table below. www.dell.com

Product	Est. Price in RM <i>(Inclusive of 6% GST)</i>	Availability
Dell 24 Monitor for Video Conferencing (P2418HZ)	RM1,199	Available now
Dell 24 Touch Monitor (P2418HT)	RM1,599	Mid-February 2017
Dell 24 InfinityEdge Monitor (S2418H)	RM699	Mid-March 2017
Dell 27 InfinityEdge Monitor (S2718H)	RM1,099	Mid-March 2017
Dell 27 Ultrathin Monitor (S2718D)	TBC	End-March 2017
Dell UltraSharp 32 Ultra HD 8K Monitor (UP3218K)	TBC	April 2017
Dell Canvas	*	*
Dell XPS 15	*	*
Dell Precision AIO (5720)	*	*
Dell Precision 7720 VR-Ready Mobile Workstation	*	*
Dell Precision 5520 15-inch Mobile Workstation	*	*
Dell Latitude 5285 2-in-1	*	*
OptiPlex 5250 AIO	*	*
OptiPlex 5050 Micro	*	*

*Pricing and availability to be announced.



The Dell Canvas smart workspace that aims to help content developers and designers improve their creative productivity

HyperX Introduces The HyperX Cloud Revolver S

Cloud Revolver S offers gamers an immersive Dolby Experience at the push of a button


HyperX has announced their most advanced gaming headset to date, the HyperX Cloud Revolver S with plug-and-play Dolby 7.1 Surround Sound. HyperX has added Dolby Headphone technology into a new USB dongle that delivers high-end immersive audio at the touch of a button. HyperX Signature Memory Foam and a new wide headband design enhance comfort for endless hours of gameplay.

The new premium headset also features multi-platform support, 50mm drivers and a noise cancelling microphone designed for

use by professional gamers and eSports teams globally. With Dolby Headphone, sound realism coupled with the same DNA inherent in HyperX award-winning Cloud Revolver headsets, Cloud Revolver S is designed for comfort and competitive performance with crisp sound and wide soundstage for FPS and 3D environment games.

The Cloud Revolver S sound stage features unique design driver technology that allows gamers to visualise sounds placed around them at different angles and distances. With three pre-set equaliser settings that separate



boost, flat and vocals, each gamer can choose their favourite setting. Gamers will gain a competitive edge in FPS and 3D environment games by hearing opponents' locations more clearly and accurately than previously attainable. 

<http://www.hyperxgaming.com/en>

Meet The All New Moto M

Don't compromise anymore, with the Moto M compromise is a thing of the past


When it comes to choosing style or performance in a smartphone, you don't have to compromise. Introducing the new Moto M, marvellously encased in fine metal, the Moto M is a powerful smartphone that reflects your personality, and attitude, the Moto M is a smartphone that's all metal and mettle.

With its gorgeous full-metal unibody and vibrant 5.5-inch Full HD display, Moto M offers an elegant design and a gorgeous display that's perfect for viewing photos and movies. Paired with a 2.2 GHz Octa-core processor and up to 4GB of RAM, you can expect smooth operation even while multi-



tasking. There's 32GB of storage built-in that'll allow you to store your favourite songs and movies. All that storage will come in use when using the Moto M's advanced 16MP rear camera and 8MP selfies camera, ensuring your pictures come out in amazing quality.

With a dynamic Correlated Colour Temperature (CCT) dual LED flash, it

automatically adjusts for natural-looking skin tones and consistent, vibrant colours. The Moto M also has a whopping 3050mAh battery to get you through the day, and a 10W rapid charger to get you up and running quickly. The Moto M comes in two colours, gold and grey, and are both now available in stores for RM1,199. 

www.moto.com/my


Autodesk's Media Briefing for 2017

Autodesk believes in the potential for VR in the coming year and beyond, and shows us what they have in store for professionals in implementing their goals

Autodesk Malaysia gathered a selected few media to brief them on their goals for 2017. At the event, Chris Lee, Country Manager for Autodesk Malaysia, Singapore and Brunei took the time to explain what's to come.

He introduced to us the Autodesk Fusion360, the first 3D CAD, CAM, and CAE tool that connects your entire product development process into a single cloud-based platform. Not to mention the Autodesk BIM 360 which gives architects and construction the ability to see and simulate the final outcome of a building or room. This

lead to a discussion on how important AR/VR could be in the future, and their own Revit software from BIM. Using Revit you can convert your designs in BIM into VR which you can look at using VR headsets such as the HTC Vive or Oculus Rift.

If there are any students interested in these products, the Autodesk Resource Centre provides students with free software for 3 years. After the 3 years you can continue using their products on a subscription business model, with a choice of a quarterly (3 months), yearly, and multi-year subscription. 

www.autodesk.com



Chris Lee, Country Manager, Autodesk Malaysia, Singapore and Brunei

Lazada Malaysia Now Has An Oriental Pavilion

Autodesk believes in the potential for VR in the coming year and beyond, and shows us what they have in store for professionals in implementing their goals

Lazada Malaysia did its part of liven up Chinese New Year 2017 with its newly unveiled Oriental Pavilion. This

is basically a sub-page under Lazada.com. my that's made specially for a variety of new brands brought in from TMall, the Chinese




Hans-Peter Ressel (middle), CEO of Lazada Malaysia together with the brand partners participating in Oriental Pavilion.

online retail platform that is operated by the Alibaba Group. It should be noted that Alibaba made a 1 billion US dollar (approximately RM4.5 billion) investment for a controlling stake in Lazada Group.

As part of this new sub-page, Lazada has introduced 16 new brands to the Lazada online retail platform. This includes Semir, QCY, Bluedio and Puppyoo, to name a few.

Hans-Peter Ressel, CEO of Lazada Malaysia said, 'The synergy between Alibaba and Lazada created greater opportunities for reputable Chinese brands to expand into the SEA market, particularly Malaysia. The launch of the Oriental Pavilion is opportune as consumers now have unparalleled access to high-quality products from sought-after Chinese brands, at affordable prices. This is an exciting time for Lazada Malaysia, as we continue to enhance customer experience and bring the best of online shopping through unbeatable assortment, great value and convenience.'

In conjunction with this launch, Lazada also had a CNY campaign called 'Deals Louder Than Rooster' that ran from 17th to 19th January 2017. The campaign gave shoppers the opportunity to shop for products of other brands, besides those launched with the Oriental Pavilion, for discounts of up to 88%. 

www.lazada.com.my/oriental-pavilion

Hitachi Data System Talks 2017 Trends

Many are expected to strive for digital maturity this year

Hitachi Data Systems (HDS), has recently released its report on key Business and Technology Trends for Asia Pacific in 2017. According to Russell Skingsley, CTO Hitachi Data Systems Asia Pacific, enterprise companies are expected to focus their IT strategies on digital transformation this year. Skingsley explained that HDS helped

conduct a Forbes Insight research survey, which showed that many APAC enterprises believe that they are ahead in the digital transformation journey compared to their global counterparts.

In conjunction with the published survey, Skingsley outlined five key trends for the technology market this year.



First, enterprises will likely look towards improving on processes for their employees, business processes and outcomes, in order to see productivity gains.

Second, most enterprises will be accelerating their transition to Cloud-based business models in order to stay relevant in today's fast-paced world.

The third trend is the bimodal IT, which refers to enterprises deploying both traditional IT models for safety, accuracy and availability, as well as non-linear ones that will deliver greater agility and speed. This bimodal is expected to be a dominant model for years to come, which is how converged solutions would again be beneficial. In this case, converged solutions can help modernise traditional modes, while providing a bridge to non-linear ones.

Next is the centralised data hub, said Skingsley. Due to the tremendous value that data has these days, more companies are looking for ways to correlate and merge data that they have from multiple sources. Thus, a centralised data hub will help provide better management, use and protection of data for enterprises.

The fifth trend HDS expects is a growing Awareness of the Internet of Things (IoT) in data centres. According to HDS, although IoT may not reach a level where it affects every aspect of our lives, IT decisions this year could be made with IoT in mind.

www.hds.com

Emerson Network Power Is Now Vertiv

Other than the name change, the company will largely be the same

Once known as Emerson Network Power, the mission-critical infrastructure technologies company has changed owners and has been rebranded as Vertiv.

For 2017, the company has set its eye on further development of its business in the APAC region and will look to continue providing its clients with its portfolio of services, including ASCO, Chloride, Liebert, NetSure and Trellis.

Vertiv Malaysia's country manager, Hitesh Prajapati, said: 'This is a momentous year for us as we transform to an independent company

and the world's largest standalone provider of mission-critical technologies for data centres, communication networks and commercial and industrial environments. This name change only signifies our strong commitment to continue to provide best-in-class solutions and services to our customers in Malaysia.'

According to Prajapati, Vertiv will be looking to focus on opportunities in the telecom, manufacturing and transportation sectors in the region. Besides that, Vertiv will continue to help financial institution and government

organisations in digital transformation initiatives.

Adding to that, Vertiv Asia's president, Anand Sanghi, said: 'Asia is and will continue to be a key market for us. We have a rich and proud history here and with Vertiv, we look forward to serving our customers with greater agility and focus.'

'We recently unveiled our top data centre trends predictions for 2017 and in that we see increasing focus being placed on the critical infrastructure as a globally connected, always on, mobile and social world is rapidly transforming how consumers and businesses interact and transact. Edge computing, the Industrial Internet of Things (IIoT), and data centre sustainability and efficiency will all require the right technology and services in place. This will be our goal as Vertiv: to help companies achieve a world where critical technologies always work,' Sanghi said.

www.VertivCo.com

New MSI Concept Store Opens in Digital Mall, PJ

MSI launches new concept store in Digital Mall, PJ giving those in the area to test and try out the latest offerings from MSI

Rejoice fans of MSI who live in Petaling Jaya, MSI has opened their latest MSI Concept Store in Digital Mall in Seksyen 14, Petaling Jaya. Located on the ground floor the MSI Concept Store allows fans and public alike to come try and test out the latest offerings MSI has. Stepping inside the store we were surrounded by gaming laptops, peripherals and gaming setups that would make any gamer fall in love.

Other than the invited media, MSI Brand Ambassador and

Gaming Personality "Xiaoting MiaoMiao" also made an appearance to accommodate the grand opening of the new store. The launch of the concept store was officiated by MSI Malaysia, Country Manager, Jerry Lu and a ribbon cutting ceremony followed by a 'Yee Sang' toss to signify the start of a new year. Speaking of the new year, MSI has a new logo which no longer says 'Gaming G Series' but keeps their dragon shield concept but now encased inside a glass-like inset. msi.gaming.com



From left to right, Winnie Lee, MSI Sales Manager; Henry Chung, MSI Sales and Marketing Director; Jerry Lu, MSI Malaysia Country Manager; and MSI Store Dealer U-Note CEO, James Lau at the launch of Digital Mall's MSI Concept Store.

U Mobile and DOCOMO Digital Form New Partnership

The move will enable U Mobile to provide new services for its customers

Local telco company, U Mobile, has recently signed a partnership with DOCOMO Digital. The partnership adds new services available to U Mobile customers that can be purchased using their mobile plan.

This new plan provides customers with a way to purchase items or services from digital services, such as Google Play Services, even if they don't own a debit or credit card. Similarly, prepaid customers will be able to make



purchases via prepaid credits.

According to Jasmine Lee, Chief Marketing Officer at U Mobile, this move is one of many

plans that the company is planning to roll out in the future.

'A majority of U Mobile's customers are smartphone users and based on our insights, they are avid users of digital services. Hence, we wanted to provide an option for our customers to purchase their desired services, even if they do not own a credit or debit card. This new service also makes the payment process seamless as they do not need to worry about needing to input extensive details such as credit card numbers and contacts,' said Lee.

Hiroyuki Sato, Chief Executive Officer of DOCOMO Digital said: 'We are delighted to partner with U Mobile to expand its carrier billing services and capabilities in Malaysia. Introducing new payment methods like Direct Carrier Billing goes much further than simple technical integrations. By providing full end-to-end services, we helped enable U Mobile customers to become part of the digital economy.'

www.u.com.my


Rowhammer And Dirty Cow: Root Exploits For Android

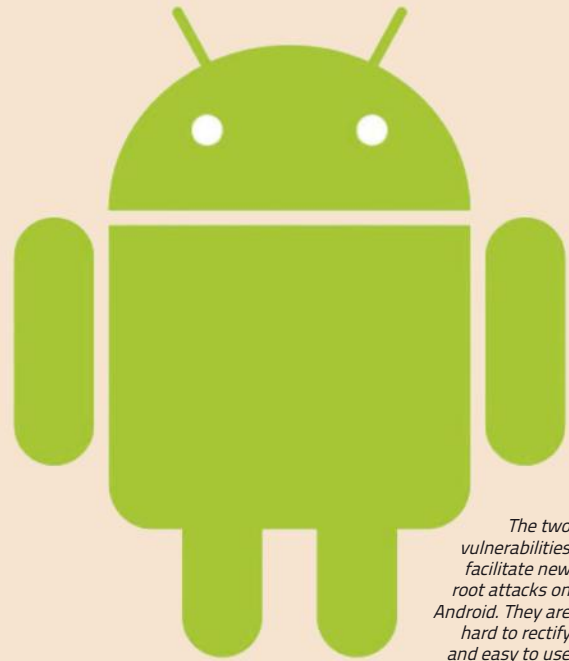
The Rowhammer and Dirty Cow Linux-attacks can be used to develop universal root exploits for Android

Experts aren't the only ones who are interested in root access to Android, criminals also regularly try to find new ways to override the OS restrictions. Two new vulnerabilities in Linux have now facilitated new root exploits, which can currently be used universally on Android.

Rowhammer is a security loophole that results in certain information in the memory being swapped. This enables attackers to access system areas that are particularly well-protected. Experts have now built a rooting app around this exploit. It's free of loopholes and is compatible with just about all smartphones. The second vulnerability, Dirty Cow, uses a bug in the Linux kernel to change memory areas that can only be accessed by root users. If the data

that has been fed in is executed, it becomes relatively easy to obtain full access to the device. Both security loopholes are so deeply embedded in the systems that they cannot be plugged easily; Dirty Cow has been a part of Linux for eleven years. Furthermore, many manufacturers only offer a moderate level of support for their devices, so it doesn't look like the problem's going to be solved comprehensively.

Older OS versions will make it particularly difficult to fix such deeply-embedded bugs. Under such circumstances, it would definitely make sense to install an anti-virus that uses heuristic method to detect defective apps and attacks on the system. In most cases, attacks can actually be detected before they succeed. 



The two vulnerabilities facilitate new root attacks on Android. They are hard to rectify and easy to use



Data Theft Of The Month


WEBSITE CONSTRUCTION KIT WEEBLY LOSES 43 MILLION SETS OF USER DATA

Those who use the Weebly website construction kit should change their passwords as soon as possible. According to Weebly, criminals have stolen the data of users who registered before 1 March 2016. The attackers stole e-mail addresses, IP addresses, usernames and hashed passwords.

EVONY GAMING: 33 MILLION PIECES OF INFORMATION STOLEN

Thieves were able to hack Evony Gaming (which produces the mobile game 'Evony: Age II') and stole the data of 33 million gamers. In addition to user data and e-mails, the attackers also stole passwords in the form of an unsalted hash, which can be cracked easily. Experts' passwords have already been partially decrypted.

BAHN.BUSINESS: LOOPHOLE REVEALS CUSTOMER DATA

For a change, the user data of the bahn. business portal was not divulged by a robbery, but by an embarrassing programming slip-up. Companies can use special links to make it possible for their employees to book tickets independently. However, it was possible to change the link parameters in order to gain access to other companies' data. The Bahn portal has deactivated the function, but its initial statement claimed that personal user data had not been misused. 

Paypal: Password Leak

The payment service PayPal has plugged a vulnerability in its 2-factor implementation, which allowed users to manipulate the security question in the authentication procedure using a web proxy server, thus bypassing the extra measure. The loophole was plugged at the end of October and there were no victims. [\[v\]](#)

Attack On Wireless Keyboards

Hackers have once again targeted radio-based keyboards and mice. Two experts working for the security firm SySS used Radio Hack Box to demonstrate that inputs can not only be intercepted, but fed in as well. With the help of a Raspberry Pi, a special dongle and a Python-based tool, the researchers were able to automatically monitor the frequencies of the wireless keyboards and mice, read the unencrypted communications and use a virtual keyboard to make their own inputs. The attack has a range of 10 to 15 metres, but according to the researchers, this range can be increased to several kilometres if the right kind of aerial is used. The manufacturers are promising to solve the problem. [\[v\]](#)

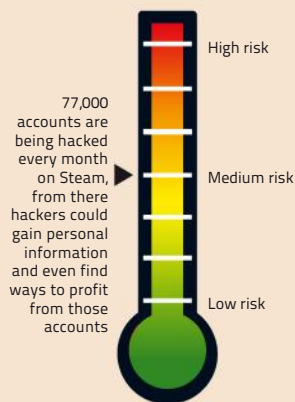
Google: Loophole In The Apple Kernel

One of Google's security researchers found a leak in the XNU kernel that was developed by Apple, and which is used in Mac OS and iOS. Attackers can use the loophole to break out of the Sandbox and obtain additional access rights. The loophole was plugged in Mac OS Sierra 10.12.1 and iOS 10.1, but older versions are still vulnerable. [\[v\]](#)

Support-Rackets On The Rise

A recent study carried out by Microsoft's Digital Crimes Unit warns of a significant increase in the number of fraudulent support calls. Criminals try to pass themselves off as technical staff, but their goal is to infect mobile end devices and PCs, as well as steal personal data. Globally, two out of three users had to deal with a fraud attempt being carried out by an alleged member of a technical customer service department in the last few years. Microsoft has stated that it never calls customers on its own and the company is advising victims to report the incidents. [\[v\]](#)

Danger Barometer



Every second internet user is a victim of cyber-crime

According to a Bitkom study, almost every other user fell victim to a digital attack in the last twelve months. Virus attacks were the most frequent, followed by cases involving intercepted access data and fraud

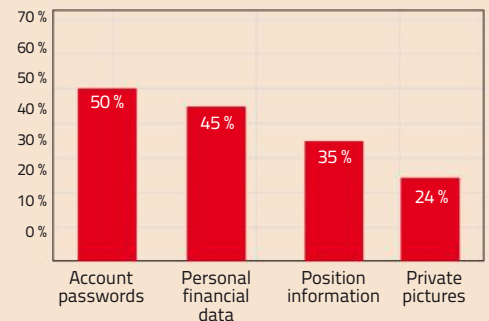


SOURCE: BITKOM

Criminals love passwords

According to a Kaspersky survey, users are primarily afraid of hackers gaining access to the login data for their accounts

Fear of data theft



SOURCE: KASPERSKY

Number of the Month:

68,000,000

68,000,000 sets of account data were hacked from DropBox back in 2012

Organisations Urged To Review Network Security Stance

The Internet of Things (IoT) is expected to enter another year of growth and Fortinet's experts say to expect new security risks

Fortinet has warned that the IoT revolution set to hit this year will bring new challenges to network security. The number of devices that require connectivity continues to climb and users need to be aware that not all of them have been built with security features, but rather for ease of use.

Gartner predicts that by 2020, individuals will be using up to 26 connected devices that can collect, send, and interact with data. Most of these devices will be using OEM software that have to be compatible with a huge variety of smart devices. This presents a significant security risk for enterprises, because as employees bring their devices to work, the large number of connected devices that will require wireless connectivity will provide cybercriminals more means to attack a company's network.

Traditionally, vendors tack on software and technology on top of the devices in the name of security. However, that approach doesn't really work to solve the inherent fact that the devices are unsecured and 'headless'. According to Fortinet, a headless device is one that cannot be patched, updated, nor have a client installed on them. Instead, Fortinet said that a completely different strategy needs to be employed.

'The emergence of IoT is pushing security from being a network afterthought and bolt-on technology to an integral, persistent, omnipresent part of the network. The 1980s approach to install an MDM client on smartphones and tablets, which we still do today, just isn't an option for IOT devices. Secured, trustworthy networking is preferred over networking plus security," said Michelle Ong, Country Manager for Fortinet Malaysia.

Fortinet has suggested the use of four key strategies:

1) Control your organisation's network access. Making sure to filter devices before



they enter your network is a good way to weed out the ones that may have been compromised.


2) Operate on the assumption that your organisation will be breached eventually. Thus, it is imperative for there to be a way to monitor your organisation's network and identify suspicious activities.

3) Segregate your network into multiple parts. Attacks that cause the most damage are typically able to roam your entire network environment once it has breached it. Learning how to segment your network can ensure that the damage is limited to as small an area as possible. This is useful in helping you identify the source of infection and act accordingly.

4) The complex threats don't need complex security countermeasures. It is better to source for software or tools that can scale dynamically, are easy to deploy, and can mesh well together. The last part refers to the ability to, according to Fortinet, 'share threat intelligence from across the company's distributed

environment and coordinate a response to a threat".

'IoT needs economical security inspection services at the actual connection point for every device, as opposed to trying to funnel all traffic through a small number of typically over-burdened systems that are

hard to maintain and upgrade given the continued expectation of always-on, always available connectivity," said Ong. 



Michelle Ong -
Country Manager for
Malaysia, Fortinet



**TREND
MICRO™**

Preparing For Ransomware

Trend Micro releases results of a survey about ransomware

The year 2016 was truly the year ransomware ran rampant. To help raise awareness of it for organisations out there, Trend Micro collaborated with ISMG to conduct a survey on various organisations to find out the challenges the challenges they might have faced against this form of cybercrime.

Last year, Trend Micro recorded 748% increase in new ransomware families compared to the year before. Over 53% of organisations surveyed were victims of a ransomware attack within the past year. Shockingly, 15% of correspondents didn't know if they have been victims or not. According to Trend Micro's report, financial institutions were better protected than most, with 33% of correspondents in that category reporting attacks. 75% of responders said that the number of ransomware attacks had increased over the year before. This is proof that cybercriminals have been actively using this form of attack in 2016.

Another alarming statistic is that 20% of the surveyed organisations had to reportedly


deal with over 50 attacks a month, while 42% of experience five attacks every month. As a result, organisations had to be able to monitor, detect and block ransomware attacks constantly.

Moreover, 65% respondents indicated they were infected due to staff who have visited fake or infected websites, while another 26% reported that they were infected via email

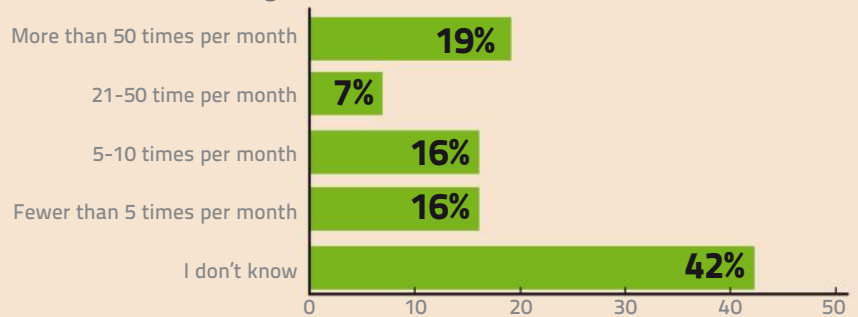
attachments. Trend Micro believes that malicious URL embedded in emails could have been part of the former 65% of organisations. According to the security firm, ransomware tend to infect through the internet using emails or compromised sites. Knowing this should help organisations focus their security efforts.

Lastly, 60% of correspondents said that their weak-link are employees who fall for phishing schemes. But not all is doom and gloom, for 71% of the responders have pledged to invest into educating their employees or users in 2017.

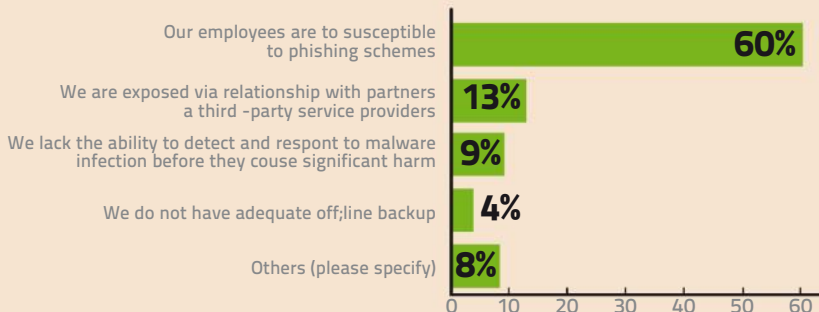
Awareness could help reduce the number of ransomware victims, but it is important to remember that threat actors won't be resting on their laurels. Instead, Trend Micro expects threat actors to find increasingly more clever ways to infect users. Thus, organisations should also look to invest in holistic anti-ransomware security solutions.

Trend Micro offers such solutions, which you can learn more about at: <http://www.trendmicro.com/us/security-intelligence/enterprise-ransomware/index.html>. 

How frequently do you believe attackers attempt to strike your organisation with ransomware



What do you believe to be your organisation's biggest vulnerability to ransomware attacks?




BlackBerry QNX Launches Software For Autonomous Drive And Connected Cars

The QNX SDP 7.0 is suited not only for cars, but also for almost any safety or mission-critical applications that requires 64-bit performance and advanced security



BlackBerry Limited announced its most advanced and secure embedded operating system for the automotive industry. QNX Software Development Platform 7.0 is a 64-bit OS that builds on the proven reliability of QNX technology and raises the bar for security and performance in cars. At CES 2017, the technological capabilities of QNX SDP 7.0 was demonstrated on BlackBerry QNX's Jaguar XJ and 2017 Lincoln MKZ concept cars.

QNX SDP 7.0 provides high performance and enhanced kernel-level security through an array of features, including microkernel architecture, file encryption, adaptive time partitioning, a high availability framework, anomaly detection, and multi-level policy-based access control. Featuring the next-generation QNX Neutrino – Realtime OS and QNX Momentics – Tool Suite, this reliable OS helps guard against system malfunctions, malware, and cyber-attacks by implementing a multi-level, policy-driven security model that incorporates best-in-class security technology from BlackBerry.

The OS also offers a safety pedigree proven by certification to ISO 26262 ASIL D (The highest level achievable) for automobiles and to IEC 61508 SIL 3 for industrial automation systems, and by compliance with IEC 62304 for life-critical Class III medical devices. As automakers look to consolidate domain functions such as infotainment, telematics, and digital instrument clusters into a virtual cockpit controller, QNX SDP 7.0 provides a Realtime OS that supports 64-bit for the ARMv8 and Intel x86-64 architectures, along with virtualization capabilities. QNX SDP 7.0 can help ensure that these automated systems perform all processes and actions reliably, within the pre-defined amount of time needed for successful and safe execution. 

www.blackberry.com

GAMDIAS Unveils Dual Level RGB Stream Lighting Mice




Fully customisable RGB lighting optical gaming mice designed for gamers

GAMDIAS announced the release of their dual level RGB streaming lighting optical gaming mice series which consists of three mice, ZEUS E1, ZEUS M1 and ZEUS P1. The ZEUS P1 also comes with a 12,000 DPI optical sensor that provides pixel-perfect tracking and advanced surface calibration support.

The ZEUS P1 gaming mouse offers consistently accurate tracking, eight configurable buttons, and super-responsive switches. Fully customisable double level RGB streaming lighting creates a beautiful, personalised look that matches your style. While the ZEUS M1 on the other hand features a 7,000 DPI optical sensor and adjustable tuning zones allow you to customise the weight of your ZEUS M1 to give it the feel you want. Like the ZEUS P1, the ZEUS M1 features 16.8 million dual level RGB customisable stream lighting design.

With 6 pairs of customisable LEDs, and 10 types lighting effects, you'll have immense customisation potential with the HERA application. Finally there's the ZEUS E1, packaged with the NYX E1 gaming mouse mat, it comes in an ergonomically designed shape to ensure comfortable fit for any hand size. It also features on-the-fly DPI adjustment buttons positioned perfectly bellow the scroll-wheel for seamless access.

The ZEUS P1 is priced at USD 79.99 (RM354), ZEUS M1 at USD59.99 (RM265), and ZEUS E1 at USD39.99 (RM177). 

<http://www.gamdias.com/>

HTC Is All About You

The all new HTC U Series is all about you, with impeccable style and design that you can't resist



HTC is delighted to announce the arrival of two brand new smartphones that is designed with a new philosophy: 'Made for the Brilliant You', creating a stronger and more personal bond between man and machine. The two phones that embody this ideas are the all-new HTC U Ultra and the HTC U Play.

Both the HTC U Ultra and the 5.2-inch HTC U Play comes in a beautifully contoured, liquid surface that's designed to reflect the best of you, with lustrous, symmetrical, curved glass construction to reflect light beautifully. Colour from vaped minerals are layered to add depth and brilliance from every angle. Using voice recognition the smartphones can recognise your voice and respond. Navigate your phone, take or reject calls, snooze or dismiss alarms, and more.

You can easily switch between the 16MP and UltraPixel in the front camera, to choose between unparalleled light sensitivity and high resolution photos. The smartphones listens to you with HTC USonic, which analyses your inner ears with a sonar-like pulse, and then adapts to you. Now you can hear the details you were missing, whether you're in a library or at a party, you can adapt your headset to suit noise levels around you. 📺

www.htc.com

Nikon Celebrates Centennial

A website and logo has been designed specifically for Nikon's momentous milestone



While some people are still writing '2016' in forms, Nikon has gone ahead and launch the start of its 100th year celebration. Established as Nippon Kogaku K.K. in 1917, the camera manufacturer will be 100-years-old on 25th July this year. Since then, the company has continued to create quality opto-electronics and precision technologies.

As part of the celebration, Nikon has specially designed a 100th Anniversary logo. The logo will be a prevalent sight as Nikon ticks off the days on the calendar. "This logo is widely used as the symbol of our 100th anniversary, disseminating the message of Nikon's 100th anniversary to our customers and partners around the world," said a Nikon representative.

In addition, Nikon has set up a 100th Anniversary Website filled with content that are dedicated to the company's upcoming celebration. This includes a movie and a record of the company's history throughout the years. Nikon will be adding more to the site in the coming months, so interested Nikon fans can head over to the URL we've included below and bookmark it for future use. 📺

www.nikon.com/100th

Samsung NEXT Looking To Help Startups

The organisation will setup a fund to support startups globally that are developing for emerging tech


The Samsung subsidiary known as Samsung NEXT has unveiled the Samsung NEXT Fund, which is a \$150 million (approximately RM664 billion) venture capital investment fund.

According to Samsung NEXT, this fund will be used to increase the organisation's global support for startups in the early stages of developing advanced software or innovating on services. With the help of this fund, Samsung NEXT will be able to continue to drive its multi-stage global innovation platform and provide these startups with the necessary funding, resources and expertise.

'We see software and services becoming a core part of Samsung Electronics' DNA, and startups are key to achieving this vision,' said David Eun, President and Founder of Samsung NEXT. 'Samsung continues to embrace entrepreneurship at all levels and this Fund shows our unwavering commitment to support great startups worldwide,' he added.

Currently, the fund will target startups that are developing virtual reality, artificial intelligence, IoT and other technologies Samsung NEXT describes as 'new frontier'. Thus far, the following companies have benefited from the NEXT Fund: Converge Industries, Dashbot, Entry Point VR, Filament, Intezer, LiquidSky, Otto Radio, 2Sens, SafeDK and Virtu.



'Our investments bring the power of the Samsung platform to startups to accelerate their growth and ultimately their success,' said Brendon Kim, VP and Managing Director of Samsung NEXT Ventures. 'The Samsung NEXT Fund expands our global reach and capabilities, while increasing Samsung's access to more great ideas, products and talent.' 
samsungnext.com

PlayStation 4 Sells 6.2 Million Units Worldwide During The 2016 Holiday Season




Sony Interactive Entertainment celebrates their great holiday season and thanks fans and partners for their support

Sony Interactive Entertainment (SIE) announced robust sales for PlayStation 4 computer entertainment system and its software titles during the 2016 holiday season. The PS4 has now cumulatively sold through more than 53.4 million units globally as of 1 January 2017.

PS4 software sales also remained strong during the 2016 holiday season with more than 50.5 million copies sold in retail stores worldwide and through digital downloads on PlayStation Store as of 1 January 2017. UNCHARTED 4: A Thief's End reached a cumulative sell through of more than 8.7 million copies globally as of 21 December 2016.

'We are truly grateful for the tremendous support from our fans and partners, which has helped to make this holiday season one of the best in our history,' said Andrew House, President and Global CEO of Sony Interactive Entertainment. 'We will aim to continue the momentum this year by broadening the PS4 title portfolio, further enriching the revolutionary gaming experiences on PlayStation VR and high quality gaming experience on PlayStation 4 Pro, while also expanding network services. We will remain steadfast in making the Ps4 the best place to play.'

SIES also introduced the first colour variation for the slimmer and lighter standard PlayStation 4 in Glacier White which is available now in Asia. Along with the new Glacier White PlayStation 4, users are able to purchase the new Glacier White variation Wireless Controllers as well. 

<http://asia.playstation.com>

Is Jaguar launching the Tesla-killer?

Jaguar wants to stir up the sector with the I-Pace. We were able to take a close look at the show car



Thanks to its compact electro-architecture, the Jaguar can make optimal use of its internal space. The WLAN facility and apps provide entertainment

BMW, Volvo, Audi and Tesla have been doing it, but now Jaguar's wants to jump on the bandwagon too. The premium manufacturers are bringing their new electric car into the race and they are supposedly capable of a minimum range of 500 kilometres. At the Los Angeles Auto Show, Jaguar showed off its vision of an emission-free future: The five-seater I-Pace. 'When it comes to the I-Pace concept, the revolutionary approach is reflected in the profile, not the language of design. This profile is only possible because the vehicle is an electric vehicle,' said Ian Callum, Jaguar's chief designer. Since there is no combustion engine or cardan shaft tunnel, the passenger cabin has been moved towards the front. The vehicle also features very tight bulges and a generous wheel base. It has sunken door handles, which are supposed to improve the car's aerodynamic performance. In addition, the manufacturers have optimised the tail aerodynamically and installed a self-cleaning rear window made of water-repellent glass, making rear window wipers a thing of the past. The cockpit's aluminium rotary controls encompass round displays featuring variable surface feels, which can be used to navigate through the menus.

Moving on to the heart of the car, its engines - integrated into the front and rear axles - facilitate an electric four-wheel drive system that can deliver about 400 HP to the table. With this engine, the I-Pace can accelerate from 0 to 100 km/h in four seconds. Its maximum speed is still unknown, but since Tesla is able to attain speeds of 250 km/h, it's safe to assume that Jaguar's top speed won't fall below that value. The liquid-cooled lithium-ion battery has a total capacity of 90 kWh, which translates to a range of about 500 kilometres. To recharge the car, a solid two hours is required.

According to Jaguar, the production version of the I-Pace should be ready by the end of 2017, while official launch will be in 2018. 🇩🇪


Transfer Of Data Of Whatsapp Users Halted

European privacy groups have won a partial victory. After the transfer of personal data (such as telephone numbers) of WhatsApp users to the parent company generated a wave of criticism, Facebook has decided to temporarily suspend this practice. The authorities will now be able to lay out their misgivings and Facebook will have enough time to weigh the pros and cons. 🇩🇪

Wearable for sport-tracking

The Huawei Fit (approx. RM704) is a fitness tracker with the design of a smart watch, while also allowing users to document various activities. Regardless of whether you're walking, running, cycling or swimming, the fitness watch records data related to distance, calorie consumption, time and fat-burn. It also features running programmes and a sensor for measuring the user's heart rate. 🇩🇪

VR One Plus: Virtual Reality From Optics Specialists At Zeiss

Everyone's talking about virtual reality these days and German optics manufacturer, Carl Zeiss, wants a slice of the pie. The Zeiss VR One Plus headset represents the company's second generation mobile VR headset. Its new universal slot can accommodate smartphones with a display size of 4.7 to 5.5 inches. Although placing a smartphone in position can be difficult, it remains stable in the drawer once this has been accomplished. The firmly-installed lenses offer a field of view of about 100 degrees and generate a sharp image in conjunction with an interpupillary distance of 55 to 77 millimetres. Good news for those who wear glasses: the headset can be worn over your glasses. What's not good is the controls. Since the VR One Plus does not have an integrated control element, some VR apps will force you to remove the slot from the headset in order to use menus. Although a magnetic switch is available for about 13 euros (approx. RM61), it doesn't work with all smartphones. The Zeiss VR One Plus costs will be retailing at a price of about 120 euros (approx. RM563). 



Bluetooth Headphones With Powerful Battery

When it has been charged, the Marshall Mid Bluetooth (approx. RM939) allows you to listen to music wirelessly for more than 30 hours. The aptX technology, which is supported by the on-ear headphones, makes it possible to play songs in CD-quality, while the dynamic 40mm drivers are able to deliver clear and bass-heavy sounds. It has an unmistakable Marshall look and it can be controlled with the help of a multi-function button. Also, the two microphones also make it possible to take telephone calls. 



New Tolino E-Book Reader Generates Optimal Reading Light


The Tolino Vision 4 HD (approx. RM845) has an interesting new feature. Thanks to a feature called smartLight, its lighting system adapts to the time of day. Consequently, the colour temperature gradually changes from the colder light of the morning to the warm white light of the evening. 

Photos: iStockphoto / pagadesign (pharmacy); manufacturers (products)

Valuable British Mobile Phone


The smartphone start-up Wileyfox wants to take over the middle class with a new model and an alternative version of Android



Since October 2015, the London-based start-up called 'Wileyfox' has been selling solid smartphones at a low price. With the Swift 2 Plus, the company has now unveiled its second mobile phone model, which is supposed to enable it to make inroads into the middle class. The company's low-price policy hasn't changed. For about 220 euros (approx. RM1,033), you can get an LTE smartphone with a 5-inch 720p display, a 16-megapixel camera, a fingerprint sensor and NFC. Inside the high-quality aluminium unibody lies a Snapdragon 430 processor, which is supported by 3GB of RAM. It also has adequate storage, with an internal memory of 32GB that can be added to using an SD card. The basic Swift 2 – which costs about 190 euros (approx. RM892) – differs from the Plus version in terms of the RAM (2GB), storage space (16GB) and its camera's resolution (13-megapixels). Like the previous model, the Swift 2 also packs dual-SIM support. However, the device no longer features three dedicated slots for SIM cards and an SD card – Instead, it uses a hybrid slot, which can accommodate either two SIM cards or one SIM card and an SD card. Unlike the Swift, the battery of the Swift 2 is also non-removable. However, the new device does use the Quick-Charge 3.0 technology. Wileyfox has also done away with the gyroscope, so some apps (like Google's Cardboard Camera) no longer work. For now, Wileyfox has remained true to itself in terms of the operating system. Like all the other phones manufactured by this company, the Swift 2 uses Android 6.0, in the form of Cyanogen OS 13.1, the commercial version of Android's well-known CyanogenMod variant. However, the company behind Cyanogen OS recently announced that it will discontinue further development of the operating system. Fortunately, when the Swift 2 was unveiled in London, Wileyfox CEO Mike Coombes promised that regular updates would continue to be available (even for Android 7). He didn't provide any details on whether it would be replaced by Vanilla-Android or a self-adjusted version of CyanogenMod. At the moment, the Swift 2 can only be obtained through Amazon. 

Curved 35-Inch Monitor For Gaming-Enthusiasts



AOC wants to make it easier for gamers to immerse themselves in the world of gaming. To that end, the manufacturer has equipped the gigantic 35-inch AG352QCX with a highly-curved display that covers much of a gamer's field of view, giving exceptional depth perception. The ultra-wide VA panel has a resolution of 2560 x 1080 pixels and delivers 100% sRGB colour for greater colour vibrancy. Furthermore, its image refresh rate of 200 Hz is supposed to eliminate motion blurs and streaks. The Adaptive-Sync technology prevents tearing and stuttering, while Shadow Control brightens up dark regions without adjusting the rest of the image. AOC has Furthermore, its image refresh rate of 200 Hz is supposed to eliminate motion blurs and streaks. The Adaptive-Sync technology prevents tearing and stuttering, while Shadow Control brightens up dark regions without adjusting the rest of the image. AOC has provided all the important port, which includes VGA, Dual Link, HDMI 2.0, DisplayPort 1.2a, two USB 3.0 ports, an audio and microphone port, as well as 5-watt loudspeakers. When it comes to ergonomics, the 35-inch device scores with its height-adjustable base, which can also be inclined and rotated. The AOC monitor costs about 800 euros (approx. RM3,779). 

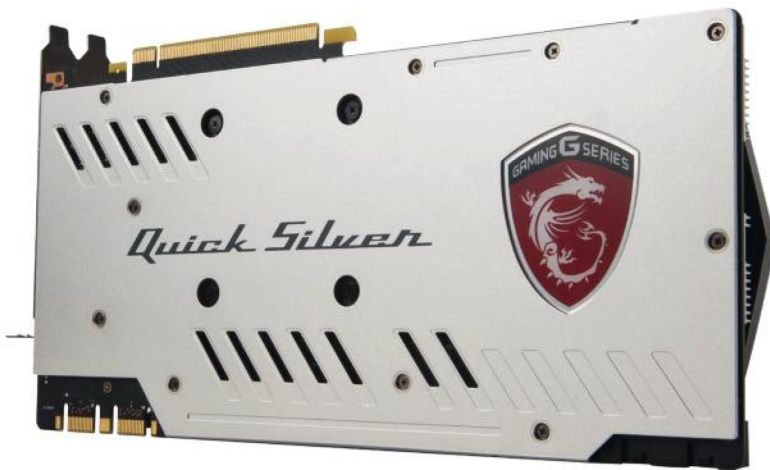
University of Nottingham To Run New Satellite Navigation Project

The project's aim is to improve the positioning accuracy of navigation satellites

The University of Nottingham at UK has launched a project that will be using the Global Navigation Satellite Systems (GNSS) to create a blueprint of world's most accurate real-time positioning service. This will be a prototype that will be of critical importance to industries such as aviation, maritime navigation, and more.

Funded by the European Union, the project will be integration signals from multiple satellite navigation systems, including GPS, GLONASS, BeiDou, and the newer Galileo system. By combining the signals from these satellites, the project will be able to create a new multi-GNSS (Global Navigation Satellite System) that can provide fast, highly accurate satellite positioning to any location in the world. The project, slated to run for four years, will concentrate on improving current GNSS models.

According to the Nottingham Geospatial Institute's Dr. Marcio Aquino, who is the project lead, a successful prototype has many use cases. 'A highly-accurate multi-GNSS service could, for instance, assist demanding terrestrial applications like precision agriculture, giving farmers access to real-time precisely located data gathering and analysis to maximise food production, reduce costs and minimise pesticide use. On the other side of the spectrum, a deep-sea drilling platform that experiences any temporary degradation of positioning accuracy could lead to phenomenal losses right at a time when, due to the current oil production climate, companies are striving to increase operational efficiency. This industry would also benefit from such an accurate multi-GNSS service,' he said. 🇬🇧



Special model – GTX 1070 Quick Silver 8G OC

The newest product in MSI's GTX-10 series is the GTX 1070 8G OC Quick Silver Limited Edition. This graphics card is clocked at 1607 MHz and can go up to 1797 MHz in boost mode, which can be controlled with the help of the MSI app. It comes air-cooled via MSI's TwinFrozr-VI technology, has 8GB video memory and military-class-IV components for exceptional performance. The MSI GTX 1070 Quick Silver 8G OC will retail for about 500 euros (approx. RM2,362). 🇬🇧

Rumours Of AR Goggles From Apple

Apple CEO Tim Cook stated in an interview with America's BuzzFeed media portal that he's interested in further development of augmented reality technology. In 2015, the California-based company snapped up the German AR firm Metaio and hired experienced researchers and engineers, one of many investments that the company has made that indicates it might actually be working on AR goggles. It should be noted that due to it's the iPhone 7 Plus's powerful processor and dual-camera system, it already supports the latest augmented reality apps. According to Tim Cook, Apple wants to develop a technology that would provide productive assistance within the framework of people's daily routines. The functionality of the goggles will probably be similar to that of Google Glass. 🇬🇧

Canvas Integrates With Google

The online learning management system has made the move to embed Google's services into its system, which should benefit users' work and productivity



Troy Martin, Vice President of Canvas Asia Pacific

Canvas by Instructure recently announced that it has integrated its services with Google tools. This allows students and educators to use Google's tools within the Canvas environment, which means that there would be no need to have separate tabs. Effectively, this would streamline workflow and thus improve productivity.

'Most of the teachers we work with use Google in their classrooms, and they want to use Canvas and Google without switching back and forth between two interfaces. Our educator user base is very excited about this integration because it will make their lives easier,' said Melissa Loble, VP of partners and platform at Instructure. 'Now teachers, students and administrators alike can use Google's best tools directly inside of Canvas. This integration allows schools to continue having students work in the software they use now, and will use after they get their diplomas and jobs in the real world.'

Among the tools integrated, the first one is the Single-sign on that allows users to log in to Canvas and Google at the same time. Once users have signed in, they'll be able to easily use Google Drive for file embedding, collaborate with other Canvas users on Google Docs files, or view their Google Docs files through the Canvas Course Navigation Menu.

Specifically, educators will be able to create read-only files using Google Docs, which is useful for study materials they do not want altered, or make annotations to files being collaborated on. On the other hand, students will be able to view their teachers' feedback via annotations on the Google Docs files, saving valuable time. As a whole, this integration simplifies workflow and thus improves general productivity.

Troy Martin, VP of Canvas Asia Pacific, said that the integration was important to the development of online learning. He expressed that the move of integrating the best tools allows educators to focus on the teaching process and not how to get technology to work for them.

'Traditional LMS/VLE environments force teachers to use the tools they alone provide or created fractured environments where students and teachers needed to log into several systems. Canvas is the first to bring the true power of Google apps for Education (GAFE) into a centralised Learning environment for teachers and students. Teachers can quickly share documents with students, create collaborative documents, slides or sheets and even allow students to submit work for assessment. With only a couple of clicks in Canvas, you have a truly unified environment,' he said. www.CanvasLMS.com

www.CanvasLMS.com



Canvas integration with Google



Batteries: Highly Dangerous?

Lithium batteries represent the epitome of storage batteries. However, Samsung's Note 7 debacle and the spectacular inferno involving a Tesla have raised this question: Are they really safe?

By Sepp Reitberger

The press absolutely loves Elon Musk. They pounced on the success stories involving Tesla and SpaceX, but also dived into the companies' spectacular failures. In November last year, reports of a Tesla Model S 'exploding' tore through the media like wildfire. And just like the accident that took place in Florida, headlines were quick to suggest that immature technology

had resulted in the deaths of human beings. The Samsung Galaxy Note 7 also gained a massive amount of notoriety when many caught fire shortly after they were released. Samsung was unable to solve the battery-related problem and had to pull the Note 7 off the market altogether, especially when even replacement devices started 'exploding'.

However, these two cases don't

necessarily justify a general fear of lithium-ion batteries. At least, that's what professor Dr. Werner Tillmetz of Ulm's Centre for Solar Energy and Hydrogen Research believes. However, the Samsung incident in particular shows that when it comes to the requirements of smartphone manufacturers and the battery development domain, the situation is definitely marked by certain constraints. In order to attain optimal power and energy densities, battery manufacturers install ever-thinner separator foils between the battery electrodes. The latest items have dimensions of just a few micrometres, but they still have to insulate the components from each other in a reliable manner. Production problems – such as the foil being crushed – don't always produce defects that can be detected during the quality assurance process. Such problems lead to a significantly-delayed electrical short. According to professor Tillmetz, the problem is that the battery cells 'breathe' – they expand slightly when the crystal structures

are changed during the charging process and contract during the discharging process. Such mechanical stresses can rip a pre-damaged separator foil when the device is in operation.

Electrical shorts in the cells result in very high currents, which in turn lead to overheating. This becomes critical from 200-220°C onwards. At such temperatures, the cells pop due to the pressure, causing electrolyte fluids to spill out and a portion of that evaporates. From about 220°C onwards, the electrodes begin to decay. This leads to the emergence of hydrogen, which catches fire in a jet of flame due to sparks. Such battery damage is obviously dangerous, but Dr. Tillmetz points out that of the approximately two million Galaxy Note 7 devices were manufactured, and the problem only affected one out of every 40,000.

Petrol Cars Catch Fire More Frequently

Unfortunately, the Tesla accident in Indianapolis was different. Two people were killed in the incident, in which the car caught fire. In this case, the

battery wasn't the culprit. The car was moving too fast in the centre of Indianapolis and it crashed into a tree. An eyewitness later claimed that there was a massive explosion, which caused a fire that took the fire brigade 15 minutes to bring under control. Dr. Tillmetz believes that the Tesla's battery probably didn't blow up in a large explosion. What was depicted in a video recording made by one of the fire-fighters made more sense. Due to the heat, individual cells of the Tesla's destroyed battery popped, causing sparks to start flying and cells to be flung into the air. The intensity was less like a bomb and more like a firecracker.

In a tightly-packed battery module, a burning and bursting cell heats up the next one. However, according to Dr. Tillmetz, the chain reaction in a battery only becomes explosive after a few minutes. In all the previous cases involving fires in




The Samsung Galaxy Note 7's battery had defects that could cause the phone to explode



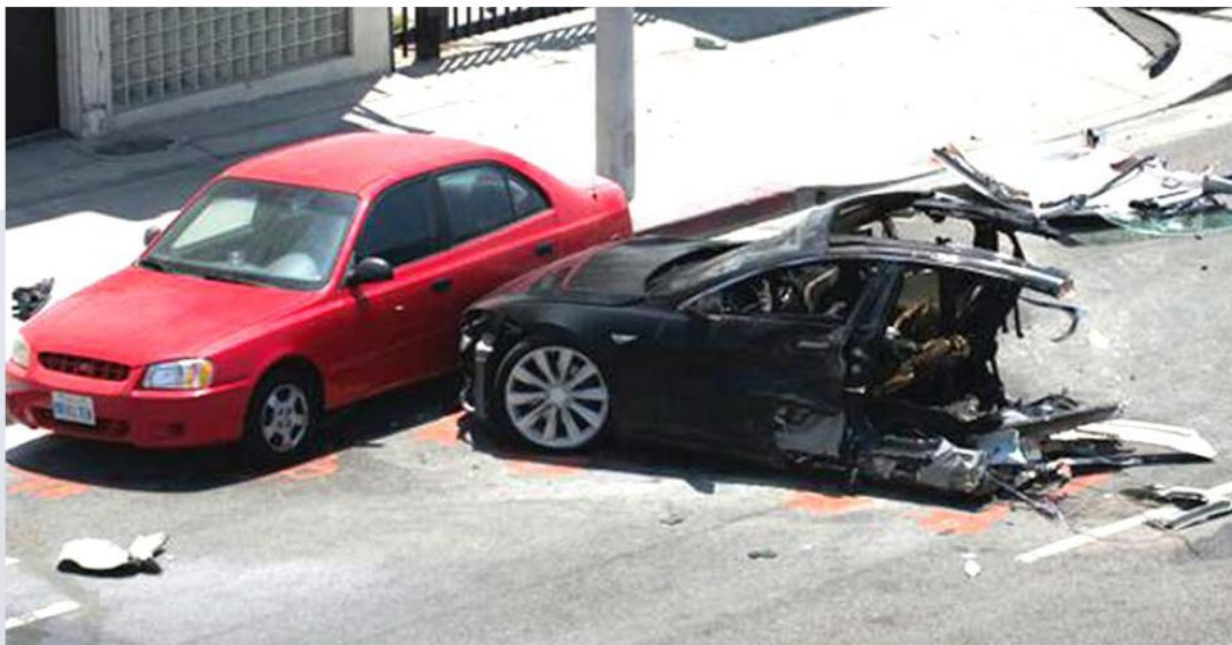
"Electric drives are not more combustible than petrol-based ones"

Professor Dr. Werner Tillmetz, Centre for Solar Energy and Hydrogen Research

Tesla vehicles, the drivers were able to stop their vehicles and get out.

Dr. Tillmetz also points that conventional cars catch fire very frequently due to accidents or defects. When asked whether he considered electric cars to be more combustible than conventional petrol-driven ones, Dr. Tillmetz had a clear answer: "No." Due to the quantity of energy involved, the risk of an explosion is actually higher with petroleum. For instance, 50 litres of fuel contain at least 450 kWh of energy, while a Tesla battery only contains 100 kWh. 

The Tesla car crash was the result of an exploding battery, which took several lives



Technilexicon: AMD Ryzen

With its new Ryzen processors, AMD wants to break the dominance of Intel. Thanks to its brand new architecture, the processors should compute as fast as the best of its competitors

By Markus Mandau

Since the PC was still the only computer at home, the exciting rivalry between Intel and AMD was at the core of it all. With AMD's switch to 'Bulldozer' about five years ago, AMD was forced to quit the race. Since then, PC enthusiasts did not have any choice: If they want to build a powerful PC, they can't go for anything other than Intel's Core i-series of CPUs. They dominate the performance values. But AMD is now coming back with its new chip architecture 'Zen' and closing in on the Core-i processors.

Two factors ensure this: Till now, AMD chips were clearly inefficient than those from Intel. The in-house supplier of AMD, Global Foundries was manufacturing the CPUs till recently with a transistor size of 32 nanometres (nm). Intel was already producing the same in a size of 22 nm in 2012, today, Intel's chips are at 14 nm. Every advancement to a smaller size improves the efficiency by about 40 percent. This cannot be always exploited although Intel has clearly had an advantage.

AMD's "Back To The Future"

The second factor has something to do with insight: Andrew Feldman, the then vice president of AMD, went on record saying in 2013 that Bulldozer had been "a complete failure". With Bulldozer, AMD had said goodbye to the concept of multiple full-fledged cores in one CPU and divided the CPU into core modules. Such modules are made up of two computing cores that carry out whole number operations and divide a floating point unit. The snag here: Both the cores compete around the floating point

resources which leads to performance drops, for example, in case of multimedia applications.

With Ryzen, AMD quit this module concept. Instead, every core of a Zen CPU has a whole number and a floating point unit. Also, AMD introduces the hyperthreading under the name - Symmetrical Multi-Threading. Like a Core-i, a Ryzen core can also process two threads simultaneously. Due to the new concept, AMD also adjusts the cache which delivers or records data for the core. The two L1 Enlarged and the L1 data cache saves

according to the 'write-back' principle. Its contents are not mirrored (write-through) in the slower L2 cache as seen in case of Bulldozer. It only serves as a reserve when the L1 cache runs out of data cache. Even here, Bulldozer had a performance problem - apart from the fact that both the cores of one Bulldozer module shared the L1 caches.

The L1 instruction cache (I-Cache) and the L2 are double in size as seen in Skylake CPUs. As a consequence, a Ryzen core must resort to the slowest cache L3. Although AMD sacrifices its chip area here which could have been invested in more computing units. For this, the access time to the L1 and L2 Caches have been reduced according to AMD, as compared to the last Bulldozer generation Excavator. The L3 Cache is available for all cores and with 2 MB per core, it looks exactly like that from Skylake. Zen combines four cores for one

base unit in each case. Either a graphics unit or four more cores can be docked to this base unit by which either the counterpart becomes the Skylake 6700 or Broadwell E with eight cores, out of one Ryzen CPU.


Copying Intel In Order To Outperform It

AMD, in the processor pipeline, orients itself to Intel as regards an important point: The issue is about micro-commands Instructions that come from I-Cache, are too longer for the computing units to process them. The decoder must convert them into smaller micro-commands. First, AMD incorporates a MicroOp cache which already saves decoded micro-commands - Intel has been doing this since SandyBridge. If these micro-commands are once again requested by the likewise improved branch prediction, then they do not run the decoding process any more but land in the MicroOp queue. This queue feeds the two computing units separately.

It ensures six operations per clock where four of them can fill the floating point unit.

Like Skylake, Zen executes simple moving commands like MOV during the renaming of the

registry. The biggest deficit of Zen lies in the floating point units. The AVX2 commands introduced by Intel are 256 bit such that Zen has to divide them into two units which is not the case with Skylake. For this, the Retire Queue of Zen incorporates eight results from both the computing units per clock which is double than that in case of Core-i.

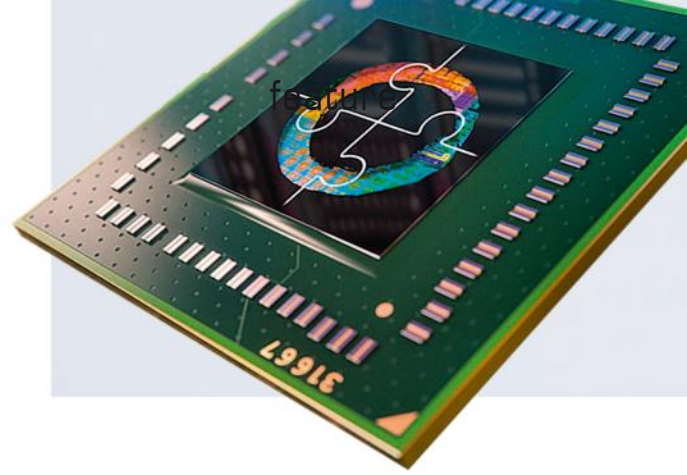
AMD, in a test, has demonstrated that an equally clocked Zen eight core processor is as fast as a Broadwell-E. In January, we will know exactly when will AMD present its first processors. The customers will be able to buy it in spring. AMD has already implemented the switchover to the new AM4 Socket. Thus, there is an improvement in the ports (M.2, USB 3.1) and the switchover to DDR4 RAM. It is quite possible that we will make the next high-end PC based on Zen in 2017. 

**40 percent
more
performance**

is attained by Ryzen per clock as compared to the last AMD generation

The Ryzen processor in detail

The new CPU from AMD is the result of a learning process: It rectifies the errors of its predecessors and accepts new ideas from Intel's Core-I Architecture (e.g. the MicroOP Cache). Many innovations are oriented to make Intel the market leader in the single-thread performance



Four cores make a CPU

One Ryzen CPU comprises of four cores and their caches. While the L2 caches always work with their respective cores, the L3 cache saves data across the cores. Another core or a graphics unit can be docked to the four cores.

Innovations in the core

Input

After loading **1**, the commands in the micro-commands are decoded in order to supply to the computing units. The new memory for the frequently used micro-commands **2** by-passes the decoder and expedites the loading.

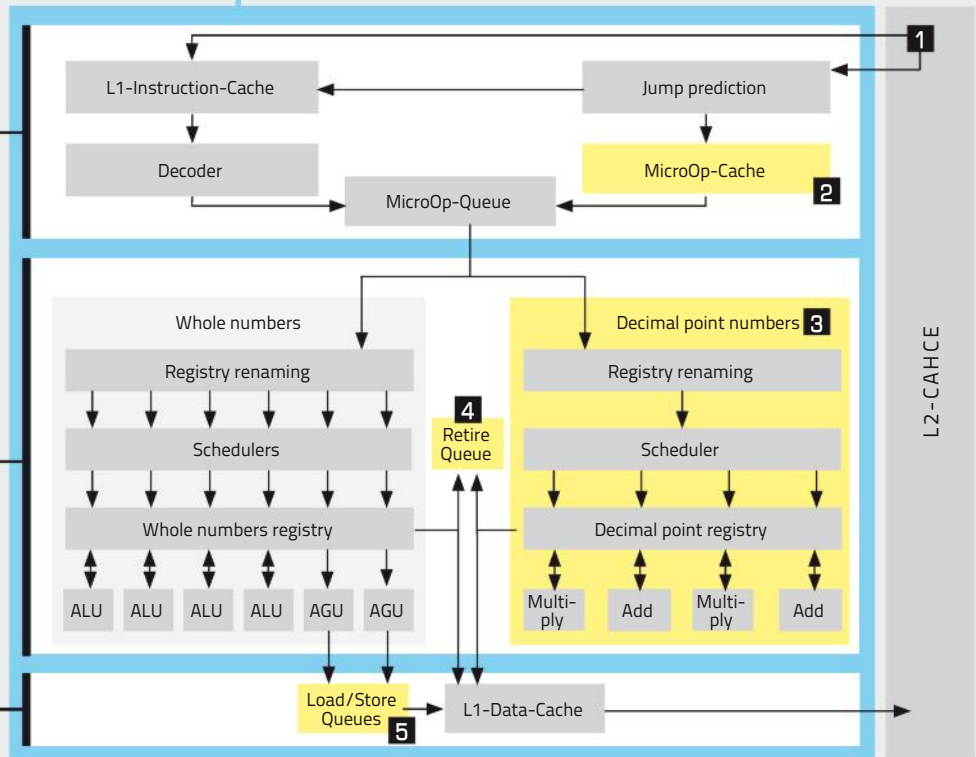
Calculate

In the Zen core, there are two full-fledged computing units working for operations with whole and decimal point numbers **3**. In the earlier versions, two cores had shared one decimal point unit. The Retire Queue **4** can process double the number of pre-calculated results per clock as that of Intel's Core-i.

ALU: Arithmetic Logic Unit
AGU: Address Generation Unit

Output

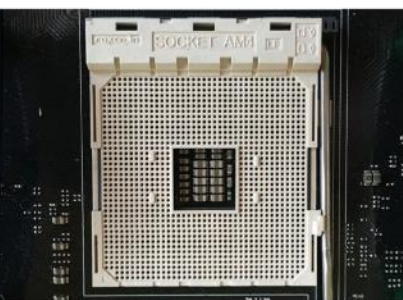
Apart from the Data cache, AMD has enlarged the queues **5** which incorporate the address calculation for the loading and storage operations.



Storage comparison

Large, fast caches supply data to the Ryzen CPU and give competition to the storage concept from Intel. In case of Bulldozer, two cores of a module share the L1 cache whose minor associativity often require going back to the slower L2 memory.

Caches	AMD Bulldozer (FX-8150)	AMD Zen	Intel Broadwell-E (i7-6950X)	Intel Skylake (i7-6700K)
L1 Instruction	64KByte per module 2x associative	64 KByte 4x associative	32 KByte 8x associative	32 KByte 8x associative
L1 Data	16 KByte per module 4x associative	32 KByte 8x associative	32 KByte 8x associative	32 KByte 8x associative
L2	2 MByte per module 16x associative	512 KByte 8x associative	256 KByte 8x associative	256 KByte 4x associative
L3	1 MByte per core 64x associative	2 MByte per core 16x associative	2.5 MByte per core 16/20x associative	2 MByte per core 16x associative



Ryzen CPUs fit in the new AM4 Socket. The motherboards use DDR4 RAM and latest ports (M.2, USB 3.1)



Make Online Payments Secure

Online payment services can only score if they strike the right kind of balance between security and comfort. Using Germany as an example, we'll tell you how you can do just that

By Jorg Geiger

Cash or card? Online payments aren't as simple as payments that are made at the shop. When it comes to the virtual checkout counter, you have to choose from an average of five different payment procedures. In addition to classic offline methods such as those involving bills, direct debits and credit cards, the group also covers online payment systems such as PayPal, giropay and paydirekt. When it comes to being an intermediary between customers and retailers, these are the services that are

more or less trustworthy. In addition to being both quick and easy to use, they do not force the buyer to hand payment data over to the online shop. We took a closer look at the most popular online payment services, and we're going to point out the pros and cons. The table at the end of the article contains a compact expert assessment of the security and comfort levels.

Making Payments Via Amazon

No, you don't have to shop at Amazon in

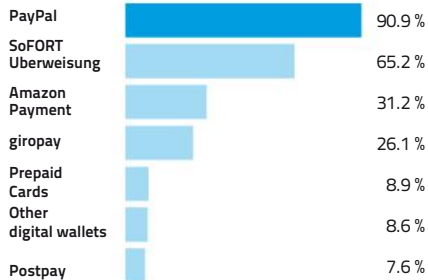
order to be able to use Amazon Payments. You can use the payment data that has been stored with Amazon to make purchases at other shops – The company simply processes the payment. A number of online shops in the US and Europe are planning to offer this payment type in 2017 – If that happens, Amazon will have turned into one heck of a climber. Technically, Amazon Payments is an e-wallet. Whoever decides to use this method uses his Amazon login to authorise the payment procedure in a pop-up window – The whole procedure is quite convenient indeed. Billing and delivery addresses are also absorbed from the Amazon account, so customers don't have to do a lot of typing either. The procedure isn't just convenient for PC-based purchases – It's actually even more convenient for smartphone purchases. According to Amazon, the shop owners see neither payment data nor shopping histories associated with other shops.

But let's not kid ourselves: You will only be able to use this payment method if you have an Amazon account – This basically means that you will be registering with a company that is interested in your

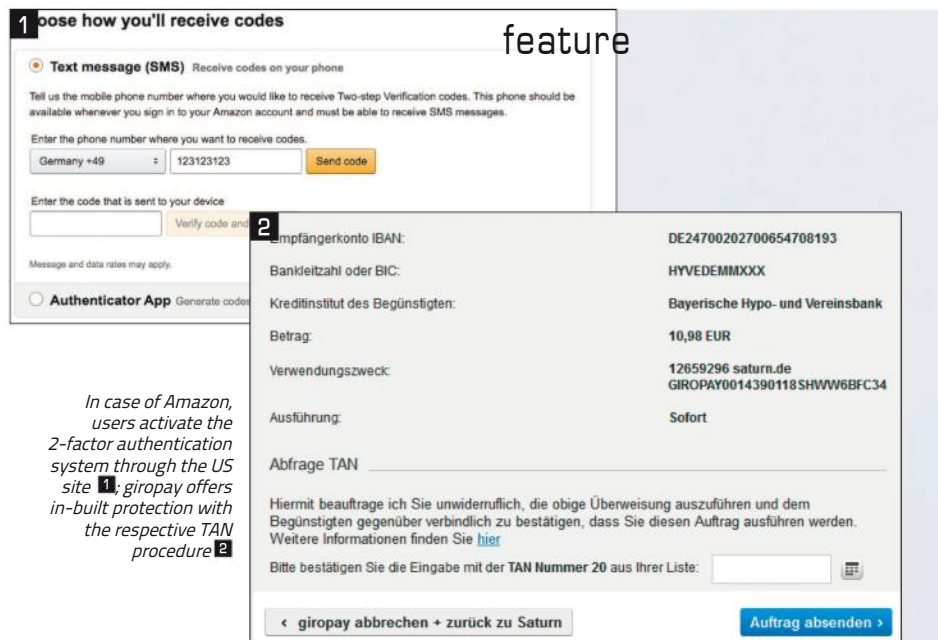
So this is how widespread payment services are

According to a projection from the latest ECC payment study, PayPal will remain the most widely-offered online payment procedure in 2017.

Those who use PayPal can make payments almost anywhere:



SOURCE: ECC-PAYMENT-STUDIE VOL. 20



In case of Amazon, users activate the 2-factor authentication system through the US site 1; giropay offers in-built protection with the respective TAN procedure 2

purchasing behaviour. Consequently, this method isn't particularly thrifty when it comes to data. Furthermore, you will be left with a bitter taste in your mouth if you take a close look at the SBTs: Amazon reserves the right to forward personal data to service providers. Now, the procedure does offer a high level of technical security – Provided you take the initiative and activate the two-factor authentication arrangement. This basically involves an additional secure login procedure that makes use of a PIN code.

Although this arrangement is officially only available in the USA, other users can activate it through the US site. To do so, log onto amazon.com, select 'Your Account > Change Account Settings > Advanced Account Settings' in the status bar in the top right section of the screen and click the 'Get started' option, which is next to 'Two-Step Verification'. Then follow the instructions.

Online Advance Payment

In Germany, the giropay system is a direct transfer arrangement, and can be used in one out of four online shops. When you're making a payment, you are redirected to your bank's online banking site, where you log in and transfer the amount online. Here's the advantage: All of the bank's security mechanisms – such as mobileTAN or chipTAN – can be used to authorise the transaction. Furthermore, you don't have to entrust any third party with sensitive payment data.

On the other hand, here's the disadvantage: Not all TAN procedures are suitable for mobile phone purchases. For

example, those who use mobileTAN to make purchases with their smartphones will be weakening the protection level, because the same device would be used for the password as well as the TAN. The level of security can be watered down even further for reasons of comfort. For example, some participating banks allow you to pay small amounts of up to 30 euros (RM150) without using a TAN at all. In such a case, the login data for the online account would be the sole layer of protection.

PayPal Continues To Expand

According to the latest ECC payment study,

2017 is shaping up to be a big year for PayPal: The American payment service will be integrated into a large number of online shops, which in turn would make it the most frequently-offered payment procedure in the world. With a prevalence level of almost 88 percent, the advance payment option currently continues to be the most frequently-offered payment procedure in the country. However, the level of popularity is also directly proportional to the level of risk – PayPal is already the most popular target for phishing attacks. As is the case with all e-wallets, an e-mail address and a password

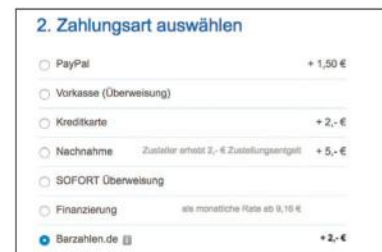
Making classic payments over the internet

If you want to make online purchases without having to deal with payment services, you will be able to use classic methods to make payments in most online shops.

> Bill The classic bill is retreating in the online domain, and it's not as convenient as PayPal & co. Nevertheless, it is very popular with customers because of its level of data economy.

> Advance payment/Transfer 9 out of 10 German web shops allow you to use the advance payment/transfer option to make purchases – That's not surprising, given that the customer has to pay in advance. You should only use this method when you're dealing with trustworthy shops.

> Credit card Although credit cards aren't too popular in Germany, two out of three web shops do offer this option. But beware: The processing of credit card data



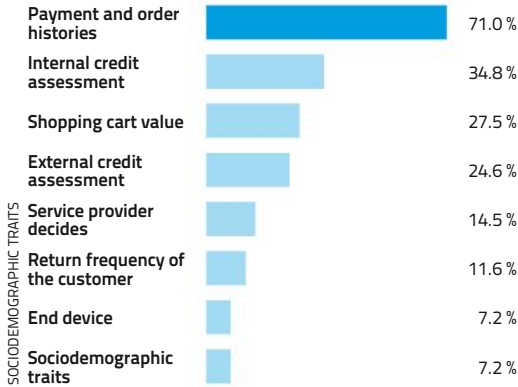
Retailers pocket steep fees for cash-on-delivery payments

calls for high security standards.
> Cash on delivery This payment option is still available in every other online shop. The stiff fees are the catch.
> Direct debit Even the supposedly-antiquated direct debit system is in the ascendant. Here's the advantage for customers: Unlike transfers, direct debits can, in principle, be reversed.

Security for retailers

In order to prevent payment defaults, about a third of all online shops evaluate their customers before purchases are made. The payment methods offered depend on this scoring system.

Shops evaluate their customers based on the following:



are all that's needed to make a payment. The billing procedure is carried out with the help of either a credit card or an account that has been stored within the PayPal account.

However, the method definitely isn't a model of data economy: As is the case with Amazon Payments, you have to hand sensitive data over to an American company. What we like about the method is that the user can decide whether he wants to use PayPal in conjunction with the maximum level of comfort, or in conjunction with every last drop of security. For example, it is very easy to set up a two-factor authentication arrangement for the account. In such a case, you would have to enter a password and an additional PIN code, which is sent via SMS. On the other hand, you can also identify devices that you can use to make immediate payments without logging in – Of course, you should only do this if you are the only person who can access the said devices.

The German Competitors To PayPal

For about a year, Germany's major banks, co-operative banks and savings banks have been trying to establish an alternative to PayPal in the form of *paydirekt* – However, they have only been moderately successful so far. Although the figure of 700,000 registered customers sounds impressive, it should be borne in mind that PayPal already has 17.2 million registered customers in Germany. The figure of 240 connected retailers cannot

compete with PayPal's 50,000 connected retailers either. Just like PayPal, *paydirekt* also works as an e-wallet, but its use is limited to Germany. Here's an important difference between *paydirekt* and the American service: The customer doesn't have to entrust any external company with sensitive banking information; the banks themselves offer the payment service as an extra function in cheque accounts. All you have to do is activate the service, after which you will usually make payments using a username and a password. As an additional security function, the system also asks for a TAN every now and then; you can also activate this transaction confirmation arrangement for every payment. You can simply store the billing and delivery addresses in your *paydirekt* account.

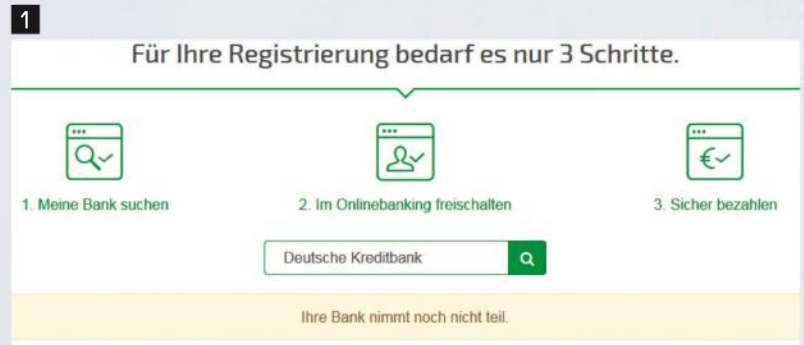
Making Payments Through The Post

When it comes to online payment procedures, Deutsche Post in Germany is also getting in on the act – It is offering its own e-wallet in the form of Postpay. The Post is taking the principle of e-wallets to an extreme level, because you can, for example, store another e-wallet such as PayPal (as payment data). Furthermore, you can also use SEPA direct debits and credit cards. However, this method

doesn't exactly uphold the principle of data economy either – You have to hand sensitive data over to Deutsche Post. Nevertheless, Postpay's SBTs are more user-friendly than those of Amazon and PayPal. User-related data is only forwarded if the customer has explicitly authorised such a course of action. However, with a prevalence level of about eight percent, only a few German shops accept Postpay. Payments can be made quite comfortably using desktop and mobile devices, with the help of e-mails and passwords. However, since there is no two-factor authentication arrangement, no additional protection can be set up for access to Postpay.

Secure Bills

Customers are only too happy to make payments using bills, but retailers don't like this method too much, because they're afraid they may never get their money at all. This is where service providers like Klarna (which provide so-called 'secure bills') come in. They make it possible for customers to make payments on account, by assessing the risk of payment defaults. For example, a customer could access the payment page and declare either his mail address and postal code, or his birth date and telephone number. The provider then uses this data and the



Sicherheitsbenachrichtigung

Sehr Geehrte Kunden,
Ihr Konto wurde aufgrund der neuen Richtlinien gesperrt. Sie haben die Aktualisierung des Kontos noch nicht abgeschlossen. Dies sollten Sie umgehend in Betracht ziehen, sofern Sie sich wieder erfolgreich das Konto nutzen können.



Warum ist dieser Schritt nötig?

Dies ist nötig, um Sie als rechtmäßigen Besitzer zu identifizieren. Wir möchten dadurch verhindern, dass Dritte Zugang zu Ihrer Privatsphäre erlangen. Auch möchten wir Sie vor einem finanziellen Schaden und damit verbundenem Folgen bewahren.

Identität bestätigen

Paydirekt (the alternative to PayPal) isn't exactly doing too well, and it doesn't support all banks 1. Although PayPal can't complain of a lack of customers, it is repeatedly targeted by phishing attacks 2.

information transferred by the browser to draw up a risk assessment for a potential payment default in a few seconds. If the risk is low, the customer is allowed to make a classic payment on account. Buyers can examine the product before they transfer the respective amount. Although this is somewhat laborious in comparison with other payment procedures, there is no phishing risk, and the payment data remains under your control.

Sofort-Überweisung

Just like giro pay, Sofort-Überweisung is also a direct transfer procedure, and the two processes look quite similar to each other at first glance. However, there is an important difference between the two: With giro pay, you access the house bank directly; Sofort-Überweisung steps in between the customer and the bank. This basically means that your account data will be going through the hands of a third party. After you have selected Sofort-Überweisung to make the payment, you will be navigated to a transfer form.

Now, you simply enter your online banking details and authorise the transaction using the TAN procedure that you have activated with your bank – This makes for a high level of security. After PayPal, Sofort-Überweisung is the second most widely-used online payment procedure in Germany.

Instead of using an account, a Klarna billing process uses a data inquiry to assess risk 1. The Sofort-Überweisung form interposes itself between the customer and the bank 2

Conclusion

There's no such thing as a perfect procedure. Those who want to use an online payment system that is widely-accepted, comfortable and fast should go for PayPal. However, the high degree of prevalence also makes the service a prime target for phishing attacks. This problem affects all e-wallets that authorise payments using the username and a password.

This means that Amazon, paydirekt and Postpay have to grapple with the same issue. However, those who already have an Amazon account can use the data stored in it to make

payments elsewhere. Paydirekt and Postpay are currently somewhat unattractive because they are not widely-used. Those who do not want to give sensitive payment data to any third party should take a look at giro pay or, if available, the secure bill procedure. The advantage of giro pay lies in the direct connection to the online account of your bank – This also includes TAN protection. The secure bill procedure basically modernises the purchase-on-account transactions that many customers prefer. If this payment option isn't too slow and laborious for you, you can go ahead and use it without a second thought.



Payment procedure	Amazon Payments	giropay	paydirekt	PayPal	Postpay	Rechnung (abgesichert)	SOFORT Überweisung
Provider	Amazon	giropay GmbH	paydirekt GmbH	PayPal	Deutsche Post	Klarna Group	Klarna Group
Infos	payments.amazon.de	giropay.de	paydirekt.de	paypal.de	postpay.de	klarna.com	sofort.com
Principle	E-Wallet	Direct transfer	E-Wallet	E-Wallet	E-Wallet	Bill	Direct transfer
Security							
Comfort							
Prevalence in German Shop*	31,2 percent	26,1 percent	Below 5 percent	90.9 percent	7.6 percent	40.4 percent	65.2 percent
Registration required	○ (Amazon-account)	●	○	○	○	●	●
Payment is processed via	Account, credit card	Account	Account	Account, credit card	Account, credit card	Account	Account
Data required for payment	E-Mail, Password	Online banking access	Username, password	E-Mail, Password	E-Mail, Password	E-mail, postal code or birth date, telephone number	Online banking access
Online management of the account	Via Amazon	With the house bank	○	○	○	No, there is no account	with the house bank
Mobile use possible	○	○	○	○	○	○	○
Phishing risk	○	○	○	○	○	●	○
Two-factor authentication	Can only be activated through the US website	PIN-TAN process	Optional Pin-TAN process	○	●	●	PIN-TAN process
Buyer protection	○	●	○	○	○	○	Partial
Cancellation by customer possible	●	●	●	●	●	Not required, no advance payment	●

* Source: ECC-Payment-Studie Vol. 20

○ Yes ● No

Make Your Computers Boot Faster

If your long-serving computer keeps booting up at a slower speed, it doesn't necessarily mean that you have to buy a new one. CHIP's showing you how you can more than double the boot-up speed

By Andreas Th. Fischer



It's usually only a matter of time before the boot-up speed of a Windows computer starts dropping.

This often happens because of a magnetic hard drive that is gradually getting filled up. Such a hard drive may contain several tools of varying degrees of usefulness, which automatically boot up along with the operating system. This is combined with the ever-increasing fragmentation of the system files.

Several versions of Windows have automatically been taking care of the defragmentation of the hard drive. The system launches an optimisation process whenever you don't use the PC for a while, but leave it running. Windows doesn't just merge individual files so that they will be loaded quicker. The operating system also moves important system files to the edge of the hard drive.

Pre-fetching As A System Booster

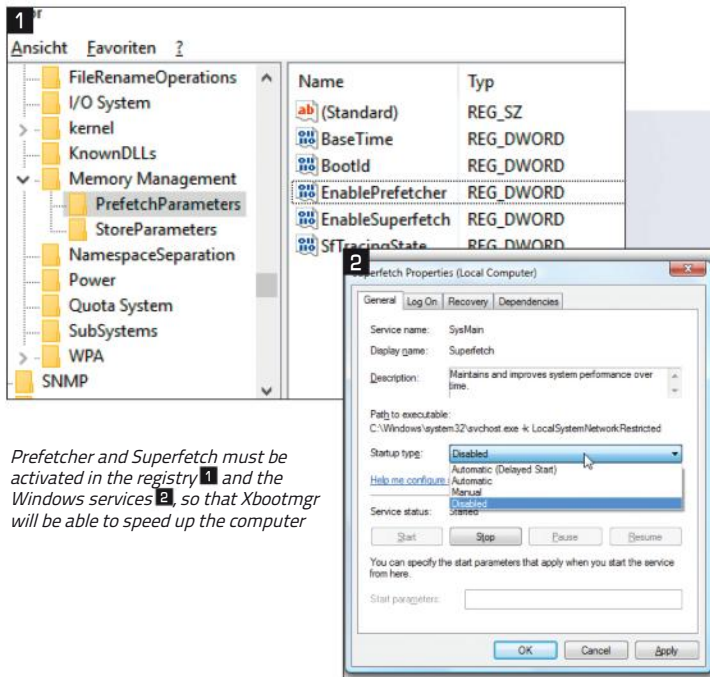
Thanks to this pre-fetching feature, Windows loads important files in the RAM during the boot-up procedure. This is done before the files are needed. However, if you want to optimise the boot-up time, you will have to tell Windows which files it is supposed to mark as 'important'. This article explains how to do this using the Xbootmgr Microsoft tool.

Xbootmgr optimises the boot routine of Windows in a twofold manner: On the one hand, the tool automatically defragments the boot files and re-positions them. On the other hand, you can also run an extensive optimisation procedure, in which Xbootmgr restarts the system several times in order to analyse it. The tool then uses this data to determine the sequence in which the files that are required during start-up should be saved on the hard drive.

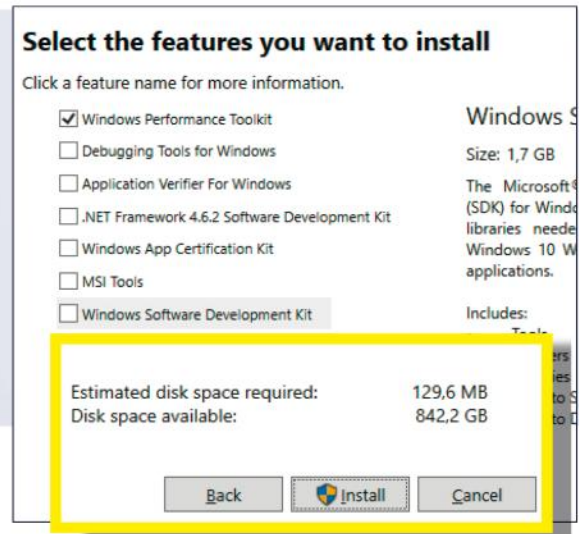
Xbootmgr can be found in the Windows Performance Toolkit, which is part of the official software development kit (SDK). However, you don't have to install the entire SDK. All you have to do is select the required options during the set-up procedure.

The results produced by Xbootmgr vary depending on the extent to which Windows has already optimised your PC automatically. PCs with a magnetic disk can boot up again in 30 seconds – This refers to the period of time between activation and the point at which you can start working using the PC. However, Xbootmgr ends up saving a lot of time even if the process takes a minute or more: For

You only have to download the small (130 MBytes) Windows Performance Toolkit from the huge (several GBytes) Windows SDK



Prefetcher and Superfetch must be activated in the registry **1** and the Windows services **2**, so that Xbootmgr will be able to speed up the computer



This is how it works:

- > Windows
The start-up optimisation procedure described here is compatible with versions 7, 8/8.1 and 10.
- > Software development kit
The Xbootmgr tool is part of Windows Performance Analyzer, which in turn belongs to the Windows SDK.
- > Magnetic hard drive
The prefetching-based optimisation technique only works if the computer has a magnetic disk.

example, our long-serving test computer used to boot up in 140 seconds, and it can now get started in just 69 seconds.

Prepare System Optimisation

First of all, you should take a look at the registration database and find out whether pre-fetching has been activated, and whether the associated Windows service is running. To do so, press [Windows] + [R] and enter 'regedit'. Now, when you're within the registry, you should navigate to the 'HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SessionManager\Memory

Management\PrefetchParameters" key. Now, double-click the 'EnablePrefetcher" DWORD value in the right half of the window, and change it to '3'. Repeat this procedure for 'EnableSuperfetch".

At this point, you should check whether the 'Superfetch" Windows service has been activated. To do so, press [Windows] + [R] again and enter 'services.msc'. The system will now generate a query associated with 'User account controls", after which the 'Services" window will open. Scroll all the way up to the 'Superfetch" entry and double-click it. The 'Properties of superfetch" will then be opened. Take a look at the 'General" tab, and ensure that the 'Automatic" entry has been selected under 'Start-up type". Furthermore, 'Is being executed" must be present behind 'Service status". Otherwise, click the 'Start" option. Reboot your PC if you have made a change.

Download Windows SDK

You will need the software development kit corresponding to your Windows operating system in order to be able to install the Windows Performance Toolkit and Xbootmgr. Those who are using Windows 10 can find the software development kit at <https://developer.microsoft.com/de-de/windows/downloads/windows-10-sdk>, while those who are using Windows 7 and 8 can find the corresponding software development kit at

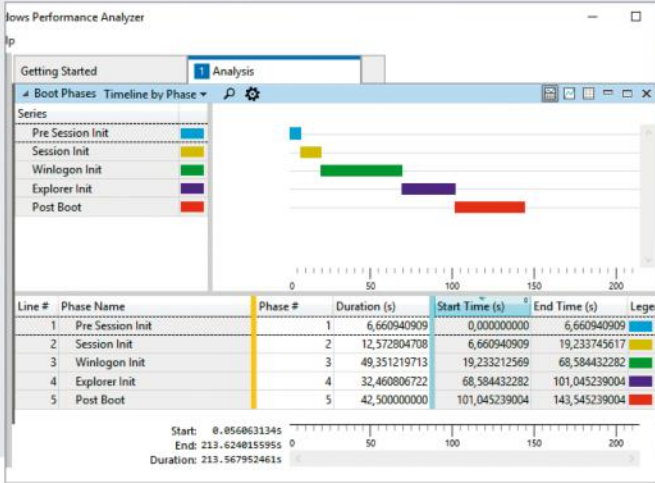
<https://developer.microsoft.com/de-de/windows/downloads/windows-8-sdk>. In both cases, you will receive a one-MByte downloader. Double-click it to call up the installation assistant. Now, keep clicking 'Next" until you reach the licence conditions. After you acknowledge the conditions, the 'Select the features you want to install" dialogue will be opened. Untick all the options except 'Windows Performance Toolkit". When you click 'Install" the set-up programme will download all the required files and install them on your PC.

Measure The Exact Start Time

Xbootmgr is a powerful tool that creates extensive protocols associated with the boot-up times of your computer. You must first use Explorer to manually create the folder in which these protocols are to be saved. In our example, we created the 'temp" folder on the 'C:" drive. We then created the sub-folders 'Before" and 'After".

In order to ensure that Xbootmgr can measure the exact start time, you should temporarily activate the automatic Windows login facility. To do so, press [Windows] + [R] and enter 'netplwiz'. In the new window, untick the 'Users must enter username and password" option. Confirm your action with 'OK", type in your username and enter your password twice.

We now go to the optimisation of the PC's start-up procedure. In general, this is done in



The Xbootmgr tool uses a command line command to precisely measure the computer's boot-up time

```
Administrator: Eingabeaufforderung
Microsoft Windows [Version 10.0.10586]
(c) 2015 Microsoft Corporation. Alle Rechte vorbehalten.
C:\Windows\system32>xbootmgr -trace boot -resultPath C:\temp\vorher
```



The PC is restarted after the above command line command is dispatched. You should first close all the files that are open

In the analysis tool, the point of intersection between the >>Post Boot<< row and the 'End Time (s)' column tells you how much time your PC takes to boot up.

three steps: First, you use Xbootmgr to measure the unoptimised boot-up time, so that you will be able to compare the values and find out the extent to which Windows has been sped up. Windows then adjusts the pre-fetching procedure. Finally, a test is run on the optimised system to find out how much time has been saved.

Speed Up The Windows Start Up Procedure

Xbootmgr – which is central to the measurement of the start-up procedure – doesn't have a graphical user interface, so it's

not particularly user-friendly: You have to control it using a command prompt window with administrator rights. The protocols created by the tool can subsequently be opened and analysed in the Windows Performance Analyzer. To launch Xbootmgr under Windows 10, right-click the start symbol at the bottom left and select the >>Command prompt (administrator)<< option. Under Windows 7, select >>Start | All programmes | Accessories<< and right-click >>Command Prompt<<. Select the >>Run as administrator<< option. In both cases, confirm the query generated by User Account Control with 'Yes'.

Stop what you're doing with the PC and save all the files that are open. Now, enter the command 'xbootmgr -trace boot -resultPath C:\temp\Before'. Your PC will then re-boot on its own (without generating any queries) after a pause of a few seconds. The items behind

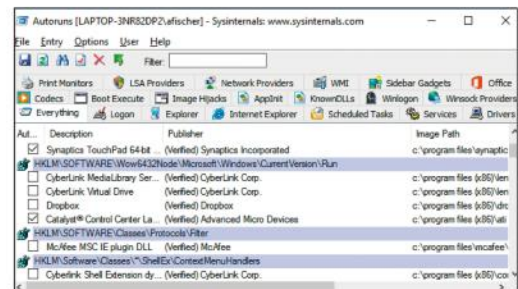
the programme names specify what Xbootmgr is supposed to do: '-trace boot' ensures that the tool measures the boot routine. '-resultPath' and the folder name to the right of it specify the directory in which Xbootmgr is supposed to save the protocol file.

After Windows has been restarted, the system automatically opens a little window with a 120-second countdown. Instead of clicking 'Finish', you should wait until the window closes automatically. Do not open any other programmes, as doing so can affect the measurement. After the entire measurement procedure has been completed, you will be able to find the protocol file in the 'C:\temp\Before' folder. It has the extension '.ETL'. Now, launch Windows Explorer, navigate to the 'C:\temp\Before' folder and open the ETL file in the Windows Performance Analyzer by double-clicking it.

Optimising autostarts

One problem that Xbootmgr cannot solve relates to the several autostarts that pile up over time. This problem can be solved using a separate tool, such as Microsoft's free Autoruns tool. This tool lists all the autostart entries, and can be used to deactivate them. > Launch the Autoruns tool with administrator rights and hide all the entries that originate from Microsoft. To do so,

access the 'Options' and tick 'Hide Microsoft Entries'. > Switch over to the 'Logons' tab and untick the unnecessary entries. Right-click the corresponding programmes if you're not sure about their purpose, and select the 'Search Online...' option. After you have deactivated all the autostart entries that are no longer required, close the programme and restart your computer.



Autoruns finds and removes unnecessary autostart entries. This speeds up your PC's start-up procedure by several seconds

Analyse Measurements In Detail

Click the little triangle in front of 'Other', and then double-click 'Boot Phases'. The upper part lists the various boot phases that Windows goes through during the start-up procedure.

Each phase is depicted as a coloured bar. The longer the bar, the longer the corresponding phase. The table underneath this section displays the values in detail. The point of intersection between the 'Post Boot' row and the 'End Time (s)' column displays the total duration of the boot routine. For example, the test computer took a little more than 143 seconds to get through the five boot phases.

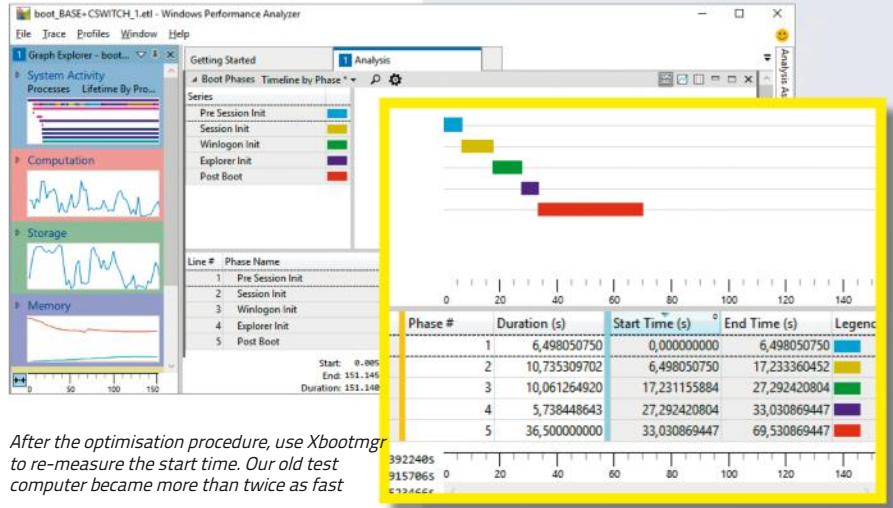
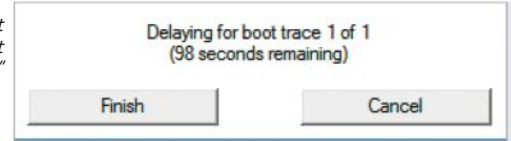
Xbootmgr subsequently restarts your PC a total of six times. You will not be able to use your PC for other purposes during this time. User Account Control asks for a confirmation after each start-up procedure. If that's too annoying, you can simply deactivate the protective mechanism for the measurements: To do so, right-click the start symbol, open the 'Control panel' and go to 'User Accounts'.

Access the 'User Accounts' section once again in the following window. Select 'Change User Account Control settings' and drag the regulator to the bottom. Remember the regulator's setting, so that you will be able to move it back to its original position after the optimisation procedure has been completed.

Optimise Start Up

To carry out the optimisation procedure, open another command prompt window with administrator rights and enter the command 'xbootmgr -trace boot -prepSystem -verboseReadyBoot -resultPath C:\temp\'. '-prepSystem' and '-verboseReadyBoot' move the boot files of Windows to the edge of the hard drive and optimise the pre-fetching procedure. The computer will once again be

When Xbootmgr measures the start time, it displays this window. Leave it open, and do not click 'Finish'



After the optimisation procedure, use Xbootmgr to re-measure the start time. Our old test computer became more than twice as fast

restarted after the command has been dispatched. Wait until Xbootmgr has run the optimisation procedure a total of six times.

After the first re-starting procedure, the kernel analyses your computer's start-up behaviour. During the second start-up procedure, the boot files are defragmented and moved to the edge of the hard drive. The subsequent start-up procedures serve to optimise the boot sequence. The whole procedure usually takes one to two hours. Do not interrupt this process, even if you feel like the system hasn't done anything for an eternity after throwing up the message 'Preparing system...'. The first passes are the ones that take a relatively long time.

After the computer has been optimised, you should re-measure the time that

Windows takes to boot up. To do so, open another command prompt window with admin-rights and enter the command 'xbootmgr -trace boot -resultPath C:\temp\After'. The measurement result will thus be saved in the sub-folder 'After'. As soon as the measurement has been taken, double-click the new ETL file and check how much time the system now needed to boot up. Our test computer started booting up in 69 seconds. The procedure can be sped up even further by cleaning up autostarts (as described on page 106) and installing an SSD.

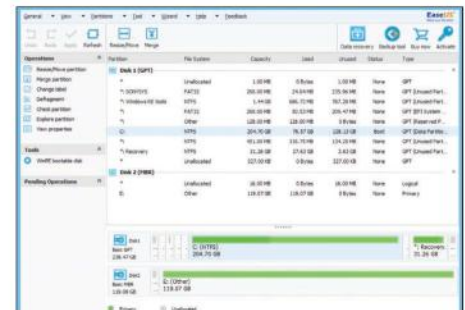
Finally, if you have, as recommended, deactivated User Account Control and activated the automatic login facility for Windows, you shouldn't forget to undo these actions. 🚩

Migrating to an SSD

If you still believe your computer isn't booting up quickly enough, you should migrate Windows to an SSD and use it as the boot medium.

>The EaseUS Partition Master Professional software features an easy-to-use wizard, which you can use to copy your Windows operating system onto an SSD. If you have a notebook, you should use a USB-SATA adapter, which can be obtained for less than 10 euros. You can

directly connect the SSD to the PC's SATA port. > In EaseUS Partition Master Professional, you can start the migration procedure using the 'Migrate OS to SSD/HDD' point. Follow the wizard's instructions and replace your computer's old hard drive with the new SSD. After Xbootmgr and Autoruns had been used to optimise the procedure and the SSD migration process had been completed, our test computer booted up in just 36 seconds.



EaseUS Partition Master Professional migrates Windows to an SSD. The integrated wizard guides you through the procedure



Living The Drone Dream

Advancements in electronics and battery and camera technologies have led to drones and quadcopters with fascinating capabilities. We're sending them up into the air

By Christoph Schmidt

It's a sunny autumn day in a park. You could see grass fields, trees, a duck pond and, a little farther away, twelve-storey tower blocks. We pulled on a small lever, and 20 seconds later, we were at an altitude of 120 metres. The tower blocks turned into shoe boxes, between which tiny toy cars were moving. We launched a drone, and its camera streamed the fantastic view on the

smartphone display to the remote control.

The tiny remotely-controlled flying machines place the dream of flight in everyone's hands – No pilot's licence is required. This is made possible by technological advancements that make it possible for the little quadcopters to carry out precise and long-endurance flights, and capture high-quality videos and

photographs. The latest technology even allows beginners to step into the field without having to worry about crashes and collisions. Various classes are available, depending on your budget and requirements – This includes everything from toys to semi-professional camera devices.

How Drones Fly

Although the term 'drone' refers – in its widest sense – to all unmanned vehicles and aircraft, we are using it to refer to the remotely-controlled quadcopters (and multicopters) used by hobbyists. All of these devices function on the basis of the same principle: Four or more swivelling propellers with rigid rotor blades are arranged around the vehicle. Half of them rotate clockwise, while the others rotate counter-clockwise. The vehicle can only be stabilised, controlled and advanced by changing the speeds of the individual propellers.

The mechanical structure is simpler than that of a normal helicopter, which needs



High-End Drones

Thanks to the integrated camera and its suspension (gimbal), these drones are among the most complex and expensive ones. One of the top models is the DJI Phantom 4, which captures 4K video recordings featuring a professional level of quality. Extensive stabilisation and collision avoidance systems ensure that the user can focus on the filming or photography process while the drone's in the air. The large battery facilitates long flight times and ranges. In order to reach the Phantom 4's maximum speed of 72 km/h, the user has to deactivate the assistance systems when he's using the sports mode. A simpler model is the Yuneec Breeze. Since it doesn't have a gimbal, its video recordings are significantly unsteady.

- > **Price:** ca. 1,300 euros (RM 5,200) (DJI Phantom 4)
- > **Weight:** 1.38 kg
- > **Flying altitude/Range:** 120 m/3.5 km
- > **Difficulty level:** Medium to simple, with automatic systems activated

Mini Drones

Simple mini-drones are good training devices. Flying is normally the only thing they can do. In the gimmick department, the Parrot Mambo has a cannon that can shoot small balls, along with a claw that can carry a weight of up to four grammes – Provided that you can stabilise the Mambo. It can even be quite troublesome indoors, because its oversensitive pressure sensor makes it swerve in an unpredictable manner when it gets close to other objects. Thankfully, its resistance to crashes is quite robust. The Parrot Flypad remote control features two joysticks, and is a useful accessory. Those who manage to use it to successfully manoeuvre and land the Mambo can confidently try their hand at any other drone.

- > **Price:** ca. 120 euros (RM 480) (Parrot Mambo)
- > **Weight:** 63 g
- > **Flying altitude/Range:** ca. 30 m/60 m
- > **Difficulty level:** Simple in outdoor areas, difficult in rooms

Racing Drones

For drone races, fast quadcopters are equipped with a firmly-installed camera, which transfers its images to a first-person-view headset (i.e. to video glasses). The video glasses make the pilot feel like he's actually up in the air. This facilitates very fast and precise aerial manoeuvres, which are required for races involving obstacle courses. Users usually build these drones themselves with the help of assembly kits or individual parts – Since crashes are par for the course, the hobby also involves repairs and tinkering operations, in addition to tuning and upgrading measures that result in more speed and manoeuvrability.

- > **Price:** ca. 280 euros (RM920) (LHI 250 RTF)
- > **Weight:** 63 g
- > **Flying altitude/Range:** 120 m/900 m
- > **Difficulty level:** Somewhat difficult (no collision avoidance, high speed)



The motorised camera suspension of the DJI Phantom 4 counterbalances all of the drone's movements and vibrations

swivelling rotor blades and a tail rotor. When it comes to the simplest quadcopters, the stabilisation and control operations are completely in the hands of the pilot. On the other hand, more complex models stabilise themselves – GPS, optical systems and accelerometers keep the aircraft at the same vertical and horizontal spot, as long as the joysticks aren't moved out of their neutral positions.

Nevertheless, you should get some practice with an inexpensive mini-drone before you start dealing with larger and more expensive aircraft, because their stabilisation routines can fail if, for example, the sub-surface changes or the GPS signal breaks down.

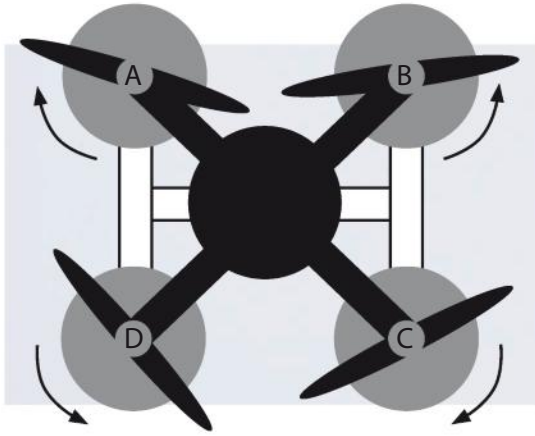
Before you buy an expensive drone, you should get to know the practical aspects of drone flights. Mini-drones and FPV racers are used either at home or on a flying field – In

such situations, the joy of flying is the only thing that counts. Camera drones are used to capture fascinating snapshots of nature – And this involves a massive amount of effort: The drone isn't exactly compact (carrying case of the DJI Phantom 4: 22 x 30 x 36 cm), and it first has to be transported to the flying site. This can be quite a task if you're taking a hike in the mountains. One you reach your destination, the short battery life (which can reach a maximum of 20 minutes) limits your photography time. Furthermore, such photography operations require a lot of trial and error. Consequently, you should make sure you have at least one additional battery when you buy a camera drone.

Drone Flying In Practice

The initial flying attempts should never be carried out in a home, because the confined airspace increases the potential for

feature



Controls: This is how the drone executes orders

The drone carries out all of its stabilisation and aerial manoeuvres by changing the speeds of its four rotors

Action	Vertical movement		Horizontal rotation		Tilting & flying		Tilting & flying	
	Climbing	Descending	To the left	To the right	Forwards	Backwards	To the left links	To the right retracts
Implementation	ABCD faster	ABCD slower	AC faster + BD slower	BD faster + AC slower	CD faster + AB slower	AB faster + CD slower	BC faster + AD slower	AD faster + BC slower
Joystick								

catastrophic crashes, which could damage the drone and valuable objects. Furthermore, the situation is exacerbated even further by the fact that the self-stabilisation facility either doesn't work at all, or works in a limited fashion. An ideal scenario would involve a large obstacle-free turf, where harsh landings could be cushioned. The area should also be dry and as windless as possible. Here's another important tip for beginners: Compared to the virtual control fields of a smartphone app, it's a lot easier to control the drone using a real remote control that has joysticks or directional pads.

The Parrot Mambo mini-drone (together with the Flypad, which is available as an accessory) is ideally-suited for practice. All drone joysticks work in the same manner: The left lever controls the height (push forward/backwards) and the horizontal rotation of the drone (push to the left/right).

The joystick on the right tilts the drone in a specific direction, after which it flies along the said direction. The device also has a button for taking off and landing, and the camera drones feature additional buttons that can be used to align and operate the camera. You should only try to fly the drone indoors after you have mastered the control operations to such an extent that you can avoid obstacles, select secure landing spots and land the drone in a reliable manner.

Big juggernauts like the DJI Phantom 4 do not have rotor protection facilities. Even though they have an optical collision protection system (they come to a standstill when they detect obstacles in front of them), you should only fly such drones indoors if you're really good at it. However, if the collision protection system doesn't work or a landing backfires, the big rotors can do a lot of damage – And if anything happens to the

drone, it can cost a pretty penny.

Automatic Recordings

Thanks to their intelligent flight modes, some camera drones promise to capture fascinating recordings even if the pilot isn't particularly skilled. For example, the Yuneec Breeze is marketed as a selfie-drone. When you're in the open, set up the Breeze at a distance of four metres, ensure that the camera is pointed at your location and activate it at the touch of a button. You can then use the sliders in the control app to specify the desired altitude, distance and camera alignment, in order to take photos or record videos. The Breeze uses the Orbit function to circle a specific midpoint, upon which its camera is focussed. This facility is, for example, supposed to produce stunning recordings at the top of a mountain. However, during our tests, the device only managed to zero in on the midpoint in a moderately accurate manner. Finally, the device also offers the Follow Me mode, in which the drone follows the pilot (or a moving object). This is accomplished with the help of an image recognition procedure, and it works quite well up to bicycle-speeds.

The DJI Phantom 4 also has this function – In this case, the process of using image recognition to follow an object is called 'Active Track'. After marking the object (e.g. a person or a vehicle) using the app, you should, if possible, circle it once manually. The Phantom 4 will then point its camera at the object and follow it – However, it does follow the object in a somewhat hesitant manner.

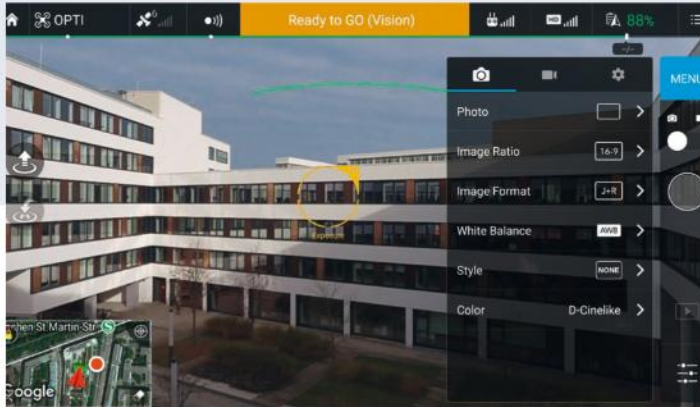
In DJI's Follow Me mode, the drone is supposed to follow the GPS position of the remote control, but this didn't work at all during our test – The Phantom just stood still.



The remote control of the DJI Phantom 4 ¹ accommodates a smartphone. An app displays live images and facilitates adjustments. For re-charging, the battery and remote control are attached to the DJI mains adapter ²



The DJI GO app for the Phantom 4 offers several adjustment features



Yuneec's Breeze Cam remote control app facilitates automatic flight modes

Legal Aspects Of Flying A Drone

Drones with a weight of up to five kilogrammes that are not used commercially (such as all the drones named in this article) are legally considered to be model aircraft. The use of such drones is subject to just a handful of rules, but these rules must be followed at all times:

- > Liability insurance is mandatory! As toys, mini-drones might be covered by a normal liability, but you should definitely ask your insurance company to clarify this. On the other hand, you must have special drone insurance if you're using camera drones or FPV racers. You can find such insurance providers on the internet. Alternatively, you could join a (model) aviation sports association. However, the insurance coverage may expire if you use a smartphone/tablet instead of a normal remote control.

- > The flying altitudes and distances are limited: Drones must always be within the pilot's field of view (even if they are streaming camera images to the pilot). They

must be visible to the naked eye.

- > Strict no-fly zones are in place up to a distance of 1.5 kilometres from all airports flying fields. When it comes to the further-reaching and individually-formed control zones around airports, you would need a take-off clearance from the air traffic control organisations. Consequently, you should just stay several kilometres away from airports. There can also be other types of no-fly zones, depending on the state in question – For example, there are no-fly zones around power plants, military facilities and prisons. A no-fly zone is also in place in Berlin's government district. When it comes to normal (and permissible) drone altitudes, you are not allowed to fly over somebody else's property unless you have the owner's permission.

- > Privacy should be protected, especially when you're using camera drones. Consequently, photographs of other people may not be made public (e.g. by putting them on the internet) unless the people in

question have authorised such a course of action in writing. The same thing applies to recordings of buildings and properties that depict more than what could have been seen from public streets or spaces. If you're bothered about the fact that you are being recorded by somebody else's drone, you should remember that common camera drones are equipped with powerful wide-angle lenses (like action cameras). If the drone is more than 15 metres away from the people in question, their images will be either very small or unrecognisable.

In addition to these tips, you should also familiarise yourself with the exact regulations pertaining to your state/region before you get started. For example, you could do this by contacting your state's aviation sports association, or a similar association in your area. Finally, you should read and follow your drone's user manual. The detailed safety tips in the manual will ensure that the dream of flying doesn't turn into a costly or painful nightmare. 🇩🇪

Fotos: Christoph Schmidt (l. o.; u.)

Tips for good recordings

The most impressive videos are the ones that can only be captured with a drone – Such as a video of a quick vertical ascent. You should give it a try when the camera is aligned horizontally, as well as when it's pointing vertically downwards. The latter configuration produces a wonderful zoom effect, which you can then cap off with a beautiful pan shot.

- > The flying speed and altitude affect the dynamism of the recordings: The higher the drone, the slower its ground speed seems to be.

Consequently, when the drone is at its maximum altitude of 120 m, the recording will

only be able to capture movements properly if the device rotates and the camera pivots. On the other hand, if the drone is at a low altitude, the ground will look like it's literally dashing through the scenery. As a result, you can create dramatic images by first approaching an object in a planar fashion, and then pulling the drone up.

- > An excessive flurry of activity makes the videos worse. Consequently, you should avoid fast rotations (pivots), as well as movements that take place simultaneously on multiple axes.



Flying flat across the ground produces dynamic videos



The Assistants Of The Future

The digital assistants from Amazon and Google are supposed to help us get through our daily routine. Are they helpful, or just plain eerie?

By Benjamin Hartlmaier

Both Google and Amazon have released the German versions of their digital assistants. Amazon's artificial intelligence system (which is called 'Alexa') is used in the Echo and Echo Dot loudspeakers, while Google's AI assistant is used in the Allo app and the Pixel smartphones. We tried out the systems, and we're telling you what they can do and where they fall short.

Alexa Speaks English

In the USA, Amazon's Echo and the of 2015. That might also be the reason why Amazon is only selling the Echo loudspeaker to potential buyers using an invitation-based system.

Nevertheless, the operations – which are carried out solely on the basis of voice commands – work surprisingly well in most cases. For example, if you say, 'Alexa, I want to listen to the radio', the systems starts playing any specific radio station that you want. This also works for every other station that is available in the integrated TuneIn

Alexa AI system have been available since the summer of 2015. That might also be the reason why Amazon is only selling the Echo loudspeaker to potential buyers using an invitation-based system.

The operations – which are carried out solely on the basis of voice commands – work

surprisingly well in most cases. For example, if you say, 'Alexa, I want to listen to the radio', the systems starts playing any specific radio station that you want. This also works for every other station that is available in the integrated TuneIn radio-streaming service. In the same way, you can also stream music from your personal Amazon music library, Amazon Prime Music (provided you have a Prime account) or a Spotify Premium account. If you want to listen to a specific source of music, you would say something like, 'Alexa, play songs by Michael Jackson on Spotify.'. The system still can't read out audio books, but this feature is expected to be added at a later stage.

Meet Alexa's Little Brother: Dot

The Echo's music playback quality is excellent. Since it doesn't have sound boxes, Echo Dot can't quite keep up. However, it can be connected to external loudspeakers with the help of either a plug cable or a Bluetooth facility. Apart from that, Echo Dot and Echo have the same range of functions – And it goes far beyond the simple playing of music.

For example, the question 'Alexa, how will the weather be the day after tomorrow?' generates a full-fledged weather report, including maximum and minimum

temperatures. The command 'Alexa, set the timer for 20 minutes' can come in quite handy if your hands are dirty when you're baking cookies. There's something for football fans, too: The question 'How did Manchester United play?' generates the results of the last match. However, what's really amazing is the fact that the question 'How did Manchester United play over the weekend?' produces a response of 'I'm sorry, I don't know.'

In order to ensure that Alexa's capabilities are expanded on a continuous basis, Amazon has opened the system up to third-party applications (so-called 'skills'), which can be added using the Alexa app. For example, you can ask the railway app whether the train is going to depart on time, or have the recipe of the day read out to you.

Echo As A Smart Home Centre

In addition to being a digital assistant, Echo is also a control centre for various smart home devices. Consequently, you can use voice commands to control compatible lamps, light switches and thermostats made by WeMo, Philips, Netatmo or Innogy. We gave it a try with first-generation Philips Hue bulbs: In addition to being able to turn the lights on and off ('Alexa, turn on the light in the living room!'), the system was also able to dim the light bulbs up to a specific percentage value in a flawless manner.

Currently, one of Alexa's greatest weaknesses involves the contextualisation of

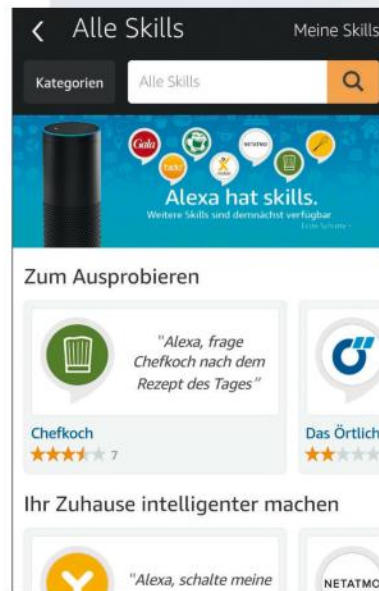
information: The AI system can go to Wikipedia and tell you who the president of the United States is, but if you say 'Does he have children?', Alexa will not be able to form a connection with the previous question. The Google Assistant is somewhat more advanced in this particular department (see below).

The great bugging operation

However, digital assistants like Alexa can be quite problematic in terms of data protection. Consequently, in addition to being a loudspeaker, Echo can also be a bugging device.



Those who want to expand their Bluetooth loudspeakers or stereos to include Alexa can go for the Echo Dot, which is available for about 60 euros



So-called 'skills' make it possible to expand Alexa's capabilities to include third-party services – For example, the system could control smart home devices

Its seven microphones allow it to penetrate every last nook and cranny. Although the microphones can be deactivated, all spoken commands are saved on Amazon servers. Consequently, it's not surprising that Johannes Caspar (the Hamburg Commissioner for Data Protection) had a few words of warning about Echo when contacted by CHIP: 'In principle, users will be accepting a form of permanent bugging within their own homes.' However: It's enormously convenient to be able to control a computer with your voice. And: You get used to it very quickly indeed. 🇩🇪

This is what the Google Assistant can do

Google's AI assistant is essentially a chat-form of Google Now. Unlike Amazon's Alexa, it remembers the course of the conversation, and can correlate new questions accordingly – At least in the English version. The German version cannot do this consistently.

> Contextualisation If you ask the Google Assistant who the US president is, and then ask if 'he' has children, the AI system correctly links this 'he' to the answer of the question. So far, so good. However, if you then ask for the age of one of the two daughters, the contextual

correlation stops working, and the Assistant gives you a totally unrelated answer. **1**. When it comes to the question about 'Bayern Munich, the AI understands that the question is referring to the football team, and not the residents of the state of Bavaria. If you so desire, it can also pull up the standings (Alexa cannot do this yet) **2**.

> Access The Assistant is currently only compatible with the Allo messenger app and Pixel smartphones. The Assistant will also be compatible with the smart Home **3** loudspeaker

1 wer ist der Präsident der Vereinigten Staaten

Schauen wir mal

Barack Obama
Präsident der Vereinigten Staaten / Derzeit...

Barack Obama / Kinder

Malia Ann Obama
Tochter

Natasha Obama
Tochter

wie alt ist Natasha

Bitte sehr

52 Jahre (17. August 1964)
Natasha Ochsenknecht / Alter

wie alt ist Natasha Obama

Bitte schön

15 Jahre (10. Juni 2001)
Natasha Obama / Alter

2 auf welchem Tabellenplatz stehen die Bayern gerade

Okay, das habe ich gefunden

Tabelle "FC Bayern München"

	T	GT	Pkt
1 FC Bayern	24	6	24
2 RB Leipzig	20	7	24
3 Hoffenheim	18	11	20
4 Hertha	17	10	20
5 BVB	25	12	18

Weitere Suchergebnisse Bundesliga Tabelle

3



Do We Trust The Web of Trust?

Betrayed by a browser: The scandal surrounding the snooping 'Web of Trust' add-on for Chrome and Firefox proves that when it comes to the internet, there's no escape from data collectors

By Felix Knoke

An alleged 140 million internet users use the Web of Trust (WOT) browser add-on to protect them from data snoops, hackers and rip-off artists when they're using the internet. However, the manufacturer (myWOT) was caught offering highly volatile user data on the data market: Lists of all the web addresses that millions of WOT users visited within a period of one month – In fact, the sample data set acquired by NDR reporters contained the detailed surfing histories of millions of WOT-users. An anonymous statement provided by the

manufacturer claimed that it was just an accidental slip-up, and promised that the situation would be fixed.

However, Wolfie Christl is not too optimistic. According to him, this incident is a disaster beyond all expectations: 'It's quite absurd that an add-on that was supposed to provide security ends up creating insecurity by forwarding data in an extremely negligent manner.' The Vienna-based expert in the trade in data knows how companies collect, evaluate and sell data – And what happens to data that emerges from things like the WOT

add-on. He collaborated with the researcher Sarah Spiekermann to write a book on the subject: It's an extremely precise study of how usage data is covertly turned into money – This often takes place in a legal and ethical grey area, but it's always the user who comes up short.

Money From Data

Browser data such as that sold by myWOT is particularly valuable in the realm of data capitalism, says Mr Christl: 'Such data is used to create personality profiles for targeted advertising, but there are also other motives.' The websites and web services used by a particular person can reveal quite a lot about his habits and needs. This is quite problematic in itself – But unfortunately, it has been part of the normal state of affairs for quite a long time. The companies that want to use data acquired in such a manner operate within a relatively tight legal framework.

Nevertheless: This is not enough. What's critical is that the data should be distorted to such an extent that it cannot be traced back to a single person. And this is where myWOT turned out to be sloppy – It's not known

whether this was a result of wilful intent or a simple inability to perform.

'It looks like myWOT didn't just log and sell the visited web addresses and sub-parts. They seem to have done the same thing with the entire URL and its parameters', says Mr Christl. The first of these two things has become quite customary, and the digital advertising industry does it on a large scale. 'However, the second case clearly represents an enormous security risk.' Along with the web address, complete URLs often contain data that can be traced back to the respective user, such as the user's e-mail address, links on private cloud memories or profile names for social networks and forums. You can easily track this data in your personal browser history. Thanks to this, myWOT sold data that was particularly worthy of protection, and which can be de-anonymised quite easily. The company also violated the WOT data protection regulations.

Extensive Profiles

The scandal didn't surprise Christl at all: Browser add-ons have been considered to be a security risk for a long time. However, he believes that myWOT represents a relatively minor node in the data dealers' network. 'There are many companies that track our surfing patterns.' The situation involves billions of internet users and millions of websites and internet services. After all, a form of data capitalism has emerged around user data: The more data you collect and exploit, the more valuable the data becomes. When the dossiers about preferences, personality traits and behavioural patterns (which can be updated in real time) become more detailed, it becomes possible to contact and manipulate individual users in a more efficient way. This situation doesn't just revolve around advertising anymore: Such methods are also used to determine creditworthiness or exhaust payment reserves.

'All of these companies are trying to establish links between our surfing behaviours, our purchases and our behavioural data across multiple devices, platforms and spheres of life.', explains Christl. Instead of a name, the data dealers use their dossiers to create a pseudonym, which is a unique letter code. A hash function is used to derive this code from relatively stable personal details such as known mail addresses or telephone numbers. This unique code is assigned to a

Anonymity is an illusion

In 2009, IT expert Latanya Sweeney showed that 87 percent of the American population can be uniquely identified on the basis of their birth date, gender and postal code. Today, many data companies use this principle to create anonymous but uniquely attributable user profiles. However, there are methods that make it possible to extract individual pieces of data from such a profile without jeopardising privacy in a major way. This led to the development of the concept of differential privacy. For example, according to this concept, the omission of information isn't the only thing that creates anonymity – It can also be created by adding data noise or manipulating data points. However, such methods are not required by law. Therefore, data protection experts see the need for a new kind of



Latanya Sweeney, data protection expert at Harvard University

regulation: Instead of making proper anonymisation mandatory, involuntary de-anonymisation should be made a punishable offence.

person as soon as the person in question is recognised by a tracker – This can happen when the person is surfing the internet at home, using the internet at the office, using an internet TV or using a debit card.

Dangerous Magnitude

'Extensive profiles regarding our daily routine and lives are being created, which go far beyond what any powerful entity in human history has ever known about specific individuals. This is an enormous problem!' In such a system, anonymity is nothing more than a farce. You don't need to know a person's name to sell something to him. If you want to understand the true dangerous nature of the data leaked by WOT, it's not enough to be aware of the information content of apparently-harmless browsing data. What's just as frightening is the sheer magnitude of the trade in data – This involves

the worldwide market for the process that collects such data and refines it to create predictive user profiles. Here's just one example from Mr Christl's book: Oracle acquired the tracker-company AddThis over the summer. According to its own statements, it monitors a total of three billion users on 15 million websites. It has created a dossier for each one of these users. On such a scale, conventional anonymisation methods flop big time: Names no longer have a role to play if there is a dossier for each surfer that can be uniquely correlated with the said surfer. The identification code would then be his new name. However, the core of the problem is the data companies' desire to control users in a better manner.

It's unrealistic to prohibit individual companies from trading in data. We currently don't know what a realistic form of data protection would look like under such circumstances. Luckily, the WOT case is a lot simpler – In addition to a lack of programming skills, this situation apparently also involved a lack of good intentions. According to Wolfie Christl, if the company had – as it claimed in its statement – been serious about anonymisation, it would have given short shrift to the collected data. The WOT add-on would have been able to achieve its purpose by just saving domains, instead of the telltale URL strands. This data would still have been valuable in the data market – But it would have been a lot less risky for the users. 🇩🇪

Networks of Control



Wolfie Christl, Sarah Spiekermann: Networks of Control, published in 2016
Free download <http://crackedlabs.org/en/networksofcontrol>

The print version is published by Facultas <http://facultas.at/2016/networksofcontrol>

The Internet

It's getting bigger and bigger: Almost half the human race is using the internet

By Felix Knoke

Worldwide users per month...

Internet:
3,500,000,000

Facebook
1,790,000,000

Google +:
475,000,000

Twitter:
306,600,000

Pinterest
159,000,000

GMX.de & Web.de
30,000,000

Global quantity of (per second)...

Internet-Traffic
39,000

Email sent:
2,530,000

YouTube video views:
134,000

YouTube-Uploads
800 minutes (estimated)

Google search queries:
57,000

Tweets:
7,000

Annual energy requirement of the internet
70 billion kilowatt-hours

Weight of the internet
50 grammes – Pure electrons

Social networks in Malaysia

Active Facebook users:
10,900,000

Facebook users active daily
6,000,000

LinkedIn users
3,000,000

Internet In Malaysia...

Total user community, age 14 and above:
21 million
or
68.8 percent

Average daily usage:
128 minutes

Percentage of Malaysians who use the internet every day:
65.1 percent

Online rarely (at least):
83.8 percent

Never online (mobile)
16 percent

The most common internet device

2014
Laptop (55 percent)

2016
Mobile phone (66 percent)

Television use – 14 – 70 years...
245 minutes

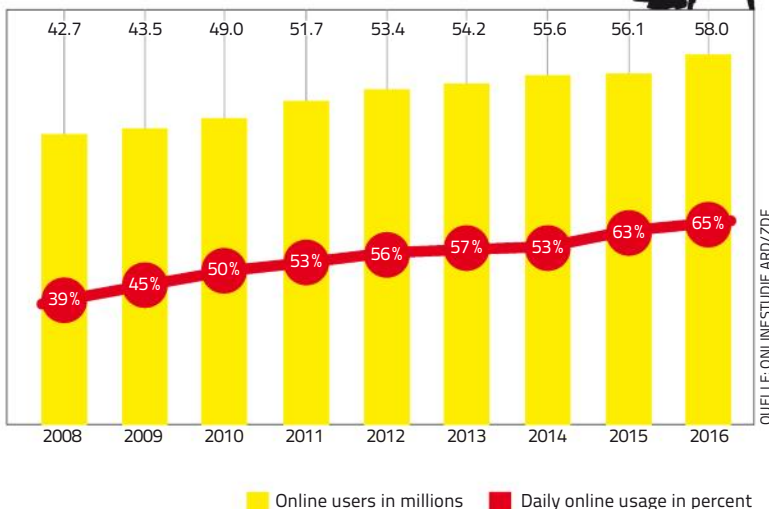
Internet videos:
7 minutes

Internet speed...
in South Korea
27 MBit/s

in Malaysia
6.4 MBit/s

Online growth in Germany

Last year, the number of German internet users increased by about two million. However, a third of all Germans don't even use the internet once a day.



The Future Of Big Data

Navigating big (data) influences in 2017

By Daniel Ng, Senior Director, APAC, Cloudera

Over the past year, big data technology has continued to evolve and become more enterprise ready in terms of usability, back-up, recovery, and performance. Beyond merely analyzing why something happened, big data has enabled us to proactively drive business results and make more meaningful decisions in real-time. Experts have also been studying and predicting the current and continued growth of the big data and analytics market across the globe, especially in data-rich industries such as financial services¹.

From governments using big data to defend against terrorist attacks to medical researchers predicting disease spread patterns and agricultural companies increasing crop yields, the big data revolution is now at a stage that is bigger than the past industrial revolution. While the industrial revolution taught us how to create things, big data continues to balloon, making the world more connected, smarter, and efficient than ever before.

What can industries, businesses, and individuals look forward to in 2017 and how can big data technology and the community create greater value for businesses and users? Here are some insights on how big data will create bigger influences this year:

1. Bootstrapping the data skills ecosystem

As markets shift and rapidly changing technologies transform businesses, companies that do not have professionals with up-to-date skills will fall behind. In fact, big data and analytics are no longer just buzzwords, but one of the most desirable skills for professionals to get hired in 2017².

In 2016, we saw governments, public sector organizations, academic institutions,

and private sector players come together to start building an environment where technology and data talent can better flourish and thrive. In order to keep pace and build the data workforce of the future, the importance (and awareness) of big data and analytics in the region continues to grow and take main stage³. Talent has now become a challenge that will impact countries, industries, and companies across the globe.

In 2017, governments will continue to launch open data initiatives and skills training programs, companies will focus on training their current employees, and academic institutions will work hand-in-hand with industries to ensure their students are ever-ready for their future careers. But the onus on technology players will remain; to make their platforms increasingly user-friendly and facilitate knowledge sharing amongst users.

2. From connected to autonomous

As the world has gotten more connected, and "things" have gotten smarter, we see new opportunities for autonomous behavior as the next stage in the big data revolution. Machine Learning (ML) is the latest buzzword – an important ingredient for autonomous capabilities – which will enable the creation of complex algorithms to drive behavior that does not even require pre-defined business logic.

Thus far, processing Internet of Things (IoT) data has enabled users to derive at more data-driven and sophisticated insights in real-time. In 2017, big data will continue to play a big role in developing algorithms that will be the driving force for autonomous capabilities. With the volume of data


required to make this happen, organizations will require truly massive data storage and computing capacities in order to generate and continuously improve the algorithms needed for autonomous devices. Big data will continue to be the raw material that makes us smarter and more efficient.

3. A secure future

In 2016, we analysed the impact of security breaches and importance of cybersecurity solutions for businesses today⁴. In 2017, big data will continue to play a critical role in protecting organizations and their assets from cyber-threats – the future of fighting cyber-crime will rely heavily on leveraging data for cybersecurity purposes.

As technology continues to evolve and the world gets increasingly hyper-connected, we see greater innovation that will improve day to day living (from home safety to medical care and ease of transportation). As such, more sophisticated security breaches and privacy issues will be brought to the limelight – those that traditional security boundaries and technologies will not be sufficient to prevent or resolve.

This year, we can expect organizations to focus on implementing cybersecurity platforms that are scalable across trillions of events, monitoring all of the devices connected to and accessing an enterprise's network. Moreover, applying ML for anomaly detection will allow organizations to continue detecting suspicious endpoint behavior faster and more accurately than before.

Pairing modern platforms with ML will be key to the early detection of threats and issues in 2017, moving us toward a smarter and more data-driven, secure future. 

¹ Double-Digit Growth Forecast for the Worldwide Big Data and Business Analytics Market Through 2020 Led by Banking and Manufacturing Investments, According to IDC, IDC, 3 October 2015

² LinkedIn Unveils The Top Skills That Can Get You Hired In 2017, Offers Free Courses for a Week, LinkedIn, 20 October 2016

³ IDC Reveals 53% of Organizations in the APEJ Region Consider Big Data and Analytics Important for Business, IDC, 21 April 2016

⁴ Cybersecurity: Three lessons learnt in 2016, The Business Times, 16 December 2016



1984

First patent

Charles Hull applies for a patent for his stereolithographic apparatus



1990s/2000s

The first boom

New 3D processes are tested. Their name: Generative production processes

1980

1990

A History In 3D Printing

3D printing as a concept has been around for about 20 years

CHIP TIMELINE

3D Printing: Build The World!

When luck and ingenuity come together: On 11 March 1986, Charles Hull filed a patent for 3D printing – 30 years later, a new industrial revolution is about to happen!

By Elmar Friebe

Some ideas are so good that they have to be conceived twice – Even if only one person is destined to go down in history as the inventor. This is what happened with 3D printers in the early 1980s: Although he filed a patent for a ‘stereolithographic apparatus’ three weeks after his French competitors, the American Charles ‘Chuck’ Hull is today considered to be

the inventor of 3D printing. The French team led by Alain Le Méhauté was simply unlucky: The French company didn’t think there was any commercial potential in the idea, and allowed it to gather dust. Mr Hull’s story turned out to be quite different: He turned the idea into a product, and the product into a gold mine. As the father of a small industrial revolution, he has been a proud

member of the technology hall of fame ever since.

After all, the idea of building complex and even hollow – structures layer by layer (instead of block by block) is a brilliant one. However, adaptability is the real reason for the success of the concept: Sometimes a laser melts particles to form a work piece, sometimes a gel sets when it’s exposed to

PHOTOS VON LINKS: IRENE FERTIK/USC NEWS SERVICE/WIKIPEDIA; MICHAEL PERECKAS/WIKIPEDIA/CC-BY-SA; NIKLAS NIKON/CC-BY-NC



2009

Reprap & Makerbot

The first hobby-printers costing less than 5,000 USD (RM24,000) lend wings to the maker movement

2000

2010

2016

3D printing takes over the world

The technology matures, and 3D printing is now exciting. HP's Voxel printer (ca. 155,000 USD), which can print multiple materials simultaneously



radiation, and sometimes flatly-pressed structures form moveable figures under the influence of electricity, heat or moisture. What all these approaches have in common is that they automate a simple mechanical procedure. That's what makes 3D printing so universal. Technology that is

Simple idea, many user

3D printing is changing the world one layer at time

totally accessible under the influence of electricity, heat or moisture. What all these approaches have in common is that they automate a simple mechanical procedure. That's what makes 3D printing so universal.


Using digital 3D data, which could be processed and exchanged with computers

and the internet. Technology that is totally accessible. In just a few years, the brand-new technology gave rise to a large community that was dedicated to developing the potential of 3D printers.

This really is a small industrial revolution:

Stereolithography is a universal tool which can even create itself: Self-replicating autonomous 3D printers will some day be able to explore outer space. Currently, it is primarily used by development departments for rapid prototyping. It is also used to print artificial tissues, bones and cartilage in the

medical sector. It is used whenever it becomes necessary to create a work piece, a spare part or the physical imprint of an idea (agile tooling) in a low-cost manner. And the creative potential of 3D printing is a long way from being exhausted: After workshops and development departments, more and more creative and industrial sectors are now experimenting with the countless possibilities offered by the projection of matter: The applications include fractal designer food, ultra-precise and customised fashion products and self-healing machines

Incidentally, Charles Hull's run of good luck continues to this day: His company – 3D Systems Corporation – is now one of the most successful manufacturers of rapid-prototyping machines. 



RYZEN

Powerful in Purpose. Efficient in Design.

An overview of what will be on the AMD Vega chip

AMD's New Horizon

AMD finally saw fit to reveal more details of its upcoming Ryzen processors, AM4 motherboards, and Vega GPU. This means the brand now has its chance to make a comeback

At this year's CES, AMD finally pulled the veil from its latest generation of processors – Ryzen. Along with that, team red also announced the new AM4 platform and gave us a glimpse of what AMD's upcoming Vega GPU can do. Having failed to keep up in nearly all its competing markets in recent years, it's easy to feel sceptical about what AMD can do here. But

we believe that AMD has shown us enough to prove that it can finally be competitive.

Ryzen Star

At CES 2017, some additional details of AMD's Ryzen were revealed. Although exact model names were not revealed, we do have specifications like expected clockspeeds, cache sizes, and three broad categories for

the chips (Enthusiast, Mainstream, and Essential). One of the enthusiast level chips is the 8-core and 16-thread CPU that AMD teased last year, the one that is said to outperform Intel's Core i7-6900K.

At the lower-end is the APUs, which would be used more in OEM computers, laptops, and also consoles. There are three SKUs outlined, spread between the Mainstream and Essential categories. One of it is a quad-core CPU, while the other two are a quad-core and dual-core APU respectively. AMD has always excelled with its integrated GPUs, so hopefully the Ryzen APUs will also do well in that sense.

Other information that have been revealed in the months prior to CES are: Ryzen is manufactured on a new 14nm FinFet architecture; the 8-core CPU is said to operate on a 95W TDP; and Ryzen chips will also have Simultaneous Multi-Threading (SMT), which is AMD's own version of Intel's Hyper-Threading. Combined together, these features should at



A brief overview of the AM4 platform

least ensure that Ryzen stays on par with Intel's Kaby Lake chips, if not better.

Moving into next-gen with AM4

Next up is the new AM4 platform, the other half of the new AMD equation. AMD has outlined three main chipsets targeted at different market segments: The X370, B350 and A320. The first one will cater to the high-end PC enthusiasts, while the B350 and A320 are targeted at the mainstream and basic users respectively. There's also two chipsets meant for mini-ITX systems – the X300 and A300.

In the last few years, AMD chips and motherboards have lost out to its competitors. AMD motherboards, in particular, were far behind in support of modern technologies. That's now changed, as the new AM4 chipsets will support PCIe Gen 3, NVMe storage, M.2 SATA, USB 3.1, and DDR4 memory. In addition, the high-end X370 chipset, along with the B350 and X300 chipsets, will support overclocking. The X370 will also support two-way CrossFire and SLI, which is great news for those who intend to do so.

A new star

Continuing AMD's tradition of naming its GPU after stars, AMD has given its next-gen HBM2 (High Bandwidth Memory 2) GPU the codename Vega. There's less that we know about AMD's new upcoming GPU, which we

CHIPSETS FOR THE AMD AM4 PLATFORM
FEATURE COMPARISON

SEGMENT	CHIPSET	USB 3.1 Gen 2	SATA	GP PCIe®	Overclocking¹	CrossFire™/SLI (Dual PCIe® 3.0)
Enthusiast	X370	Native	YES	YES	YES	YES
Mainstream	B350	Native	YES	YES	YES	
Essential	A320	Native	YES	YES		
Enthusiast SFF	X300		YES	YES	YES	
Essential SFF	A300		YES	YES		

Only AMD's AM4 Platform features native USB 3.1 Gen2 & every AM4 processor is multiplier unlocked

AMD AM4 PLATFORM FEATURE SUMMARY
FEATURES ENABLED THROUGH OUR PROCESSORS

Segment	Processor	Cores/Threads	Cache (L2 + L3)	PCIe®	I/O	DDR4	USB (3.1G + 3.1G + 2.0)
Enthusiast	Ryzen™	Up to 8C/16T	Up to 4+16MB	x16 Gen3¹	2 SATA + 1 x2 NVMe or 2 SATA + x2 PCIe or 1 x4 NVMe		
Mainstream	7th Gen APU	4C APU	2MB	x8 Gen3	2 SATA + x2 NVMe or 2 SATA + x2 PCIe	2CH	0+4+0
		4C CPU	2MB				
Essential		2C APU	1MB				

expect to make an appearance at Computex this year. However, Radeon Technologies Group's Senior Vice President and Chief Architect, Raja Koduri, did mention some of its features at CES 2017.

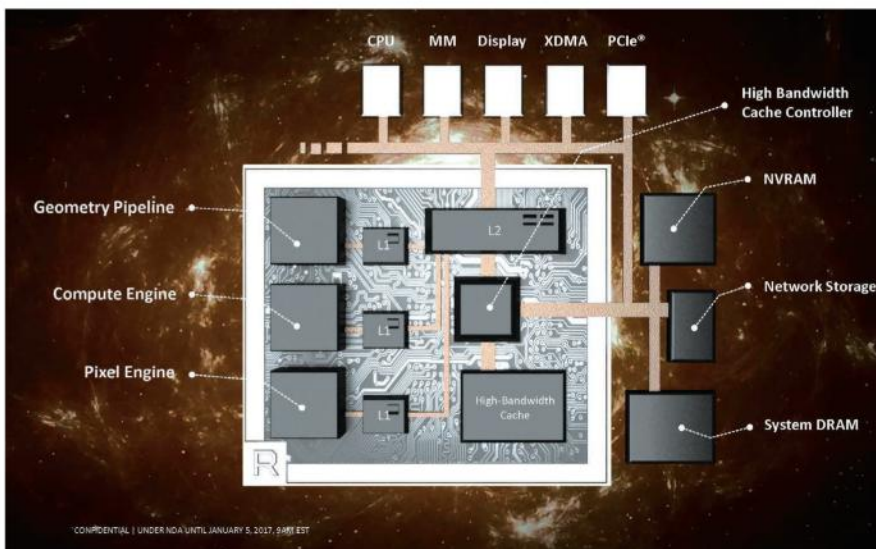
At the core of the Vega GPU is the new HBM2 architecture. It's able to deliver up to 2 GT/s (gigatransfers per second) and hold more RAM while using up less physical space, resulting in physically smaller GPUs

(compared to the norm). Aside from that, Vega also has a new cache architecture that allows games to use larger scales of datasets and a new geometry pipeline for higher polygon count, as well as the Next-Generation Compute Unit that provides 128 32-bit, 256 16-bit and 512 8-bit operations per clock, which are useful for more enterprise or commercial applications.

AMD needs to be competitive

Although AMD has shown more of its hand at this year's premiere tech trade show, there's still a lot it needs to reveal to convince consumers that it's worth buying into the new platforms. Many are hoping that AMD will reveal more in the months to come, to prove that it has what it takes to be competitive in 2017 and beyond.

Why is this important? Because as consumers, a strong and competitive AMD benefits all of us. AMD is expected to price its new products at more affordable rates than its main competitors – Intel and Nvidia. If AMD's Ryzen processors, AM4 motherboards and Vega can be on par or even better than its counterparts, we could be looking at a break of the stranglehold that the two companies have had in the last few years. This could cause prices of products to come down, making it a win-win for all consumers. 🍷



An overview of what will be on the AMD Vega chip



Consumer Electronics Show 2017

Like a storm, the annual trade show came and blew our minds with some new and exciting products

It's that time of the year again! The first weekend of 2017 was an exciting one for tech enthusiasts, as we'd get to see the best in consumer technology from autonomous cars to PC components. We took a look at what the show had to offer and picked out a few of the more interesting products we found, all listed according to product category.

DESKTOP GAMING PC

» MSI Trident 3

Looking for a ready-made, powerful gaming PC that can do virtual reality? Do you need one that will fit into the smallest of spaces without looking overly gaudy? MSI may have just the thing for you with its latest small form factor PC, the MSI Trident 3.

Powered by a 7th generation Intel Core processor, users also get to choose between one of two NVIDIA GTX 1060 graphics card options, either the 6GB or

the 3GB DDR5 model. Weighing at just 3.2KG, this PC is one that you can also bring around with you almost anywhere as it would fit into a laptop bag that would fit a 15 inch laptop with ease, including your accessories, such as a keyboard and mouse.

It's got I/O ports in spades, and even a HDMI 2.0 port in front to connect to your VR device



easily. Cooling is another important part of any PC, and MSI has that in check with its exclusive cooling technology called Silent Storm Cooling 2. Separating key components in

different chambers with optimized airflow, the systems cooling is completely fine-tuned and ready for many hours of gaming without breaking a sweat.

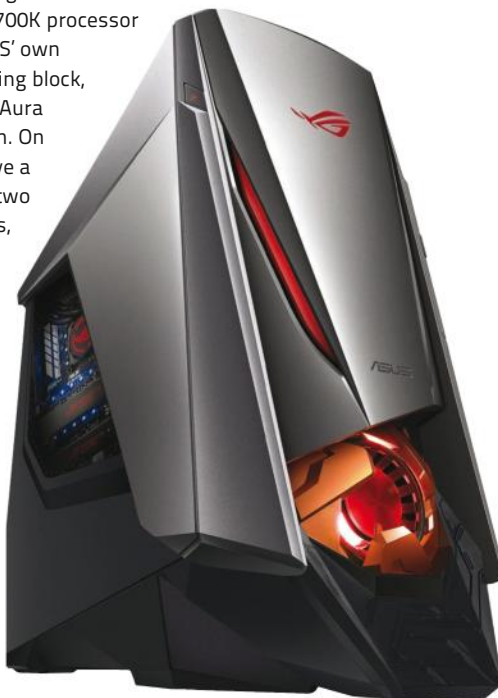
» ASUS ROG GT51CH

The ASUS GT51 gaming PC is something that we've brought in to our labs to play around with before. With Kaby Lake just fresh out of the proverbial factory, the company has been hard at work, refreshing the gaming PC with brand new components.

The GT51CH looks almost exactly the same as its previous iteration, but with a few design changes here and there. The turbine-inspired air intake fan is still there, but it now also sports ASUS' Aura RGB lighting effects.

The Intel Core i7-7700K processor is watercooled by ASUS' own custom AIO watercooling block, which also sports the Aura lighting effects system. On the GPU front, you have a choice to put in up to two NVIDIA GTX 1080 GPUs, and using the ASUS Aegis III software, you can easily overclock everything to boost the performance of the PC.

As far as I/O goes, the front panel sports three USB 3.0 Type-A ports and one USB 3.1 Type-C port for fast charging and transfer speeds of up to 10Gbps.



» GIGABYTE Brix Gaming UHD Mini PC

As far as compact PCs go, the Brix UHD Mini PC probably has most, if not all the competition at CES beat this year. At a height of just 8.5 inches, this is indeed a gaming PC, despite not looking like one even if you looked at it a number of times.

The Brix UHD sports Intel's latest 7th generation Core i-series processor, and alongside it an NVIDIA GTX 1060 graphics card. Not much information is available about it, including RAM and storage options, but we have a good feeling that we'll be seeing more of this at COMPUTEX later this year.

PC COMPONENTS

» Corsair Vengeance LED

The theme for many, if not all PC components lately is RGB LED. RAM sticks are apparently not safe from being bling'd as well, as Corsair has recently announced its latest lineup of RGB sticks with the Corsair Vengeance LED.

The Vengeance LED RAM sticks feature vibrant LED lighting, with unique colour options that would fit the style of your

system. On top of that, the Vengeance LED also sports built-in heat-spreaders and built using a 10-layer high performance PCB for better signalling, together with carefully selected ICs for overclocking with Intel's X99 and Z100 and 200 series motherboards.

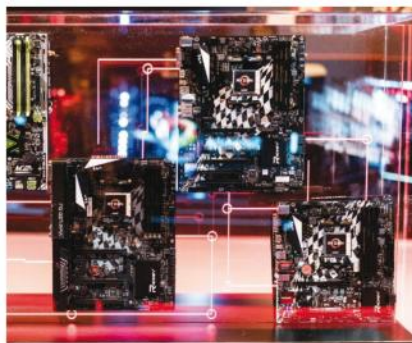


» AMD AM4 Motherboards

AMD's new Ryzen processor was announced at CES this year, and with it, AMD has also introduced a series of motherboards for various consumer needs. These motherboards are separated into a number of categories, including the AMD X370, B350, A320, and the X/B/A 300 series.

The AM4 X370 represents AMD's top of the line motherboards, with features such as USB 3.1 support, NVMe, extra PCIe lanes and such, making it the cream-of-the-crop for enthusiast level motherboards.

The B350 meanwhile features more of the same, but with less PCIe lanes, meaning that it will most likely not support SLI or Crossfire configurations, as AMD's of the opinion that the masses that will go for this range are likely going to be only using one GPU. That said, overclocking will still be made available on these boards.



The B320 boards meanwhile are for those who only want to build a PC that's meant for standard home or office use, and have no need for overclocking features or some of the other bells and whistles available on offer for other motherboards.

Looking to build small form factor PCs? The X/B 300 series boards are likely what you're looking for then. These will be AMD's m/i-ATX motherboards that will be perfect for those who don't have much space in their houses, but are still looking to build a PC that's powerful and functional.

» Toshiba BG Ultra Mobile SSD



SSDs have gotten smaller and smaller thanks to advancements in flash storage technology. NVMe drives are several times smaller than the conventional 2.5 inch storage products, while holding the same amount of storage space.

Toshiba is pushing this envelope even further by announcing the Toshiba BG Ultra Mobile SSD, which is about the same size as an SD card. Available in storage capacities of up to 512GBs, this particular SSD is capable of reaching NVMe speeds, and fits in M.2 standard slots.

» DeepCool Quad Stellar

DeepCool is a brand that's known for their CPU coolers and PC cases. Last year, they launched the Tri Stellar, a case that's shaped like a Triforce logo, winning accolades for some very creative use of space in such a design. This year, the company goes one-up with the Quad Stellar.

Despite its looks, the Quad Stellar is a well-compartmentalised PC case. Its futuristic quad-angular look is sure to turn heads at LAN parties and such, but it is as functional as it is pretty. For starters, each side on the Quad Stellar serves its own set of features.

Two of the sides houses the power supply unit and storage drives, while the other two are capable of fitting a full-sized ATX case, and up to three full-sized GPUs in a triple SLI or CrossFireX configuration.

The case comes with built-in temperature sensors that check on the temperature of the CPU and graphics cards, and will open up the Quad Stellar's front glass panels for ventilation purposes to help cool the components down.



NOTEBOOKS

» Samsung Chromebook Pro

Chromebooks weren't practical replacements for Windows PC years ago, due to the lack of applications in certain areas. But it's becoming more viable these days, giving companies good incentive to develop devices for it. Samsung revealed two of them at CES 2017, but our attention is on

the Samsung Chromebook Pro.

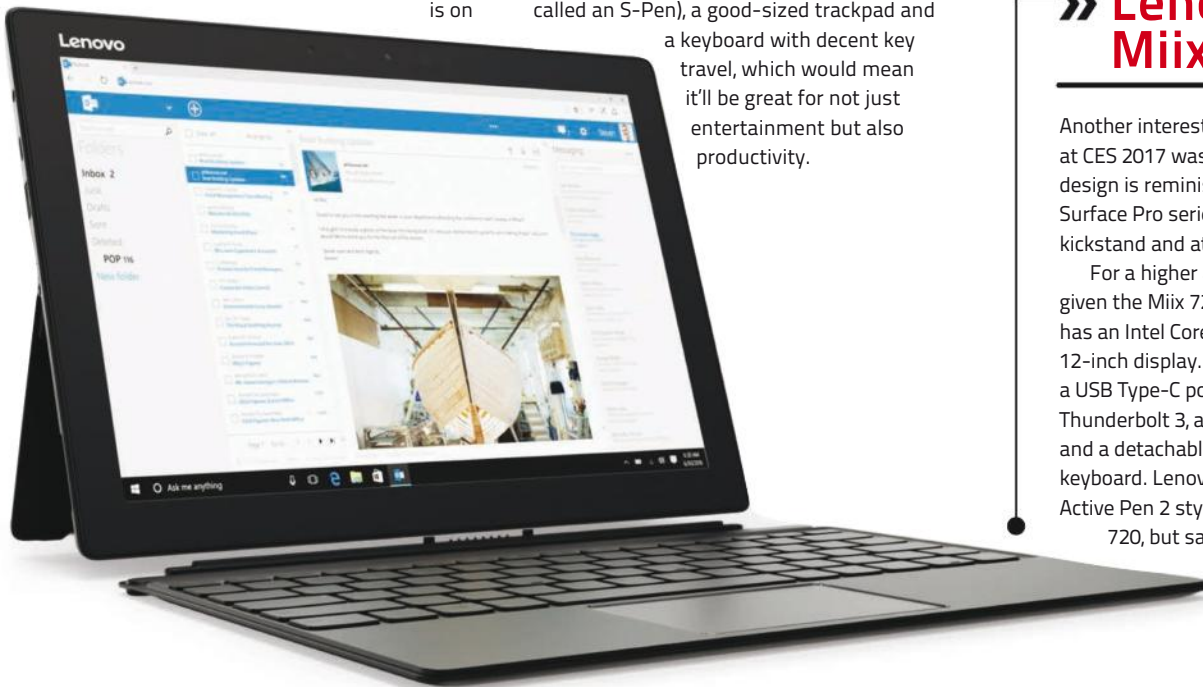
Said to run on an Intel Core-M processor and 4GB of RAM, the Samsung Chromebook Pro's specs is impressive for a tablet-cum-notebook. It comes with a pen (that is not called an S-Pen), a good-sized trackpad and a keyboard with decent key travel, which would mean it'll be great for not just entertainment but also productivity.



» Lenovo Miix 720

Another interesting 2-in-1 that appeared at CES 2017 was Lenovo's Miix 720. Its design is reminiscent of Microsoft's Surface Pro series, with the same kickstand and attached keyboard style.

For a higher asking price, Lenovo has given the Miix 720 some beefy specs. It has an Intel Core i7 processor and a QHD 12-inch display. In addition, it comes with a USB Type-C port with support for Thunderbolt 3, a rear-facing 5MP camera, and a detachable full-sized backlit keyboard. Lenovo has also prepared the Active Pen 2 stylus to go with the Miix 720, but said that it has to be purchased separately.



» HP Spectre x360

Another cool laptop we found is HP's Spectre x360, a new version that is. This time around, the Spectre x360 not only has a larger screen, it has thinner bezels, which means the body isn't significantly larger than its predecessor. On top of that, it can output 4K resolution, which looks really sharp on the 15.6-inch display. Although it's slightly thicker, it also comes with a larger battery for an extra three hours of battery life.



TVs

» Samsung's QLED TV

TVs seem to be getting another leap forward this year, with compelling new designs and models appearing at CES 2017. One such model would be Samsung's new QLED TV, which is capable of delivering picture quality that Samsung claims is greater than even OLED TVs.

Based on Quantum dot technology, the new QLED TV has up to 2,000 nits in brightness and '100

percent colour volume, according to Samsung. It should be able to output a greater range of colours at the 1,500 to 2,000 nits brightness range. Similar to the LG W7, the QLED TV will have a cable (transparent in this case) that connects to an external box that has the I/O ports. Seems like this could turn out to be a trend in high-end displays.



» Sony BRAVIA XBR-A1E

The OLED TV space is going to get more competition this year, as Sony enters it with its new BRAVIA XBR-A1E TV.

It features slim bezels, a thin body, and OLED technology for fantastic colour, contrast and brightness. While it can't be mounted

flush against a wall despite its thin body due to the stand, Sony has gone and put all the I/Os at the back of the stand, which actually makes it easier to access. Another cool thing is the fact that the stereo audio is generated by 'vibrating' the surface of the display. How practical this would be is something we're looking forward to seeing when this display comes to market.



» LG OLED W7 TV

LG has always been at the forefront at developing OLED TVs, but it has revealed something truly stunning this year at CES - a 'wallpaper' TV.

To be exact, it's a 4K OLED TV that's so thin you could mistake it for being a wallpaper. The new LG OLED77W7P doesn't have any ports at the back, but instead connects to a soundbar via a cable. This soundbar contains the I/O ports for the TV and pops out two mini speakers that combine with the soundbar to deliver 4.2-channel audio. How cool is that?



MONITORS

» Dell UP3218K

The Dell UP3218K could be the first 8K-resolution monitor to hit the shelves, sporting more than 33.2 million pixels.

The monitor can be said to be the next frontier of screen resolutions, and with an 8K resolution, the screen is able to display your work in stunning detail, while PremierColor delivers consistent, highly accurate colours. To give it an even more pleasing look, the monitor features Dell's InfinityEdge bezel on the 31.5-inch display.

It's supported by an all-aluminium frame with pan, tilt, swivel, height adjustment and comes colour-calibrated right from the factory. Dell also claims it is capable of displaying 100 percent of the Adobe RGB, sRGB and Rec709 colour spectrums, so we're pretty sure this would catch a graphic designer's eye.



» ASUS ROG PG27UQ

A 27-inch 4K UHD HDR gaming monitor that supports an ultra-fast 144Hz refresh rate for super-smooth gaming visuals.

Gamers are treated to unmatched levels of detail, with sharp images and crisp text. The ROG Swift PG27UQ features G-SYNC HDR technology for a peak brightness several times greater than standard displays for stunning, vivid visuals, and LED backlight is dynamically controlled across 384 zones, enabling very high contrast for richer, more natural dark scenes. If that wasn't enough, the Swift PG27UQ also sports Quantum-dot technology which provides brighter images and supports cinema-standard DCI-P3 colour gamut, resulting in more realistic colours.

» LG 32UD99

The LG 32UD99 32-inch UHD 4K monitor is HDR-compatible to meet the growing availability of HDR movies and games. The monitor boasts enhanced brightness and wide colour gamut with incredible accuracy, making it ideal for content creation as well as high-end content enjoyment. The support of DCI-P3 and HDR10 is something that would appeal to professionals which create content for games, digital media, and many others.

Other than the display, the 32UD99 also has a pair of built in dual 5W speakers, and for gamers you would be pleased to know that the monitor support AMD's FreeSync technology, so whether you're a gamer or professional content creator, you can be sure the 32UD99 wouldn't disappoint.



PERIPHERALS

» ROCCAT Isku+

Skill is essential, but the right tool is what puts a dedicated gamer ahead of the rest. Combining amazing technical engineering with a modern, refreshed design, the Isku+ offers you supreme quality, precision command, and a bold, uniquely ROCCAT aesthetic.

Due to its off-white UV-coated keys and its extreme ice blue backlighting in 6 adjustable brightness levels, the Isku+ makes it easy to always hit the right key, even in low lighting. The Isku+'s optimised illumination also means it's perfect for avoiding eye strain during long gaming sessions.

ROCCAT's Easy-Shift technology means each button has a secondary programmable function, for a wide array of possibilities. Intuitive and easy to program, with options for simple commands or complete macros, Easy-Shift expands your arsenal.



» Corsair K95 RGB Platinum

The Corsair K95 RGB Platinum takes Corsair performance to another level. Unleash unreal performance with Cherry MX RGB mechanical switches, while storing and playing back complex macros and lighting effects to any key. Built to withstand a lifetime of gaming, the K95 RGB Platinum is made from lightweight and rugged aircraft-grade anodised brushed aluminium.

You also get the choice between the light tactile Cherry MX Brown and the speedy ultra-fast actuating Cherry MX Speed switches.

The Corsair K95 RGB Platinum is set to deliver dynamic and vibrant lighting effects with virtually unlimited customisation, and ensures your commands and simultaneous keystrokes always register with 100 percent anti-ghosting with full key rollover adjustment and comes colour-calibrated right from the factory.

Dell also claims it is capable of displaying 100 percent of the Adobe RGB, sRGB and Rec709 colour spectrums, so we're pretty sure this would catch a graphic designer's eye.

» MSI Immerse GH70

MSI is going full throttle on the peripheral scene and at CES 2017 they dropped the MSI Immerse GH70 headset on gamers. Recognising that gamers do desire true detailed Hi-Fi sound reproduction in games, the MSI Immerse GH70 features certified Hi-Res drivers with Virtual 7.1 Surround Sound, all through USB connectivity. You can have multiple colour effects on the GH70 through MSI Mystic Light Sync. The GH70 headset should be paired with the Clutch GM70 GAMING mouse and Vigor GK70 and GK80 GAMING keyboards for the full Mystic Light and MSI gaming experience.



CAMERA

» Panasonic GH5

Looking for a compact camera with professional-grade specs? Panasonic has got you covered with its latest micro four-thirds camera, the Lumix GH5. It's super-packed with some very impressive features which will make most DSLRs blush with envy.

For starters, the GH5 sports a 20.3MP sensor, and has done away with its anti-aliasing filter for extremely sharp photos. It utilises Panasonic's very own Venus engine image processor, which provides users with faster readouts and image processing, and not to mention a very impressive noise reduction system built in.

The GH5 uses what Panasonic calls Depth From Defocus (DFD) AF system which sports 225 autofocus points, on top of allowing users to set the AF points and tracking parameters. On top of that, it also features a combo image stabilisation system that combines body and lens IS systems.

Video is also slated to be one of the GH5's main selling points, with the camera eventually being capable of recording videos at 4K/60FPS, via a firmware update that is set to drop sometime in April this year.



» Kodak Super 8

Digital cameras are pretty much the standard these days when it comes to recording videos. Old cameras and video recorders that use film have all but died, with only the most hardcore of photo and video enthusiasts using them today.

Kodak is looking to change all that however with the new Kodak Super 8, a Super 8 camera that retains the aesthetics of a traditional film camera, but with some improvements built within. For starters, it still uses a roll of film to record videos and stills. Each roll of film, capable of recording up to 2-3 minutes of video, can be sent to a Kodak specialist store to be processed digitally, and you'll also get your processed films back as well.

Despite looking like a traditional Super 8 camera, it sports an LCD display that helps you frame your shots, as well as ports for various audio and video outputs, such as a Mini HDMI port. According to Kodak, a single charge of the Super 8's battery will last about 15 rolls of film, so you get to shoot a fair amount of videos before you have to recharge it again.



» Insta360 Pro

360 cameras are gaining a fair bit of traction lately, and while they initially started off as being capable of taking photos only, some of the more advanced models are capable of not only capturing videos, they can livestream them as well. One such camera is the Insta360 Pro camera, which can record and stream videos of up to 8K resolution.

The Insta360 Pro uses what it calls the Optical Flow image stitching technology, which ensures that 360 images and videos that are taken look seamless no matter from which angle they are taken. On top of that, the camera also comes with optimised stabilisation algorithm which ensures that shots are not only clean, but also blur-free and crisp no matter the activity you're doing.

360 video streaming has started to become a thing, but with most cameras, you will need a large amount of internet bandwidth to ensure that the camera, but with the Insta360 Pro, the camera uses a H.265 encoder to ensure that filesizes are smaller, whilst retaining the overall quality of the video stream.



AUDIO



» Altec Lansing Sonic Boom

Putting the Boom in Sonic Boom, Altec Lansing introduces the Altec Lansing Sonic Boom speaker made for parties. Sporting an 8-inch subwoofer and 3-inch tweeter, you can be sure the speaker will pump out loud volumes of music.

This powerhouse party speaker is Altec Lansing's biggest Everything-Proof speaker ever. When they say Everything-Proof they mean IP67 rated waterproof, shockproof, snowproof, and it even floats. It boasts a 100-ft wireless range and 50 hours of battery life, not to mention three built-in phone chargers, car charger, and other outlets.

These new speakers features Altec Lansing's new 'House Party' mode which allows the speaker to connect via Wi-Fi or Bluetooth through the new Altec Lansing 'Playlist App', which gives access to other music apps like Spotify.



» Sony HT-ST5000

Welcome to a new dimension of sound, and discover a new level of immersive, cinematic audio at home.

With Dolby Atmos you'll enjoy three-dimensional surround sound that takes your breath away.

» Sennheiser MOMENTUM In-Ear

This earphone is the smallest member of the MOMENTUM product family, yet it still offers uncompromisingly clear, brilliant and powerful sound like all MOMENTUMs, as well as a wealth of valuable quality details.

There's only one way to deliver uncompromising sound in a small package, which is by combining top-quality materials with superior craftsmanship. They are made of high-quality stainless steel, manufactured using precision milling technology.

The range of In-Ear accessories is as broad as the In-Ear itself is tiny. It includes an intuitive remote for iPhone and Android, elliptical cables that minimises tangling and sound loss, gold-plated jack and integrated hands-free microphone.



» Audio Technica ATH-DSR9BT

The ATH-DSR9BT over-ear wireless headphones employs Audio TEchnica's new Pure Digital Drive system, which allows the headphones to operate without a sound-degrading D/A converter that conventional wireless headphones rely on.

Instead, the ATH-DSR9BT utilises Trigence Semiconductor's Dnote chipset to receive the digital audio signal from a Bluetooth wireless transmission, process and transfer it to the driver where the digital pulses of the chipset move the voice coil and diaphragm forward and backward to create sound waves.

The headphones are also equipped with a microphone, volume control and simple tap control for answering and ending calls and playing or pausing music on a smartphone or other devices. The headphones' internal battery provides approximately 15 hours of continuous use and can be recharged using a USB cable.



Optimised to take full advantage of Dolby Atmos, two built-in speakers bounce sound off the ceiling to reproduce overhead sound, while a woofer and tweeter work together inside a single speaker unit to deliver precisely aligned audio across frequencies.

It also supports LDAC that allows you to enjoy high-quality wireless audio via Bluetooth, with three times the data transmitted, LDAC provides an enhanced wireless listening experience for all your music.

SMARTPHONES

» ASUS ZenFone AR

AR and VR seemed to be everywhere at CES 2017, even on smartphones. AR capable smartphones could be the top-end feature for the product segment this year, or it could be gimmick that never takes off. ASUS seems willing to give it a try, however, having revealed the ZenFone AR at CES 2017.

The ASUS ZenFone AR comes with both AR and VR support via Google's Tango and Daydream technologies. It has a TriCam system, consisting of a motion tracking, depth sensing, and high-resolution 23MP camera, which combine to provide an AR experience. AR gives the all sorts of companies like mobile games developers, to create unique apps that could change the landscape and the ZenFone AR would be poised to take advantage of it.



» Nokia 6

As many would know from a few months back, Nokia has decided to return to the smartphone market. Well, the Finnish company turned up this CES with a new Android smartphone simply named 'Nokia 6'.

The specs are mostly impressive: A 5.5-inch 1080p screen, giving it good clarity for a device of its size; 64GB of internal storage, with additional of up to 128GB that can be added via microSD card; 16-megapixel rear and 8-megapixel front cameras; and Android 7.0 to run the show. What's less than convincing is the Qualcomm Snapdragon 430 processor that powers it, but we're still looking forward to Nokia making its mark in 2017.

» BlackBerry Mercury

BlackBerry is taking another shot at the Android market, this time with a smartphone codenamed 'Mercury', otherwise known as the DTEK70. Following the long-standing BlackBerry tradition, the Mercury is a smartphone that comes with a QWERTY keyboard.

There's a fingerprint sensor where the spacebar is, a button to quickly launch the camera app, and a USB Type-C port for charging. We also know that it'll retain BlackBerry's suite of security apps and will have a sleek metallic body. Other than that, not much else is known about the first BlackBerry smartphone that is built by the new license holders – TCL. However, what's interesting for us is how well BlackBerry devices will do now that they're manufactured by a different company.



OTHERS

» Cowarobot R1

Ever wanted a luggage bag that follows you around without you having to hold onto its handle? The Cowarobot R1 may just be the thing you're looking for, as it is both intelligent and autonomous, capable of following you around, avoiding obstacles along the way.

Unveiled at CES this year, the Cowarobot R1 is capable of mapping its surroundings thanks to a multitude of sensors that are attached to it, including sonar, a cliff detection sensor, as well as the company's patented CO-EYE detection sensor. The information

gained from these sensors allow the suitcase to follow people at up to 7KM/H for a total of 20KM, all on a single charge.

The R1 luggage is connected wirelessly via a bracelet and an app, which allows users to get the luggage to follow them, and return the luggage to the user in case it somehow goes missing. On top of that, the R1 also sports a powerbank which allows users to charge their smart devices on the go. It originally was put up for backing on Indiegogo last year, and exceeded its USD 100,000 funding goal by a whopping USD 400,000.



» Garmin Fenix 5

Wearables appear to be going big at CES this year, with Garmin leading the charge with not one, not two, but three brand new outdoor wearables with the Garmin Fenix 5, 5S and the 5X. As far as functionality goes, all three wearables sport the same sorts of features, however, they do differ in terms of looks and some functionalities.

For starters, the Fenix 5X is considered to be the high-end range of the three models, with the 5 being the standard model, and the 5S sporting a slightly smaller watchface, which is designed more for women in mind. All three watches sport the QuickFit band design, which allows users to easily swap the band out for a variety of

straps which fit you better.

The watches also sport a variety of features, but three of the main ones include the Navigate, Track Me, and Apps. With the 5X, you'll be able to configure the watch to show you data snippets on top of the map screen, which means you don't have to fiddle with the watch as much.

They're also capable of tracking a variety of physical activities, including running, swimming, climbing, biking, skiing, rowing, and even triathlons and golf. You also need not be concerned about battery life, as the Fenix 5 has a battery life that lasts up to two weeks in smartwatch mode, as well as 24 hours in GPS mode, depending on the model.

» Cerevo Taclim

Virtual reality tech has finally hit top gear, with devices such as the HTC Vive and the Oculus Rift going mass production, it's time that we improve that experience. What better way to do so than with the Cerevo Taclim, the world's first VR shoes and gloves that feature haptic feedback support, allowing users to actually feel the virtual world?

With Taclim, users get to feel the sense of stepping on the ground in virtual spaces as they would in real life. It also works as an input device to control the character and reflect the motion of the player in the virtual world to increase the feeling of immersion.

Cerevo has specially developed customized tactile devices in collaboration with Nidec Seimitsu Corporation, a leading company in the field of haptic components. In Taclim, 8 tactile devices are implemented inside the shoes and gloves.



» Althwork Station

For most working adults, a major reason why they often get backaches is due to bad sitting postures, and continuous, long hours of sitting and not stretching. On top of general health concerns, sitting down without changing postures every once in a while, can also lead to a decrease in productivity.

Althwork, a company that specialises in ergonomic workspaces has recently come up with their latest product, the Althwork Station, a complete ergonomic workstation solution that allows you to work sitting, standing, and even collaborate with your colleagues.

The setup includes a reclining seat, as well as a small desk for your keyboard and mouse, and a VESA-certified neck for your monitor. The entire setup can be adjusted accordingly for sitting, standing and even a focused workstyle which allows you to completely relax yourself and be in the zone while you're working.



» Kingston DataTraveler Ultimate GT

Digital storage devices continue to grow in terms of data that can be stored within, while shrinking in terms of size. Whilst terabyte storage devices in hard drives and SSDs continue to grow in number, flash storage devices seem to have grown stagnant as of late.

Kingston is looking to break that rut as they introduce the DataTraveler Ultimate GT, the first and only flash drive in the world right now that has a storage capacity of 2TB. Decked in a zinc alloy chassis, the device uses a USB 3.1 Type-A port to interface to your computers. Details are scant on availability for now, but we're fairly sure Kingston will have them out in stores fairly soon.

» HTC Vive Tracker

Improving upon their already excellent virtual reality headset, the Vive, HTC has recently introduced an accessory that allows you to bring real-life items into your virtual world, called the Vive Tracker. At the moment, there hasn't been much information on how this will work, but there is also confirmation that this device will indeed be able to connect to a DSLR,



and turn it into a Mixed-Reality camera where it can record you inside the game itself.

» Linksys WRT32X Gaming Router

Online gaming is a pretty big deal these days, what with e-sports gaining massive momentum right now, and console gaming being commonplace as well. Standard routers work decent enough most times, but if you absolutely need those low network latencies to shred your opponents, you can't go wrong with the Linksys WRT32X Gaming Router.

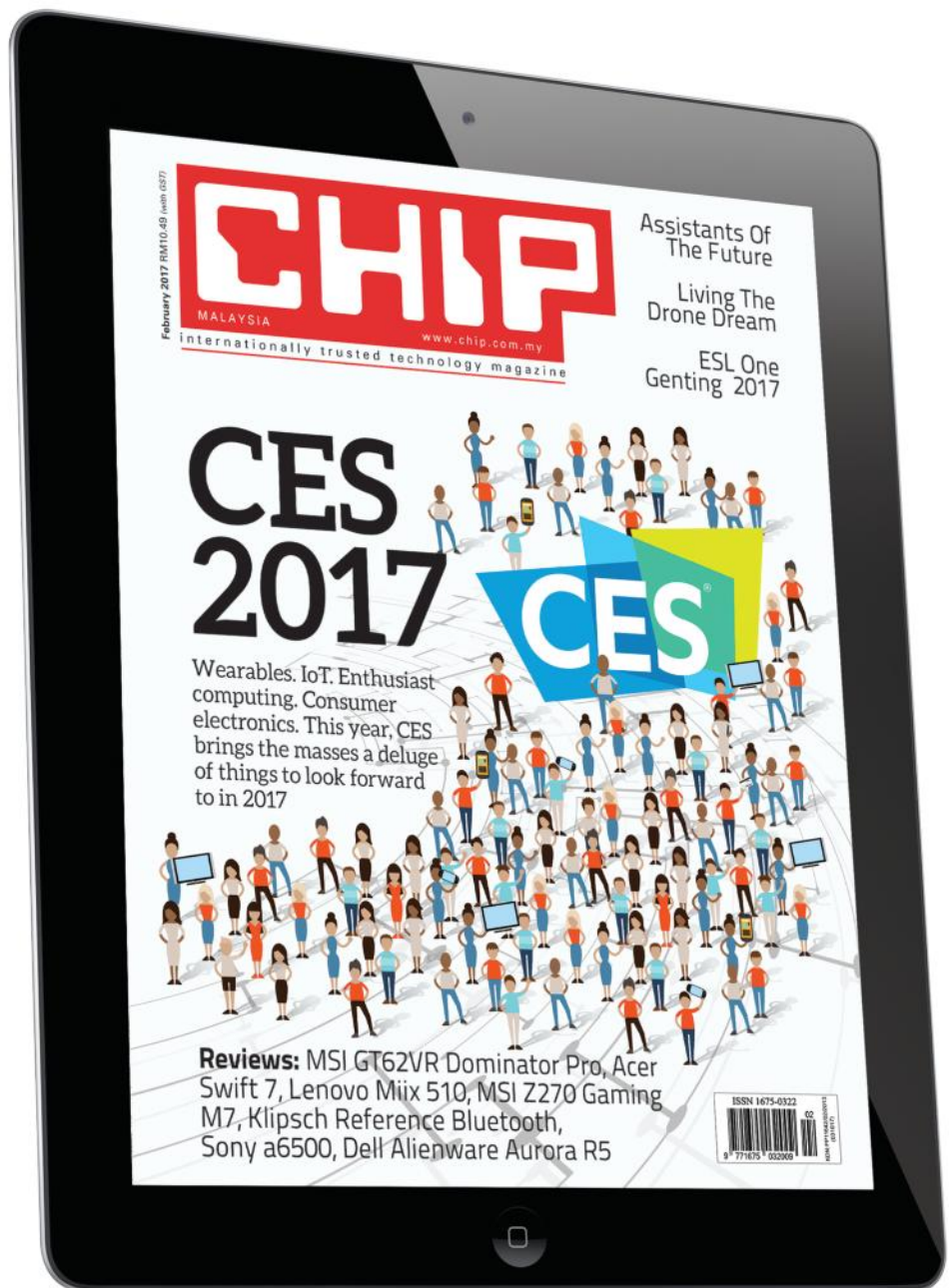
The WRT32X utilises premium networking components, including a 1.8GHz dual-core processor, supporting dual Mu-MIMO and dynamic frequency selection features. Its selling feature is the 'Killer Mode', which automatically detects a PC that

uses Killer LAN components, syncing the router's Killer engine to the network manager software on the PC.

While the router does indeed prioritise gaming traffic over regular traffic, it's also smart enough to distinguish between actual game traffic and ones that are used to download updates and install files and such. 🇸🇬



**YOUR
FAVOURITE I.T.
&
TECHNOLOGY
MAGAZINE IS
ALREADY
AVAILABLE
DIGITALLY!**



Here's how to order CHIP Malaysia to go :-

Step 1: Download Zinio

CHIP Malaysia will be available on Zinio, one of the most popular digital newsstands on the internet. They have an iOS app as well, which is where CHIP Malaysia is sold.

Tap on the App Store icon on your iPad and search for 'Zinio'. The first entry should be Zinio Magazine Newsstand & Reader. Click on it and wait for it to be downloaded and installed.

Step 2: Creating a Zinio account

You will need to have an account with Zinio to download magazines from its store. Zinio will keep a record of what you've purchased and if you restore your iPad, all you need to do is to re-download your content. The best part of all? Re-downloads are free!

You can create a Zinio account from the app itself or log on to www.zinio.com to do it. All you need is an email address and a password.

Step 3: Download CHIP Malaysia

Launch Zinio and you'll see three tabs at the bottom. Click on the 'Shop' tab and search for 'CHIP Malaysia'. When you see our cover, that means you're close to getting your hands on CHIP Malaysia's iPad magazine.

You have the option to get the newest issue or subscribe to 12 issues. Select an option and pay for it via PayPal or Credit Card.

Step 4: Read

Once that is done, tap 'Library' at the bottom bar and you'll see the cover of the issue you bought. Tap on it and you're done! Zinio will let you read while it downloads the remaining pages. Enjoy!

TEST LAB: The Tools

Here at the CHIP Test Labs, we adhere to the high requirements set by the CHIP International Testcenter standards. This means that everything here -- from our own personal knowledge and to our trusted tools of the trade -- are meant to provide the most optimised, unbiased and comprehensive review to every product that comes through our doors. As thus, our test bed tools are specifically picked to get the most out of every test we perform



Intel Platform

Motherboards

Intel DZ77GA-70K
MSI Z87 MPower

Processors

Intel Core i7-3770K
Intel Core i7-4770K

Graphics Processing Unit

MSI GeForce GTX 980
GAMING 4G

CPU Cooler

Master X6



AMD Platform

Motherboards

ASUS Crosshair V
ASUS A88X-Pro

Processors

AMD FX-8150
AMD A8-3850

Graphics Processing Unit

ASUS Radeon R9 290X

CPU Cooler

Cooler Master Hyper 212
EVO



PSU, Storage & RAM

Power Supply

Cooler Master Silent Pro
Hybrid (1300W)

Storage

Western Digital Black² Dual
Drive
Western Digital My Book
Live Duo

Memory

Kingston HyperX
KHX1600C9D3K4/16GX
Kingston HyperX FURY
HX318C10FWK2/8
Kingston HyperX Predator
HX430C15PBK4/16

Benchmark Software

Operating System

Windows 7 Ultimate
(64-bit)

Futuremark

PCMark 8
3DMark

Industry Standard Benchmark Tools

AIDA64
SiSoftware SANDRA
Speccy
Unigine Heaven

TEST LAB



CONTENTS



18



6



2



8

1	Wiko U FEEL Go	086
2	D-Link DHP-P601AV Starter Kit	087
3	Gamdias HEBE M1 RGB	088
4	Acer Swift 7	089
5	360fly 4K	090
6	ASUS STRIX Wireless Gaming Headset	091
7	ViewSonic VX3209-2K	092
8	ASUS BRT AC-828	093
9	Lenovo IdeaPad Miix 510	094
10	ikbc F108 RGB	095
11	Dell Alienware Aurora R5	096
12	Klipsch Reference Over Ear Bluetooth Headphones	097
13	AORUS Z270X Gaming 9	098
14	Huawei MediaPad M3	099
15	MSI H270 Tomahawk Arctic	100
16	MSI Z270 Gaming M7	101
17	MSI GT62VR Dominator Pro	102
18	Sony a6500	103

CHIP Awards



CHIP Editors' Choice Award

Awarded to products that receive unanimous endorsement from all CHIP editors for its overall brilliance



CHIP Outstanding Award

Reserved for products that combine astute technical performance with good quality and design



CHIP Recommended Award

Given to products that possess singular quality worthy of a recommendation

Ratings

Each product review is rated on a scale of 1 to 5 for different key parameters:



PERFORMANCE : Refers to the efficiency of execution

FEATURES : Rates the abilities and unique characteristics available

DESIGN : Varies according to product. Finished products - form factor and build quality. Hardware components - layout, size and cooling solution. Software - user interface

VALUE : Calculated from the performance and features of the product in relation to the price



Maximum Performance



Designed for the seventh generation Intel Core processors, this motherboard aims to push gamers and enthusiasts to the limits. The packed and pumped ROG Maximus IX Formula motherboard is ready to defeat all challengers. The Maximus IX Formula provides the best gaming audio with the exclusive SupremeFX audio codec, along with best air and water cooling innovations, best auto-overclocking performance, plus many refined design choices and class-leading features. Also Aura Sync and 3D-printer friendly designs provide stylish customisation for awesome personalised gaming rigs. The Maximus IX Formula's renowned hybrid heatsink is redesigned by the cooling masters at EKWB, offering a 4-celcius cooling improvement over the previous design.

ASUS ROG Maximus IX Formula
Contact: ASUSTek Computer Malaysia
Phone: (03) 2131 6650
Info: www.asus.com/my

Things Just Got Grander

The Acer grandPad is dedicated to providing the highest possible quality of service to the consumer. You get high quality dual front-facing speakers that make it easier to hear loved ones speak during video calls, and a 10 percent larger holding area on the edges of the tablet for comfortable gripping. There's an increase in screen brightness and pixel density providing a brighter screen. Taking charging to the next level the grandPad comes with a Qi wireless charging dock, making charging simple and removing the need for cables and plugs. Finally you'll find a 5MP camera on both the front and rear of the grandPad, so you'll be able to take pictures and videos to share with friends and family.



Acer grandPad

Contact: Acer Sales and Services Sdn.Bhd
Phone: 1 800 88 1288
Info: www.acer.com.my

Do You Desire More?



Celebrate the Lunar New Year with Kingston, introducing their latest addition to its Data Traveler Chinese Zodiac USB drive lineup. Built with a metallic rose-gold hue and USB 3.1 speeds, the Year of the Rooster USB drive has superior quality in a high-end design. The laser cut-out Rooster USB drive comes in a unique-designed red-themed box. The simple plug-and-play drive with fast USB 3.1 performance offers convenient and easily transportable storage for pictures, music, video and other important data files. With a capacity of 32GB, the Year of the Rooster USB drive comes with a 5-year warranty because they believe in the reliability of their products.

Kingston Year of the Rooster USB
Contact: Amble Action Sdn Bhd., Convergent Distribution(M) Sdn Bhd.,
Ingram Micro Malaysia Sdn Bhd
Phone: (03) 7665 3939, (03) 2144 1881, (03) 7952 8188
Info: www.kingston.com

Cooler and Smarter

The MasterKeys Pro White LEDs series offers the brightest LEDs and the best tactile feeling suitable for all users. Cooler Master effectively designed a keyboard with the brightest White LED backlighting while still using 100 percent authentic Cherry MX switches. The Intelligent White LEDs provides clearer, crisper white compared to RGB keyboards. On-board memory ensures all responsive lighting effects and macros are executed instantly thanks to the seamless on-the-fly system and profile support. There are two advanced technologies rolled into one making the keyboard's functions and macros compatible even on Mac OS X systems. Cooler Master has combined N-key rollover and 6-key rollover together, ensuring each key press is correctly detected regardless of how many keys are pressed.



Cooler Master MasterKeys Pro L White LED

Contact: Ban Leong Technologies Sdn Bhd,
Build Technology Supply Sdn Bhd
Phone: (03) 7956 6300, (03) 7955 3699
Info: www.cooler-master.com

Hide From The Enemy

Introducing a new colour variation for the PlayStation 4 Wireless Controller, DUALSHOCK 4 will be available in Green Camouflage. The new CUH-ZCT2 is now capable of USB communication, which means gamers will now be able to play games wirelessly or with a wired USB cable. The light bar is now moved to the top of the touchpad so it'll be easier to notice colour changes when playing games which use them. Other than that the directional pad has a matte finish, and the controller has a whole new Green Camouflage colour variation.



DUALSHOCK 4 CUH-ZCT2 "Green Camouflage"

Contact: Sony (Malaysia) Sdn Bhd
Phone: 1 300 88 1233
Info: www.sony.com.my

Protect Your Home

The Aztech Blink is a remarkably portable, battery-powered, wire-free home security and HD video monitoring system. Blink fills the unmet need for those who are in search for a camera that offers not just peace of mind, but also unprecedented placement flexibility. This compact size allows you to place your blink cameras anywhere in your home. With no wires to worry about, Blink is designed to go where other systems cannot. This exceptional technology delivers up to 2 years of battery life powered by only two AA lithium batteries. In addition to live streaming anytime and from anywhere through the Blink Home Monitor app, be awed by Blink's sophisticated and instant motion-activated video alerts.



Aztech Blink

Contact: Digital Paper Sdn Bhd, Netsis Technology Sdn Bhd
Phone: (03) 5569 2002, (03) 7806 3300
Info: www.aztech.com.my

Project, Entertain, Present



The Acer X127H projector is a best value projector, ideal for everyday use, at work or home. The Acer X127H comes with 3,600 ANSI lumens, capable of delivering high levels of brightness, contrast and 3D capability. Making presentations more compelling and entertainment more exciting, users will be able to project crystal clear, vibrant images from a long distance on a large screen even in daytime indoors. Handy installation utilities make setup easy, paired with auto keystone corrections automatically correct vertical distortions making starting up presentations easy. The projector also comes with a built-in 3W speaker providing rich sound without needing an external speaker.

Acer X127H

Contact: Acer Sales and Services Sdn.Bhd

Phone: 1 800 88 1288

Info: www.acer.com.my

Sleek Performance

The HTC U Ultra is a new, beautifully 3D contoured, liquid surface that's designed to reflect the best you. The new Dual Display gives you the information you need at your fingertips, perfect and fast for convenient access to the things you use the most. Like your favourite contacts, apps, reminder, event notifications and more, because what's important to you will always be right on top. The 12MP UltraPixel main camera delivers less blur, focuses faster, and takes better photos at night. The HTC U Ultra is perfectly symmetrical with a beautifully coloured 3D curved glass and exquisitely thin.

HTC U Ultra

Contact: HTC Careline

Phone: 1 800 88 9855

Info: www.htc.com/sea



The Titanium Monster

Sporting a unique silver design, the Z270 XPOWER GAMING TITANIUM is destined to deliver a great gaming experience as well as top-notch overclocking. Built on the award-winning TITANIUM concept, first introduced by MSI, the new TITANIUM motherboard features solid plated heatsinks and covers in full silver colour. A wide variety of gaming oriented features are littered across the motherboard, like DDR4 Boost which fully isolates memory circuitry to ensure maximum performance and stability. Not only that with Turbo M.2 you'll get PCI-E Gen3 x4 performance with blazing transfer speeds of up to 32Gb/s, and supports the all-new Intel Optane technology.

MSI Z270 XPOWER GAMING TITANIUM

Contact: JW Power Marketing Sdn. Bhd., Mediaforte (Malaysia) Sdn. Bhd.

Phone: (03) 2148 1307, (03) 7960 6868

Info: my.msi.com



A Challenger Has Arrived

Find yourself looking for a full-sized keyboard and can't seem to choose from all the brands out there? Then you can try your hand with ikbc, relatively new to Malaysia ikbc makes great keyboards and of them is the C104. A full-sized keyboard sporting laser engraved PBT keycaps and the Cherry MX switches that mechanical keyboard enthusiasts have come to love. Available in Red, Blue, Brown and Black switches and mounted on a steel plate, you'll get excellent durability and tactile feedback whilst typing or gaming. The keyboard itself comes in either white or black with the keycaps following suit with the colour of the frame which you choose.

ikbc C104

Contact: Ultimatch Solution Sdn Bhd

Phone: (03) 7931 7187

Info: www.ultimatchsolution.com.my



Disco, Disco ,Yeah, Yeah

The Sony SRS-XB40 features club like lighting effects with an LED perimeter line-light, a strobe flash and speaker light. The line-light creates multicolour patterns, ranging from pure white to rainbow. Synchronising with the rhythm of the beat, the power and speed of the light display matches the music's mood and atmosphere. Using the wireless party chain, speakers can be connected to each other to enable users to enjoy a performance featuring synchronised lights and great sound. Up to 10 units can be interconnected via Bluetooth, with the ability to mix and match with other models such as the XB20 and XB30. It's also possible to pair two speakers of the same model together to enjoy stereo sound.

Sony SRS-XB40

Contact: Sony (Malaysia) Sdn Bhd

Phone: 1 300 88 1233

Info: www.sony.com.my

Game With Quantum Tech

The first curved gaming monitor from Samsung features quantum dot technology, and is available in 24 and 27-inch models. Quantum dot technology allows the monitor to express brilliant and accurate colours across a 125 percent sRGB spectrum. The CFG70's 'Super Arena' design features a 1,800R curvature and a 178-degree ultra-wide viewing area, is formatted to match the natural curve of the human eye. The monitor also sports a refresh rate of 144Hz, and leverages integrated AMD FreeSync technology over HDMI to synchronise the screen's refresh rate with an AMD graphics card. The display uses a VA panel for superior contrast allowing for greater visibility when traversing dark areas in games, and has a 1ms moving picture response time for reduced display transitions between moving and animated objects.

Samsung CFG70

Contact: Samsung Malaysia Electronics Sdn Bhd

Phone: 1 800 88 9999

Info: www.samsung.com.my





Thin And Premium

The elegantly simple ZenPad 3S 10 LTE is crafted with a slim, compact 5.8mm aluminium chassis and features a stunning 9.7-inch QXGA 2K resolution touchscreen. The ZenPad 3S 10 LTE offers a comprehensive set of entertainment focused features, including ASUS Tru2Life video-enhancement technology and an incredibly loud, clear and immersive audio system with virtual 7.1-channel surround-sound support. It's also the first ASUS tablet to include a fingerprint sensor that's allows the tablet to be rapidly locked or unlocked, and can work with apps for authentication. It also supports an optional ASUS Z Stylus, which gives a natural pen-on-paper feel and works with many useful productivity apps.

ASUS ZenPad 3S 10 LTE

Contact: Dynamics Distribution Sdn Bhd., ECS Astar Sdn Bhd

Phone: 03 8024 2100, 03 6286 8222

Info: www.asus.com/my

Splitting Displays Made Easy

SUNIX Tiny Universal DisplayPort Graphics Splitter is an innovative, external multi-display adapter that allows ends users to enjoy multiple monitors from an Ultrabooks single digital DisplayPort source. You can make photos and videos bigger and louder by connecting your Ultrabook to a TV, external display, or projector. For example, you can watch movies on a big screen by connecting the SUNIX DPU3000 to an HDTV. With flexible VGA, HDMI, and DisplayPort video output conversions, wide range of converters are no longer needed. With plug-and-play simplifying the configuration, the SUNIX DPU3000 is a smart solution to video conversion on a Microsoft Windows based computer.

SUNIX DPU3000

Contact: AD One Technology (KL) Sdn Bhd

Phone: (03) 7987 4310

Info: www.ad-one.com.my



High Performance For the Mainstream User

The new Biostar B250GT5 motherboard supports processors for the LGA1151 socket and will have native support for DDR4-2400 memory. The motherboard features high-reliability Intel LAN Ethernet solutions with built-in BIOSTAR LAN surge protection for maximum protection. There's also built in M.2 connectors that allow for high-speed storage support. The B250GT5 also features BIOSTAR's DUAL-BIOS technology that'll allow you to recover from a defective BIOS update or corruption in an instant. For those who love their LEDs the motherboard comes with VIVID LED DJ which lets you control your motherboard's LED lights with special effects and two 5050 LED Fun Zone headers for full on customisation freedom.

BIOSTAR B250GT5

Contact: Build Technology Supply Sdn Bhd

Phone: (03) 7955 1136

Info: www.build.com.my

Traditional But Better

The perfect balance of long-established traditions and technical innovation in the Leica M10 embodies the essence of everything that is truly important for photography like no other camera before. The rangefinder plays an extremely important role and because of this it has been optimised to improve the view of the subject by 30 percent, which makes it much more comfortable to use. Another key component of the Leica M10 is the 24MP, full-frame CMOS sensor developed especially for this camera, delivering maximum sharpness and better imaging results. The latest-generation Maestro II image processor can also be found in the Leica M10 to ensure that all exposures captured impress with exceptionally brilliant image quality.



Leica M10

Contact: Leica Store Malaysia

Phone: (03) 2163 1818

Info: <http://www.leicastore.com.my/>

Metal Never Looked So Good

ILLEGear revamps their Q series with the latest Core i7-7700HQ processor, a quad-core Intel chip with 6MB cache, capable of achieving a maximum 3.8GHz Turbo Boost clock. Other than the new Kaby Lake chips, ILLEGear has added the new GTX 1050 and 1050Ti graphics together with a RGB Multi-colour programmable backlit keyboard. The display is a 17.3-inch Full HD Anti-glare IPS/AHVA panel with 100 percent sRGB, and runs on 32GB of DDR4 RAM clocked at 2133MHz. There are two 2-watt Onkyo speakers when paired with Sound Blaster Cinema 3 provides an amazing sound experience, allowing gamers to enjoy the action and also the soothing sounds of music.



Illegear Q7

Contact: ILLEGear SDN BHD

Phone: 03 2858 7399

Info: www.illegear.com

Productivity Done Right

Amidst significant in ICT innovation, including cloud services and mobile technologies, Fuji Xerox believes that the key to balancing work and life is to boost productivity of work processes by enabling an easy access to ever-increasing data. The new ApeosPort-VI C7771 creates a communication environment that improves productivity in the workplace by integrating the Cloud Service Hub, a new platform that links the multifunction devices with multiple de facto standard cloud services. The new Super EA Eco toner also boasts the smallest particles in its class, enabling smoother creation of half tones, while fusing at a temperature approximately 10-degrees Celsius lower than conventional toners, thus saving energy. 🇲🇾



Fuji Xerox ApeosPort-VI C7771

Contact: Mavisco (M) Sdn Bhd, Lab Seven (M) Sdn Bhd

Phone: (03) 7981 4776, (03) 8075 8811

Info: <https://www.mavisco.com>, <http://www.labseven.com.my/site/>

Wiko U FEEL Go

Price: RM599
Contact: Wiko Mobile Malaysia Sdn Bhd
Info: <http://my-en.wikomobile.com/>

Display: 5-inch (720p)
Processor: MediaTek MT6735
Connectivity: Bluetooth 4.1, WiFi
Memory: 2GB
Storage: 16GB expandable with microSD
Operating System: Android 6.0
Camera: 13MP (rear), 5MP (front)
Dimensions: 144.4mm x 71.6mm x 9.7mm
Weight: 172g

3DMark Icestorm Unlimited: 3,705 points
3DMark Icestorm Extreme: 2,292 points
3DMark Icestorm: 4,153 points
PC Mark Work: 2,500 points
Antutu: 27,087 points

Performance: 
Features: 
Design: 
Value: 



How Does That Make U Feel

By Nixon Ng

The U FEEL Go makes us want to see more from Wiko, their reasonably priced phones that perform well could become big in Malaysia

Wiko could be said to be pretty new to the Malaysian market, but is quickly gaining traction with no signs of slowing. We've had the opportunity to review some of their smartphones the past year and we've been quite happy with them. This time around Wiko was kind enough to provide us their Wiko U FEEL Go for review, so sit back and enjoy our review.

The Wiko U FEEL Go comes with a 5-inch IPS display with a display resolution of 1280 x 720 and a 2.5D glass that seems to be getting popular these days. The display is capable of producing vibrant colours and crisp text, leaving us satisfied with the display as a whole. For those who love taking pictures wherever they go you will be happy to know that the 13MP main camera takes good shots, so you can look forward to immortalising your memories in digital format. There's also a 5MP selfie camera with selfie-flash that'll allow you to take selfies of you and your friends even if it's dark.

The U FEEL Go looks like it's aimed at the mid-range crowd with its MediaTek MT6735

processor and 2GB of RAM. The smartphone performs well during daily use, ranging from messaging, web browsing and using various apps like Waze or social media apps. Going from menu to menu, or from app to app was smooth, but we did notice some slowdown once we had a few apps open and had to clear our apps frequently. We believe mid-range phones should have 3GB of RAM because the users of the current era tend to multi-task a lot, and not many consumers would understand why their phone isn't working the way they want it to.

But other than that, we've only had a few kinks here and there with the phone, one of it being the touchscreen being slightly off sometimes, but this could attributed to us not being used to the phone's screen so we're just putting it as a side note. Whereas the phone we were sent had this funky issue where the phone goes from 100 percent battery to 90 percent battery like in an hour even on idle with no use or apps running in the background, then after it goes back to working normally. ❌



The metal design adds an elegant and premium feel to the phone



The slim body and 2.5D glass gives it a nice sleek and interesting look

+ Overall performance - 2GB RAM only

CHIP CONCLUDES

Although it has a few kinks here and there, the Wiko U FEEL Go is still a great phone. For its price you get a good camera, smooth operation, and an enjoyable experience.

D-Link DHP-P601AV Starter Kit

Price: RM219

Contact: Advancenet Technology Sdn. Bhd., Ingram Micro Sdn. Bhd., Lab Seven (M) Sdn Bhd

Phone: (03) 8070 3633, (03) 7952 8188, (03) 80758811

Info: www.dlink.com.my

Ports: 1x LAN port

Network Standard: IEEE 802.3, IEEE 802.3u, IEEE 1901

Encryption: 128-bit AES Data Encryption

Max PHY Rate: 1000Mbps

Data Rate: 10/100/1000 Mbps (auto negotiation)

Dimensions: 113.49 x 58.48 x 37.8 mm

Weight: 195g

Performance:

Features:

Design:

Value:



Electrifying Speed

PoE devices have never been commonly used by consumers, but D-Link makes sure that it has one of the best around if you need it

By Matthew Yap

Living in a house with thick concrete walls obstruct WiFi signals, or a big one that makes routing cables inconvenient? Whatever the reason, you could probably benefit from Power over Ethernet (PoE) products like D-Link's DHP-P601AV gigabit passthrough starter kit.

As a product, the DHP-P601AV starter kit may not be as fancy as the other stuff we usually get. It comes in a plain box with a pair of the PoE adapters - named DHP-P600AV - and two Ethernet cables to go with it.

The device has a power socket and three LED indicators at the front, with the power socket manufactured for use with our local 3-pin sockets. At the back of the device is a 3-pin plug, which will need to be plugged into a regular power socket. Lastly, the important Ethernet port is at the bottom.

Setting up the DHP-P600AV couldn't be easier, it's basically plug-and-play. To install it, all you have to do is plug it to a wall socket and connect the required endpoints using an Ethernet cable. It takes seconds for it to connect, without no other interaction required on your end.

An example of when to use this is when you have a PC on premise that is in a location too far for cables and not getting good WiFi reception. In that case, by installing one of the adapters near your router and connecting to it, you can then install the second one near that PC and get it connected. Another use case is to connect the second endpoint to a PoE-compatible wireless access point, allowing you to provide wireless connection to areas of your premise without a wall socket for the standard wireless AP units.

The great thing about the DHP-P600AV is that it operates on Gigabit speeds. We This results if speedy transfers over internal network, which really helped when we had to transfer files between the PC used and our office NAS. One thing to remember with PoE devices is that it's meant to be plugged directly into a wall socket instead of a power strip. Connecting it to a power strip adds latency to the line, drastically reducing transfer speeds. Also, these devices typically only support one PC, so users who want to connect more PCs or devices will need to connect a PoE-capable access point to it. ❌



It's not a problem if you're limited by one wall socket, because you can plug the power strip into the adapter instead



The adapter shouldn't be plugged into a power strip like this, as it reduces transfer speeds

+ Fast for a PoE device

- Bulky

CHIP CONCLUDES

PoE devices have come a long way since the technology first starter. While it doesn't actually provide full gigabit speeds, this starter kit is an affordable choice if your situation requires it.

Gamdias HEBE M1 RGB

Price: TBA
 Contact: GAMDIAS TECHNOLOGY CO., LTD
 Phone: +886 2 8228 6088
 Info: www.gamdias.com

Impedance: 32 Ohm
 Connectivity: USB
 Dimensions: 188 x 104 x 230mm

Performance: 
 Features: 
 Design: 
 Value: 



Dropping The Beat

By Nixon Ng

Might be too bass heavy for some, but for those who love gaming it's a headphone you should try out


First came RGB keyboard, then came RGB mice, and then came RGB headsets. RGB seems to be a growing trend among manufacturers and consumers, and we don't see it stopping anytime soon. Now here we are with the HEBE M1 RGB, a headset that is quite large and features a 7.1 virtual surround sound technology for a better gaming experience.

First thing we realised when putting on the headset was its comfort, the oversized cups provided extra comfort and isolated noise well at the cost of looking bulky. The comfort is most welcome and is great for using over a long time. While playing CS:GO the headphone performs great, we could hear footsteps clearly and in which direction, while explosions and gunshots had wonderful impact giving us an immersive experience.

The mic is another feature we enjoyed when used, the mic was clear and perfect for gaming with friends. We thought it was nice that the mic could be retracted back into the headphone when it's not in use. When it comes to gaming the HEBE M1 RGB definitely excels, but we can't really agree that

it would do great for music. For the bassheads out there who love feeling the heavy bass you may feel at home, but for those who like listening to rock you'll be able to feel the fatigue easily.

It's not that the headset sounds bad, on tracks which don't have heavy percussive instruments they sound good. But when it comes to heavy drums, the bass starts getting out of control. We see this headset as a fun headset. You get a great gaming experience because you want that boom when playing action games to get into the game. When the HEBE M1 RGB converts bass into pulses inside the earcup, think of it as Dual Shock Vibration for your headphones.

The pulsing earcups is definitely a defining feature for the HEBE M1 RGB, feeling the boom of explosions and the impact from gunshots is a very exciting feeling. The headphones also come with an in-line remote which can control the volume, microphone, vibration and illumination of the headset. Although we wished that it didn't directly controlled the Windows volume control, and wished it had its own built-in volume control. 



The remote controls just about everything on the headset



You can slide the microphone in when not in use, and the earcups pulse and vibrate to sounds created by the speakers

+ Fun Comfortable - Bass heavy

CHIP CONCLUDES

If you're one to love having fun playing action games with a lot of intense moments and action sequences, the HEBE M1 RGB would be a great choice.

Acer Swift 7

Price: RM4,999
Contact: Acer Sales and Services Sdn.Bhd
Phone: 1 800 88 1288
Info: www.acer.com.my

Operating System: Windows 10
Processor: Intel Core i5-7Y54
Graphics: Intel HD Graphics 615
Memory: 8GB LPDDR3
Storage: 256GB SSD
Others: Bluetooth 4.1, Gigabit LAN, 802.11ac Wi-Fi
Dimensions: 229.6 x 324.6 x 10 mm
Weight: 1.13 kg

PCMark 8 Home: 2,287 points
PCMark 8 Creative: 2,295 points
PCMark 8 Work: 2,782 points

Performance:
Features:
Design:
Value:



By Matthew Yap

Top Tier Portability

Acer's aim for this notebook is quite clear, but some compromises had to be made to give it that slim form factor

While most of us at CHIP are into the fancy high-end rigs or gaming laptops, not everyone shops for a laptop for its ability to game. Some people appreciate a good laptop that is easy to carry around and the gamer aesthetic might not appeal to them. For example, a laptop like Acer's Swift 7.

One look at the box would give you an idea on the Swift 7's size. Measuring 9.98mm in thickness, it is easily one of the slimmest laptops currently on the market. It comes in a metallic black body, which we found quite sleek but also a fingerprint magnet. Opening the lid reveals the gold finishing for the surface where the keyboard and wrist rest are, providing a good contrast to the black exterior.

Acer has done well in recent years to improve on its laptops' build quality. The Swift 7 is well-built, has very little flex throughout its body that feels solid. It's also incredibly light at 1.13kg and since it's also a small 13-inch laptop, you can easily carry it around – along with the included charger and accessories – without feeling much fatigue.

To keep it this thin, Acer had to make

an unfortunate compromise in the I/O department. The Swift 7 only comes with two USB Type-C ports, one for charging and the other for accessories, as well as a 3.5mm jack for audio out and a microphone. There's no support for Thunderbolt 3, which is also disappointing. We expected an I/O dock to be included as an accessory, but instead Acer bundles the Swift 7 with two adapters – one for HDMI use and the other for the more traditional USB Type-A.

Although it's pretty to look at, the Swift 7 managed scores of about 2,200 on PCMark. That's not to say that it's bad. The Swift 7 is more than capable of handling video streaming, basic word processing or spreadsheets, and web browsing without significant lag. You will, however, feel it heat up quite a bit when trying to stream and do something else at the same time.

As to the input, we were quite satisfied with the Swift 7's keyboard. While slightly soft, the chiclet keyboard has good key travel and provides sufficient response. The trackpad can be awkward to use, however, as it is larger than most and a bit oversensitive. But with the right adjustment to the settings, it's not an issue. 🇲🇾



There's no universal dock bundled with the Swift 7, only two adapters including this one



The Swift 7 main area of compromise is with the inputs

+ Highly portable
Good battery life

- Lacks essential ports

CHIP CONCLUDES

If what you want is portability and style, the Swift 7 is a great option to go for.

360fly 4K

Price: TBA

Contact: TC Acoustics Pte Ltd

Phone: (65) 6334 5566

Info: www.tcacoustic.com.sg

Capacity: 64GB

Resolution: 2880 x 2880 30fps

Connectivity: Wi-Fi 802.11/b/g/n, Bluetooth 4.0

Battery: 1780mAh (1.5 hours recording, 14 hours standby)

Video Format: H.264

Audio Format: Stereo ACC 48KHz 96Kbps

IP67: Water resistant, Dustproof, Shockproof

Dimensions: 61mm sphere

Weight: 172g

Performance:

Features:

Design:

Value:



See The World In 360

By Nixon Ng

360 videos are a way to introduce people to VR, and the 360fly 4K definitely makes things easier to get on that path

We have DSLR cameras, point and shoot cameras, instant cameras, action cameras, web cameras, and now we have 360 cameras. What exactly is a 360 camera? Well a 360 camera is a camera which allows you to take a 360-degree picture or video.

Although some people may think a 360 camera allows you to see 360-degrees horizontally and vertically, that might not be the case. As long as a 360 camera allows you to view 360-degrees horizontally, it still qualifies as a 360 camera. The 360fly 4K is a 360-degree camera with a 240-degree field of view, which allows you to see a whole lot than you expect. The camera comes packaged in an oval casing which contains everything you need to get it to work.

The charging port, a USB cable, action-cam mounts, and a protection pouch. The only thing you need is your own equipment which supports action-cam mounts, and a smartphone or desktop to install the 360fly application. The camera works through Wi-Fi and Bluetooth to connect to the smartphone, with just the easy to navigate application you can start recording in a matter of seconds. Just make sure your smartphone won't switch

out from a wireless network which doesn't have internet, because we stumbled upon this problem where our smartphone kept switching to other wireless networks because there was no internet connection.

When using the 360fly it's best to place it as low to the ground as possible or maybe slightly higher if you plan to record upper bodies. Using the Live View we could easily keep an eye on our recording, and after we were done we can share and view those recordings on the desktop or mobile app almost instantly. Then using the mobile or desktop application we can edit, add effects, and share our 360 videos. There is also a POV feature which allows you to record videos as if in a first-person POV.

Video quality wise we think the 360fly takes great quality videos, although only at 30fps it's definitely enough, best of all the videos are nice and sharp, but don't be expecting super high sharp videos like DSLR cameras. All in all the 360fly 4K is a fun camera, we had a lot of fun with it and what made it better was on how easy it was to use, and didn't require us to get extra storage since it already had 64GB of built-in memory.



The 360fly 4K comes with action-cam mounts so you can use it with any action-cam compatible equipment (stick not included with product)

+ Easy-to-use Video quality — None

CHIP CONCLUDES

The 360fly 4K gave us an experience we will find hard to forget lest a better one appears, but if you love videography or would like to try your hand at 360 videos, the 360fly 4K seems like a good choice since its easy-to-use.

ASUS STRIX Wireless Gaming Headset

Price: RM699
Contact: ASUSTek Computer Malaysia
Phone: (03) 2131 6650
Info: www.asus.com/my

Wireless Connectivity: 2.4GHz wireless
Driver: 60 mm Neodymium magnet drivers
Frequency Response: 20-20,000 Hz
Sensitivity: 98dB/mW
Microphone: Uni-directional
Mic response: 50 ~ 16000 Hz
Mic sensitivity: -40 dB
Weight: 350g
Battery Life: 10+ hours

Performance:
Features:
Design:
Value:



Wire-free Audio

By Matthew Yap

By opting for making this headset a wireless one, ASUS has made something that multiplatform users would appreciate

While some elitist like to spew their often-annoying PC Master Race shtick, there are plenty of gamers that are multiplatform. These users can't use regular PC headsets with their consoles, unless it's through a cable. For a true wireless experience, wireless headsets like ASUS' STRIX Wireless is required.

The STRIX Wireless came in the kind of plastic box that's seen all too often with gaming headsets. You'll find the important components inside a black hard-paper box: a micro USB cable to charge the headset, standard audio cable, splitter cable, the detachable boom microphone, and the wireless dongle.

Although it doesn't look all that different from previous STRIX headsets, the STRIX Wireless does away with the glossy plastic cover on the back of the ear cups. The owl eyes on the back of the ear cups are back again, though now better looking due to the sleek matte surface and bold orange 'iris' for colour contrast. Its body is mostly plastic, while the headband and ear pads use memory foam and leather for better comfort while wearing it.

The STRIX Wireless's build quality is good, with less creaking and a sturdier body than

its predecessors. You can still rotate the ear cups inwards for up to 90-degrees, making it possible to fit most people. On the flipside, the clamp force for this headset is noticeable and the headband doesn't do much to alleviate its considerable weight (350g).

Getting the STRIX Wireless setup isn't hard. All you need to do is plug the wireless dongle to your PC or game console, then turn the headset's power on to start using it. Or if you're worried that the 10+ hour battery life isn't enough, you could connect it to the audio cable and use it like a regular wired headset.

It's easy to tell that the STRIX Wireless's audio is tuned for gaming. Bass is enhanced so you could hear things like footsteps better, or better enjoy the sound of explosions. However, it does lean on the boomy side, which can be bad when used with consoles since there isn't a software equaliser to tweak the audio.

The boom microphone is not the best and there's obviously some postprocessing in place, but other than a slight nasally quality to it the results are decent for voice communication in games. It's also handy that you could adjust the boom mic however you want, or disable it via the toggle switch on the left ear cup. 📺



You could use the STRIX Wireless like a regular wired PC headset using this splitter cable



The buttons on the left ear cup are a bit small, but have a noticeable click so you know if you've pressed it

+ Ease of use
Good mic quality

- Bass too boomy
Heavy

CHIP CONCLUDES

If you need a wireless headset that's multiplatform ready, then this is a decent option to consider.

ViewSonic VX3209-2K

Price: RM1,299
Contact: Build Technology Supply Sdn. Bhd., Servex(Malaysia) Sdn. Bhd.
Phone: (03) 7955 1136, (03) 8024 6688
Info: www.build.com.my, www.servex.com.my

Display Size: 32-inch
Resolution: 2560 x 1440
Connectivity: HDMI 1.4, DisplayPort 1.2a, VGA, 3.5mm audio jack
Refresh Rate: 60Hz
Viewing Angle: 178/178
Dimensions: 720.5 x 490.1 x 188.13mm
Weight: 6.23kg

Performance: 
Features: 
Design: 
Value: 



Bigger Is Always Better

By Nixon Ng


The ViewSonic VX3209-2K is a great buy for anyone who wants a large screen and an IPS panel for almost any use

As the years go by we have seen the size of monitors increase, it was not long ago when 17-18 inch monitors were considered big. But now the new standard seems to hover around 24-27 inches, but will this be the same in the coming future? Looking at the 32-inch monitor we have in front of us, we're not sure how much larger monitors will get, and we're definitely looking forward.

Ok, some may think 32-inch is quite large and in truth in a way it is quite big, but that in itself isn't something bad. Especially when it comes with a resolution of 2560 x 1440 everything stays sharp and clear. The best part about having such a big screen and resolution, it allows us to multi-task better with different windows open in each corner of the screen. For those out there who work with a lot of tabs or windows, this would be a great buy.

The SuperClear IPS panel provides great colour reproduction and colours are vibrant, which will appeal to general consumers and gamers. The viewing angles are great as well,

so you'll be able to get a clear image in almost any angle. When we tested it with gaming there was no instance of ghosting that we could notice, while gaming on Overwatch or CS:GO. The monitor also features Flicker-Free and Blue light eye-care technology, it allowed us to end our day in the office without feeling eye fatigue, and we used the monitor for hours a day.

In terms of build quality the VX3209-2K looks and feels durable. The metal stand might seem a bit small for a monitor of that size, but it definitely holds it in place without issue. If you want to adjust the monitor, the most you'll be able to do is tilting it back and forth, no height adjustment for this big boy. The ultra-slim bezel is also a welcome sight as it adds to aesthetics and when put side by side with other slim bezel monitors, makes for a pleasurable viewing experience. Connectivity wise it has VGA, HDMI and DisplayPort, a good variety in our opinion but we'd think it would be better to replace the VGA port with a DVI port instead. 

The elegant yet durable metal stand along with the slim profile and ultra-slim bezel is definite crowd pleaser



The VX3209-2K has the latest digital outputs like HDMI and DisplayPort, and a single analog VGA port

+ Performance 1440p Price - No DVI

CHIP CONCLUDES

Whether you want to use it for gaming, media or work, the VX3209-2K does a great job in either one. The QHD resolution keeps everything sharp even on such a large display, and at this price it's a great buy.

ASUS BRT AC-828

Price: TBA
Contact: ASUSTek Computer Malaysia
Phone: (03) 2131 6650
Info: www.asus.com/my

Ports: WAN Ports x2, LAN Ports x 16, USB 3.0 x2
MIMO: Yes
Connectivity: WiFi, LAN, USB
Network Standard: 802.11ac
Encryption: 64-bit WEP, 128-bit WEP, WPA2-PSK, WPA-PSK, WPA-Enterprise, WPA2-Enterprise, Radius with 802.1x, WPS support

Performance:
Features:
Design:



A Router That Means Business

By Nazrin Zain

ASUS' BRT AC-828 accomodates all your networking needs

Routers are a dime a dozen these days. There are ones for everyday use, gamers, and even downloading enthusiasts. If you're looking for something that's a bit more suited for office or enterprise use, complete with VPN features, ASUS has the thing for you with the ASUS BRT AC-828 router.

Out of the box, the AC-828 doesn't look out of place with some of ASUS' more high-end WiFi routers. It features eight antennas which support 4x4 MU-MIMO connectivity for both wide and stable network coverage. At the back, the AC-828 sports dual WAN ports for redundancy, with up to 2Gbps aggregated bandwidth and failover capability.

Inside the AC-828, the router has space for an M.2 SSD for extremely fast networked storage, and on top of that, even features support for USB LTE mobile broadband for added connection versatility.

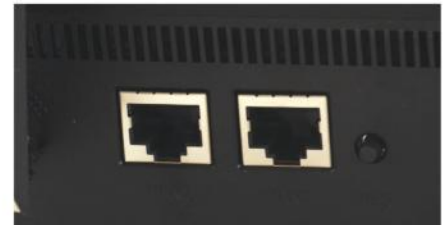
As far as performance goes, ASUS claims that the AC-828 router is capable of handling up to 250 simultaneous connections, which is way more than what even most expensive consumer-grade routers are capable of. To that end, you can even segregate who connects to which network, and set up a free WiFi network complete with customizable welcome pages to boot.

With the AC-828, you can even set a VPN connection, and use network security features such as VLAN and ASUS' own AiProtection software to ensure that your connection to the internet is secure.

As mentioned before, the AC-828 sports two WAN ports, both of these ports can take in two different internet lines and provide an aggregated WAN bandwidth of up to 2Gbps. On top of that, they can also work as redundancies for one another, and can be configured to work as two separate internet connections, with one acting as a back-up connection if the other internet line encounters a connectivity issue.

Setting up your internet connection on the AC-828 is a simple task, thanks to the web UI of the router which will guide you along the way. This router supports the special requirements needed to run both UniFi Home, Business as well as Time Fiber, so you don't have to worry about compatibility.

During our test run with the router, we managed to stream HD and 4K content from our networked storage drives with little problems, so local network speeds are definitely good. Our 30Mbps line was also stable enough that we were able to max out our connection via several computers without any downtime, which is also great. 📺



The ASUS BRT AC828 sports two WAN ports, and can function as a failsafe if the other line goes down



Dual channel WiFi is a standard for routers these days

+ Performance Features - None

CHIP CONCLUDES

The ASUS BRT AC-828 router is a router that's meant for use by large businesses and enterprises, and judging by our short run with it, is definitely something that network engineers would want to consider.

Lenovo IdeaPad Miix 510

Price: RM2,649

Contact: Lenovo Technologies Sdn.Bhd

Phone: 1 800 80 8575

Info: www.lenovo.com/my/en

Operating System: Microsoft Windows 10

Display: 12.2 inches (1,920x1,200)

Processor: Intel Core i7-6200U

Connectivity: USB 3.0 Type A x1, USB 3.0 Type C x1

Memory: 8GB DDR4

Storage: Up to 256GB SSD

PCMark 8 (Home): 2,830 points

PCMark 8 (Creative): 2,892 points

PCMark 8 (Work): 2,794 points

Performance:

Features:

Design:

Value:



The Surface For Budget Users

By Nazrin Zain

Lenovo offers wallet-friendly alternative to Microsoft's flagship 2-in-1

The 2-in-1 form factor has gained a lot of prominence lately as the mobile workhorse of choice, thanks to its performance and portability. With advancements in technology, power consumptions are at record low levels, which allows laptop makers like Lenovo to come up with devices like the Lenovo IdeaPad Miix 510.

If the design of the Miix 510 looks very familiar to you, you may notice it's because the device looks very similar to Microsoft's very own Surface devices. From the chassis, to the vents, as well as the look and feel of the Miix 510 is very reminiscent to that of Microsoft's own flagship product.

As far as internals go, the Miix 510 is powered by Intel's Core i7-6200U processor, together with 8GBs of DDR4 RAM, and up to 512GBs of SSD storage. The Miix 510 also has Microsoft's Windows 10 operating system installed as well, so you need not fret about the OS out of the box.

A lack of I/O ports is the most common complaint heard of from Surface owners, and Lenovo seems to have kept this in mind

as the Miix 510 sports two USB ports, one being a Type-A USB 3.0 port, and the other being a USB Type-C port, for future-proofing purposes. Unfortunately, the Miix 510 does not have an SD card nor a microSD card reader.

That said, every purchase of the Lenovo Miix 510 does come with a backlit keyboard cover that looks similar to how the one for the Surface works.

Performance-wise, the Miix 510 functions as an excellent portable workstation. Throughout our time with it, we've managed to do a fair bit of work and leisure on this device. We've brought it out to do event coverage, edit some photos and watch some videos on it without lagging out.

The battery life of the Miix 510 is very impressive too, clocking in at about seven hours on a full charge, with display brightness at 50 percent and WiFi turned on all the time. This is great, as for the most part it means we don't really need to bring the charger along with us if we happen to be going out to cover events or going for meetings.



Lenovo's famous watchstrap hinge makes a return



The Miix 510 sports both a USB 3.0 Type A and USB 3.1 Type C port

Performance Battery life No card reader

CHIP CONCLUDES

The Lenovo Miix 510 is a great device to consider as a wallet-friendly alternative to the expensive Microsoft Surface Pro.

ikbc F108 RGB

Price: RM539

Contact: Ultimatch Solution Sdn Bhd

Phone: (03) 7931 7187

Info: www.ultimatchsolution.com.my

Keyboard Switches: Cherry MX Blue/Black/Brown/Red RGB

NKRO: Full

Interface: USB

Dimensions: 438.5 x 136 x 41.6mm

Weight: 1.25kg

Performance:

Features:

Design:

Value:



Hard To Ask For More

By Nixon Ng

ikbc is a force to be reckoned with their well-built keyboards

ikbc is definitely a new name in Malaysia, usually we'll hear people talking about Filco, Ducky, and Vortex. But ikbc is making a debut in Malaysia and already you'll be able to check out the different options they have for you. This time round, we've snagged an ikbc F108 RGB keyboard and within a few minutes we could already tell it's one of our favourites.

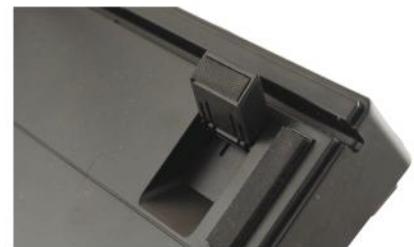
The ikbc F108 is a full size keyboard with RGB features, using the latest Cherry MX RGB switches and double-shot PBT backlit keycaps, the RGB feature stands out even more. The colours shine through the keycaps uniformly and clearly, and the PBT keycaps feels great to type on. In our opinion the Cherry MX RGB switches feel much smoother than regular Cherry MX switches, and the Blue switch keyboard we received didn't feel scratchy and had great tactile feedback.

The build quality of the F108 is great, the body barely flexes and the keys feel solid during typing. In case you didn't know, the keyboard uses a steel plate to mount the switches, this could be the main reason

why the keyboard feels so durable. There's a durable 2-step leg that'll allow you to adjust the angle of your keyboard, and doesn't retract easily even when you push the keyboard forward. Also when it comes to RGB keyboards, the ikbc F108 is definitely a winner.

If you love RGB keyboards the F108 is something you'll enjoy having as part of your setup. There are different RGB profiles and effects that you can use, as well as having an entire colour pallet to customise from. Even better is that the keyboard is entirely configurable on-board without the need of additional software. The Function key allows you to do all your configuration on-board, from brightness adjustment, to choosing colours and switching between RGB effects.

There's an additional feature that allows you to turn your keyboard into an alarm clock called 'Time Machine'. You can set your keyboard to countdown using the RGB switches according to minutes and seconds, once it counts down to the end your keyboard will start flashing to indicate that the countdown is over. 📺



The 2-step leg is strong and provides a steady incline when in use



The cable is not detachable and a little stiff, but is well protected and thick so we know its durable

+ Build quality
Smooth switches
PBT Double-Shot
Features

- None

CHIP CONCLUDES

The ikbc F108 is a solid keyboard with great switches, not only that the RGB feature on the F108 is easy to control once you get the hand of it, and it can all be done on the board.

Dell Alienware Aurora R5

Price: RM8,999

Contact: Dell Asia Pacific Sdn Bhd

Phone: 1 800 88 0301, 1 800 88 2888

Info: www.dell.com.my

Operating System: Windows 10 Home

Processor: Intel Core i7-6700

Graphics: NVIDIA GTX 1080

Memory: 16GB DDR4

Storage: 256GB SSD, 1TB HDD

Input/Output: 1x Optical drive, 1x Gigabit LAN, 3x DisplayPort, 1x DVI-D, 1x HDMI, 4x DisplayPort, 5x audio jack, 2x Optical SPDIF, 1x USB 3.1 Type-C, 1x USB 3.1

Type-A, 7x USsB 3.0, 6x USB 2.0,

Dimensions: 472.52 x 360.5 x 212 mm

Weight: 14.8kg

PCMark Home: 4316 points

PCMark Creative: 5162 points

PCMark Work: 3666 points

Time Spy: 6278 points

Fire Strike: 15771 points

Fire Strike Extreme: 8833 points

Fire Strike Ultra: 4847 points

Performance:

Features:

Design:

Value:



There's no need to worry about running out of USB ports with this PC



These two latches at the back lock the side panel and PSU compartment in place

By Matthew Yap

Modular Champ

Dell shows that you don't need to be a technician to know how to upgrade PCs, you just need the right PC to do so

We've reviewed our fair share of gaming desktops last year, but never got to review one from Dell. Luckily, Dell remembered so they sent the current edition of the Alienware Aurora R5. Check out our review of it below.

The Alienware Aurora R5 is a compact mid-tower desktop gaming PC. It has less depth and width when compared to standard mid-towers, which means that it'll occupy less space on a desk compared to regular mid-towers.

At the front, you find a DVD/CD drive and the air intake for the machine, which then exhausts the heat through vents at the top. You'll also find some I/O ports at the top, including USB 3.0 ports and audio jacks. Need more USB ports? You'll find another 10 at the back, three of which are USB 3.0, as well as a USB 3.1 Type-A and a USB 3.1 Type-C. Also, there are more than enough ports for

input displays, with three HDMI and one DisplayPort available via the GTX 1080 GPU.

One of the best things about the Aurora R5 is how easy it is to upgrade the components inside. Its side panel can be removed by toggling two latches and pulling another one, all located at the back. Doing so gives you access to the two additional 2.5-inch storage bays and allows you to pull out the entire section where the PSU is, revealing the innards of the machine.

The bundled keyboard and mouse were disappointing. For a machine marketed as a gaming desktop, the peripheral feel decidedly low in quality.

Another characteristic of the Aurora R5 that we discovered was how loud it can get. The GTX 1080 inside is an Nvidia Founder's Edition, which uses a blower style fan, which can be heard at full speed, even with a pair of headphones on. 🗣️

+ Powerful
Tool-less
upgrading

- Poor keyboard and
mouse set
Loud

CHIP CONCLUDES

It has a few minor issues, but for its price you'll get getting a rock-solid gaming PC. Definitely worth considering if you're looking to get something upgradable.

Klipsch Reference Over Ear Bluetooth Headphones

Price: RM 1,499
Contact: TC Acoustics Pte Ltd
Phone: (65) 6334 5566
Info: www.tcacoustic.com.sg

Driver size: 40mm
Impedance: 32 ohms
Ports: 3.5mm x1, Micro USB x1
Connectivity: Bluetooth

Performance:
Features:
Design:
Value:



For Clarity Of Sound

By Nazrin Zain

Klipsch's Reference headphones are comfortable, and sound great

If you're into headphones and a variety of other audio products, no doubt that you'd have heard of the name Klipsch. The company is famously known to make some of the best in-ear monitoring headsets, but also have a number of interesting headphones for both studio and audiophile use. The Klipsch Reference Over Ear Bluetooth headphones happens to be one of them.

As its name implies, the Klipsch Reference are a pair of over-ear headphones, which means that they cover your ears for a seal that not only ensures that you get the best audio experience, but also isolates you from external sounds. The leather cushioned ear pads and headrest are comfortably snug, without being overly tight on your head, which is quite common even for some high-end headphones.

All of the Klipsch Reference controls are positioned on the left side of the headphones, with the 3.5mm audio port, USB charging port, power button and volume control button all located there. There is a built-in cVc microphone as well.

The Klipsch Reference features the use of two of Klipsch's own 40mm balanced dynamic

drivers, which improves sound by reducing distortion, and equalising the weight of the driver's diaphragm. What this means is that you get better clarity in terms of mids and highs, with noticeable low notes as well.

What's great is that these headphones are also wireless headsets. Klipsch claims that with a single charge, it's capable of going for 20 hours. After our initial charge, we've yet to run out of batteries at the time of writing, and we've been listening to a fair amount of it throughout our tests! If you're using the accompanying 3.5mm cable, the power will be drawn from the cable and not the built-in batteries.

As far as sound quality goes, the Klipsch Reference headphones are great if you're looking for something that's on the neutral side. Clarity and detail on mids and high notes are incredible, and it's especially great if you're listening to live albums, even without using any extra accessories like DACs or amps.

The only downside is the fact that the bass levels on the headphones are pretty flat. Even when tried with some bass-heavy songs, we couldn't feel any thuds of bass even with the volume levels cranked up a few notches. ❌



Despite being a wireless bluetooth headset, the Klipsch Reference can be connected to a media device via a detachable cable



All the buttons and ports on the Klipsch Reference are located on the right side of the headphones

+ Sound detail, clarity
 Comfort Features - Flat bass levels

CHIP CONCLUDES

The Klipsch Reference Over Ear Bluetooth headphones are a great pair of headphones to consider if you're looking for a pair of headsets that are both comfortable and have amazing sound quality.

AORUS Z270X Gaming 9

Price: RM 2,699

Contact: Nation-Tech Sdn.Bhd., Ban Leong Technologies Sdn Bhd

Phone: 03-4280 6636, 03-79566300

Info: www.gigabyte.my

Slots: LGA1151

CPU: Intel Z270

RAM Slots: 4

RAM Type: DDR4

Ports: HDMI x1, DisplayPort x1, LAN x2, USB 3.1 Gen2

Type-A x1, USB3.1 Gen2 Type-C x1, USB3.1 Gen1

Type-A x5

Performance:

Features:

Design:

Value:



A Motherboard With All The Bling

By Nazrin Zain

GIGABYTE's new motherboard has enough colours to light up a room

High-end motherboards with RGB lighting features seem to be all the rage these days, with the early 2000s aesthetics of adding LED lights for bling effects returning with a vengeance.

The AORUS brand is typically more known to PC enthusiasts as GIGABYTE's line of gaming motherboards, but with the introduction of Intel's new Kaby Lake processors, it appears that the name is set to include some of the company's high-end line of motherboards as well.

Out of the box, the board sports an LGA1151 processor socket, which supports both Skylake and Kaby Lake processors. The four DDR4 DIMM slots beside it is capable of supporting a configuration of up to 64GBs of RAM, which can be overclocked to speeds of up to a whopping 4,133MHz.

As far as storage is concerned, the motherboard sports six SATA III 6.0Gbps ports, as well as two M.2 and U.2 NVMe SSD ports, each capable of speeds of up to 32Gbps. The board sports four PCIe slots, and

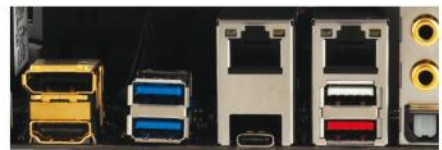
can support both AMD and NVIDIA's multi-GPU configurations, with up to four GPUs installed. As far as I/O ports go, the AORUS Gaming 9 motherboard is quite generous, featuring one HDMI and DisplayPort, five USB 3.1 Gen1 ports, one each of USB 3.1 Gen 2 Type A and Type C ports, as well as two MMCX antenna connectors for WiFi connectivity.

Overclockers, or watercooling enthusiasts will love the fact that GIGABYTE worked with EK Water Blocks to create the G-Frost Hybrid water block to cool not only the processor, but the chipsets on the motherboard as well. This is important, especially if one is looking to push overclocking limits on the PC for better performance and scores.

But perhaps the number one feature on this particular motherboard is the RGB Fusion. Featuring 16.8 million colours, six light zones, eight programmable sections, and two RGBW strip pin headers, you can bling out your PC to your heart's content with this motherboard. 🇲🇾



GIGABYTE worked with EK Water Blocks to bring you a solution to cool your motherboard via watercooling



The Aorus Z270X Gaming 9 comes with a generous number of I/O ports

+ Features - Price

CHIP CONCLUDES

If you're thinking of building a PC with all the bells and whistles and lights, the AORUS Z27X Gaming 9 is definitely one to look out for.

Huawei MediaPad M3

Price: RM 1,699
Contact: Huawei Malaysia Mobile Hotline
Phone: 1 800 22 0086
Info: www.huawei.com/my

Display: 8.4 inches (2,500x1,600)
Processor: Huawei Kirin 950
Memory: 4GB LPDDR
Storage: 32GB, 64GB (expandable via MicroSD)
Operating System: Android 6.0
Camera: 8.0MP (Rear-facing), 8.0MP (front-facing)

Performance:
Features:
Design:
Value:



The Tablet Makes A Return

By Nazrin Zain

Huawei's MediaPad M3 shows that there's still life in tablets

Tablet devices used to sell like hotcakes when they were first introduced, with named brands such as Apple's iPads taking a huge chunk of the pie. Android-based tablets have seen a fair share of the market too, but has dropped almost immediately as fast as they took off. Huawei looks to defy market norms with the Huawei MediaPad M3.

The Huawei MediaPad M3 sports an 8.4 inch WQXGA (2,560x1,600 pixels) IPS display, which is powered by Huawei's own Kirin 950 processor, alongside 4GBs of LPDDR4 RAM and up to 64GBs of RAM which can be expanded even further by a microSD cards. At the time of writing, the MediaPad M3 runs Android 6.0 and EMUI 4.0.

Crafted using aerospace-grade aluminium, the MediaPad M3 is both light and sturdy, with its chassis sculpted from a single block using a 5-axis CNC machine, with Huawei making sure that the product is the best slate device that the company can offer in terms of performance and craftsmanship.

At the back, the MediaPad M3 sports an 8.0MP camera, which takes some decent enough photos, and the front-facing 8.0MP camera does similar as well. On top of that,

the MediaPad M3 also sports a whopping 5,100mAh battery, which allows the tablet to last a whole day and a bit more.

On top of that, the MediaPad M3 also supports LTE Cat 4 connection, so you can have the fastest mobile internet speeds, even when you're not connected to a WiFi connection. The tablet supports the use of a nano-SIM card, so you can pick and choose your favourite telco and get started on surfing the internet immediately.

As far as performance goes, the MediaPad M3 is amazing in many regards. Thanks to the Kirin 950 processor, the tablet hardly lags even when running some of the most intensive media operations, such as running games, even with several background processes running.

The speakers on the tablet are also a big selling point. Huawei's SWS 3.0 audio technology is used here, with two laterally positioned speakers creating a soundstage that sounds incredibly detailed. If you want to go with earphones for a more private listening experience, the MediaPad M3 also comes with a pair of AKG H300 earphones that are co-engineered with the minds at Huawei. 📺



The MediaPad M3 comes with a fancy pair of headphone courtesy of AKG



An 8.0MP camera sits at the back of the tablet

+ Performance
 Sound quality

- None

CHIP CONCLUDES

The Huawei MediaPad M3 is a great media consumption device. Combining a powerful processor, a high-res display, as well as amazing-sounding speakers and earphones, Huawei may have just the slate device on their hands that can be considered still relevant today.

MSI H270 Tomahawk Arctic

Price: RM680

Contact: JW Power Marketing Sdn. Bhd., Mediaforte (Malaysia) Sdn. Bhd.

Phone: (03) 2148 1307, (03) 7960 6868

Info: my.msi.com

Socket: LGA 1151

Chipset: Intel H270

RAM Slots: 4

Memory: 2400/ 2133 MHz DDR4

Ports: 1x PS/2, 1x DVI, 1x HDMI, 1x LAN, 1x USB 3.1 Gen2 Type-A, 1x USB 3.1 Gen2 Type-C, 4x USB 3.1 Gen1 Type-A, 2x USB 2.0, 5x Audio port, 1x Optical (SPDIF), 3x PCIe x16, 3x PCIe x1, 6x SATA 6Gb/s

PCMark 8 Home – 4387 points

PCMark 8 Creative – 5070 points

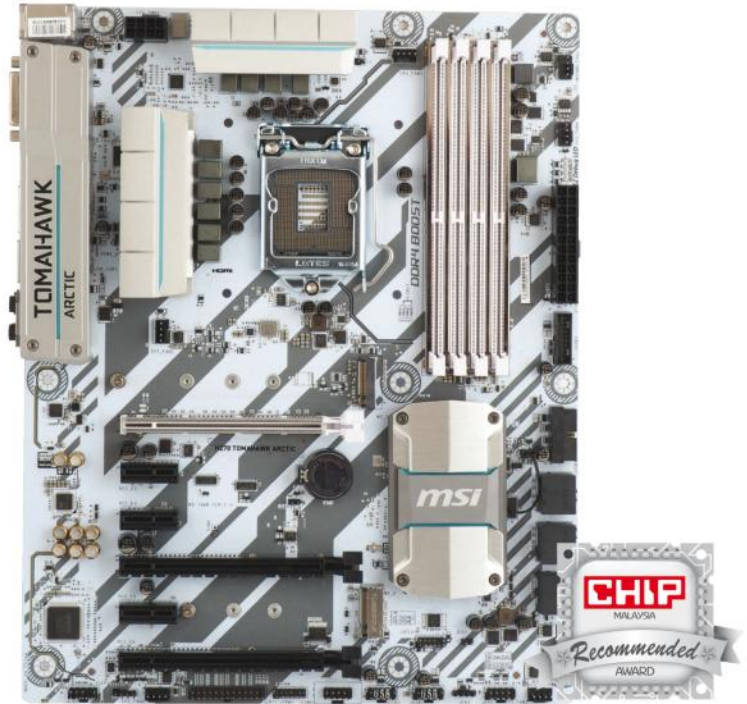
PCMark 8 Work – 3641 points

Performance:

Features:

Design:

Value:



By Matthew Yap

The White Beast

Fashion lovers match clothing colours, us geeks do the same for our PC parts

The Intel Kaby Lake CPU launched prior to CES 2017 last month, which also saw the release of two new chipsets. There's the Z270, which the three motherboards we reviewed last month are based on, then there's the H270. This time, we got MSI Malaysia to send us its new H270 Tomahawk Arctic.

Made for users with different needs (and maybe budget), the H270 Tomahawk Arctic looks distinctively different from the higher-end Z270 Gaming M7 we've also reviewed for this issue. There's no large shrouds for the back I/O and audio chipsets, resulting in a body that looks smaller. It also eschews the typical all black design of MSI's Master series motherboards, going for a white PCB with grey strips.

Design aside, the motherboard's layout isn't all that different from the norm. You get four DDR4 DIMM slots to the right of the CPU, three PCIe and PCI slots, as well as two M.2 slots. One of the M.2 slot is a Turbo slot, making it Intel Optane ready. Also, all of the DIMM slots and one PCIe slot are metal reinforced.

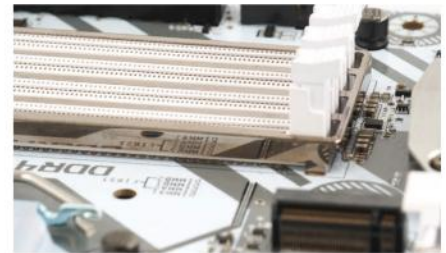
MSI has placed six fan headers on the Tomahawk Arctic for plenty of cooling, ensuring

that its moniker isn't solely due to the white colour scheme. It has one header for a water cooling pump and another for the CPU.

At the back, the I/Os are pretty standard. The inclusion of a DVI port makes it useful if you have an older monitor, while a total of eight USB ports should be enough for most people. It also helps that one of it is a Type-C port and that four of them have the bandwidth to support VR headsets.

The Tomahawk Arctic may not have the high-end features that MSI's Gaming series gets, but it does come with the Mystic Light feature. With it, you can hook any RGB LED to the motherboard and sync the colour and effects via an app. Purchasing this motherboard also gives you a 1-year premium license for XSplit Gamecaster, which is useful if you plan to stream your gaming sessions.

According to our benchmarks, this motherboard can deliver performances similar to Z270 systems that are not overclocked. Beyond that is where a 'H' version chipset loses out; it doesn't allow overclocking, so you can't really squeeze more performance out of your CPU and RAM. ❌



It feels pointless to have the DDR4 Boost technology on a board that can't overclock



MSI's Turbo M.2 is Intel Optane ready, making it future proof

+ Unique colour scheme
+ Good feature set
- None

CHIP CONCLUDES

This motherboard has a decent list of features and a great colour scheme. Unfortunately, it doesn't support overclocking so those who wish to do so will have to look elsewhere.

MSI Z270 Gaming M7

Price: RM1,348
Contact: JW Power Marketing Sdn. Bhd., Mediaforte (Malaysia) Sdn. Bhd.
Phone: (03) 2148 1307, (03) 7960 6868
Info: my.msi.com

Socket: LGA 1151
Chipset: Intel Z270
RAM Slots: 4
Memory: 4000(OC)/ 3800(OC)/ 3600(OC)/ 3200(OC)/ 3000(OC)/ 2800(OC)/ 2600(OC)/ 2400/ 2133 MHz DDR4
Ports: 1x PS/2, 1x HDMI, 1x DisplayPort, 1x LAN, 2x USB 3.1 Gen2 Type-C, 6x USB 3.1 Gen1 Type-A, 1x USB 3.1 Gen2 Type-A, 5x Audio port, 1x Optical (SPDIF), 3x PCIe x16, 1x PCIe x1, 6x SATA 6Gb/s, 3x M.2, 1x U.2

PCMark 8 Home – 4453 points
PCMark 8 Creative – 5143 points
PCMark 8 Work – 3756 points

Performance: 
Features: 
Design: 
Value: 



How To Master OC

By Matthew Yap

MSI has managed to cramp a good deal of features on this motherboard, without compromising on anything of critical importance

With Intel’s Kaby Lake processors finally revealed in January, new supporting chipsets were expected and you saw some with the three Z270 motherboards we reviewed last issue. This month, we’ve got another pair from MSI with one of it being higher-end model to last issue’s Gaming M5 – the Gaming M7.


The general layout of the Gaming M7 looks similar to the M5, there’s metal reinforcement for the DIMM and PCIe slots, as well as a shield for one of the M.2 slots. However, there are also notable differences. For one, there’s more chokes and capacitors for additional power phases to the VRM, which should provide more headroom for overclocking the CPU and RAM. In addition, the M.2 Shield protected slot is in a different position.

We also spotted three Turbo M.2 slots, which means that it’s possible for you to use up to three NVMe based SSDs, or two SSDs with the third used for an M.2 WiFi card instead. There’s also plenty of option for cooling for the Gaming M7. It has six fan headers, all of which

can be monitored and controlled from the BIOS, as well as a dedicated header for a liquid cooling solution’s pump.

Compared to the type of back I/Os of most motherboard, we’ve seen Z270 boards drastically reduce the number. Gone are the 8 to 12 USB ports that are typical. The Gaming M7 has six USB ports, including the Type-C port, readily available at the back.

The Gaming M7 is compatible with all of MSI’s latest software, including the new Mystic Light. It allows you to connect any RGB LED to the onboard header and control it through the Windows app or from your smartphone. Very handy feature, if you’re the type that likes to change the lighting mode and colours every now and then.



We do our benchmarks with settings out of the box so it’s hard for you readers to tell, but the Gaming M7 is very capable when it comes to overclocking. The extra 4-pin power and power phases provide more power and greater stability for CPU overclocking, which also means better overlocks for the RAMs. 



There’s a cooling pad behind the M.2 Shield, giving M.2 SSDs better cooling for longer lifespans



The Gaming M7 has more power phases to provide more power and stability for overclocking

 Great for overlocking Three M.2 slots  None

CHIP CONCLUDES

Great features, extra overclocking potential, and a sweet third M.2 slot. If you’re thinking of getting into overclocking and want a stable option, this is a good choice to consider.

MSI GT62VR Dominator Pro

Price: RM10,599
 Contact: MSI Malaysia Office
 Phone: 1 300 22 1386
 Info: my.msi.com

Operating System: Windows 10
Display: 15.6-inch IPS Full HD
Processor: Intel Core i7 7700HQ
Graphics: NVIDIA GTX 1070
Memory: 16GB DDR4
Storage: 256GB SSD, 1TB HDD
Others: M.2 PCIe SATA, Mouse
Dimensions: 390 x 266 x 39.8mm
Weight: 2.94kg

PCMark Work: 4,863
 PCMark Home: 4,105
 PCMark Creative: 4,287
 3DMark Fire Strike: 13,231
 3DMark Fire Strike Extreme: 7,388
 3DMark Fire Strike Ultra: 3,922
 3DMark Time Spy: 4,991

Performance: 
 Features: 
 Design: 
 Value: 



Gaming On The Go

By Nixon Ng


With the ever-growing performance of mobile computers we can bring back the joy of LAN parties, and the GT62VR is a laptop we can people using to do just that

Do you miss the days when you would go over to your friend's house to have a LAN party, these days with high speed internet and massive multiplayer online games, LAN parties are slowly becoming obscure? Especially since in the past only heavy lugging desktops could only play the high graphics games.

If you want to go back to the good old days of LAN parties, the MSI GT62VR Dominator Pro could just be the thing to make it happen. Sporting the latest Intel Core i7 Kaby Lake processor and a desktop equivalent GTX 1070, you'll have enough firepower to play the latest games anywhere you want. At only 2.94kg it isn't too much to carry around to your friend's place, and it's a 15.6-inch laptop so it fits perfectly into our regular sized laptop backpack. Before we forget, the GT62VR uses a 256GB SSD for quick startup and speedy load times, there's also a 1TB HDD for storing your favourite movies or anime's and if you want more speed, there's an M.2 slot for an

ultra-fast M.2 SSD

We brought the GT62VR out with us to meet up with some of our pals to have a mini LAN party. Playing games like Dying Light, Left 4 Dead 2, StarCraft 2, Overwatch and League of Legends these games played flawlessly on the GT62VR. While gaming it was relatively silent, only getting loud during gameplay of games like Battlefield 1, but still considered to be quiet as you won't hear it over the sounds of the game.

We didn't feel any hotspots during our review, so don't worry about getting sweaty palms from placing it on the laptop. For those who love watching movies or TV series' on your laptop you'll be glad to know that the Dynaudio speakers definitely delivers. The speakers are loud when you want it to, and sound great when listening to music or when playing any kind of media. For those who are preparing for VR gaming, the GT62VR is VR ready which means you'll be able to play your HTC Vive and Oculus Rift on the laptop. 



USB Type-C, LAN, HDMI and mini DisplayPort, there's a lot of connectivity options



There's also plenty of USB 3.0 ports for your high speed devices

+ Solid performance - None

CHIP CONCLUDES

The MSI GT62VR Dominator Pro has some of the most powerful hardware inside of it, so you'll be able to enjoy intense gaming sessions on the latest games with no problems even when on the go.

Sony a6500

Price: RM6,499
 Contact: Sony (Malaysia) Sdn Bhd
 Phone: 1 300 88 1233
 Info: www.sony.com.my

Sensor: APS-C
 Resolution: 24.0MP
 Display: 2.6M Dot OLED EVF
 Connectivity: USB
 Storage: SD Card
 Mount: Sony E-Mount

Performance:
 Features:
 Design:
 Value:



A Brand New Photography Experience

By Nazrin Zain

Sony's new camera will cost you a pretty penny, but it comes with all the bells and whistles

Sony recently unveiled a series of cameras ranging from point and shoots, to compact APS-Cs and full-frame cameras. After playing with the excellent RX-100 MkV, the company gave us its latest removable lens compact, the Sony a6500 camera to play around with, and it's quite a fun camera to use.

As far as specs go, the new a6500 is impressive, sporting a 24MP APS-C CMOS sensor with 425 phase detection points, 11fps continuous shooting capability for up to 300 JPGs/100 RAW images, as well as a 1/4000 second maximum shutter speed.


Yes, the Sony a6300 was launched not even a year ago, and the Japanese tech company has already launched a brand new camera in the form of the a6500, which adds new functionalities such as touchscreen and better image stabilisation technology.

If you're not familiar with the Sony a-series of cameras, these use Sony's E-mount lenses, which is the same ones used in the older Sony Alpha detachable lens cameras. As far as options go, Sony does have a number of lenses to consider, although they are quite pricey for the most part.

Unlike the a6300, the a6500 features a built-in 5-axis image stabilisation, which means you can be out and about, taking photos while moving around and not worry about your images being blurry out of focus.

The a6500's 425 phase autofocus system is also called the 4D Focus hybrid autofocus system now has the world's fastest autofocus system, with a focus time of 0.05 seconds. This works in tandem with the camera's extremely fast shutter speed to bring you photos that are always vibrant and in-focus.

4K video recording is also something that's a big deal these days, and the a6500 does exactly that. It can record 4K videos of up to 30fps, and can record videos up to 20 minutes, depending on the temperature. This is something to be somewhat concerned about because in video recording mode, the camera does tend to heat up a fair amount, especially when recording in 4K.

Perhaps our only complaint about the a6500 is its asking price. Just the body alone will set you back a pretty penny, and if you're new to the Sony camera environment, it's going to be quite painful to your wallet even more. 



The buttons and dials on the a6500 are all clear and well-placed



The pop up flash helps to illuminate dark objects and environments

+ Features Performance - Price

CHIP CONCLUDES

The Sony A6500 is definitely a joy to use. Its fast hybrid AF, together with its vibrant and clean output makes it an exceptional compact camera. The huge price tag is still a bit of a hindrance, but if you have deep pockets, this is definitely one to consider.

Blast From A Geek's Past

Nostalgia can become a strong emotion when it comes to gaming, so join us as we travel back in time to reminisce and play the games of days long past By Nixon Ng



Summon Night: Swordcraft Story

Summon Night: Swordcraft Story or Summon Night for short, is a game set in the world of Wystem where 7 Craftlords protect the land. The main character which is you, are the son or daughter of the Craftlord of Iron, Shintetsu who gave his life to protect his wife Amariss and you his child. Forward three years into the future, the Craftlords have gathered and organised a tournament to find the next Craftlord of Iron.

You begin your adventure with the summoning of your Guardian Beast. There are 4 Guardians Beasts available and depending on a questionnaire you'll get one that compliments you. Each Guardian Beast is specialised in a certain element ranging from wind, fire, water, and electric. Each Guardian



Beast also has their own personalities so they don't feel generic to each other, and they contribute a lot during battle. During battle you will have access to different weapons but you can only bring three weapons total into each battle.

Items and spells share the same four slots which are held by your Guardian Beast, all of this must be set-up before initiating a battle. Battle is initiated usually by random encounters, and you get placed into a side-scrolling environment. You are able to walk or run sideways, jump, guard, attack, cast spells and use items. During battle there are two things you need to look out for, one is your HP and another is your weapon durability.

During battle if your health drops to 0 you die and will start at your last save game. If your durability drops to 0 then your weapon will be broken and a new one must be made to replace it. Weapon durability is restored to its maximum after each battle, so as long as you keep your weapons in check, you won't have to worry about breaking them. With the different varieties of weapons available for you to choose from, each have their unique traits, such as the 'Drill' which specialises in reducing the durability of enemy weapons. Axes have high damage but low attack speed and high delay, swords have a relatively short range but is balanced in damage and speed. Then there's the spear which is a bit slow, but allows you to hit enemies from a distance. There's also knuckle weapons for speedy attacks but only in close-quarters allowing enemies a higher chance to hit you.

There are three different stats which affect



you in battle, which is your attack, agility, and defence. These can be added whenever you level up or through equipment. Strength increases your damage, agility increase the speed of movement and height of your jumps, and defence affects how much damage you take when hit.

Crafting also plays a heavy role in this game, after all you're a Craftknight trying to be a Craftlord. The crafting system isn't very complicated but it's an interesting concept. To get new weapons and craft them, you must first have a recipe which you'll get slowly throughout the story and by doing quests. Before each new weapon is available to be crafted you must first craft the preceding

weapon, so basically it's like a skill tree, something like you need to have A1 before you can go to A2. You can collect materials from the dungeon you gain access to during the story.

The game is a bit linear, you only have one objective which is to reach as low as you can go in the dungeon to become the next Craftlord of Iron, and you'll spend a majority of your time down there. The game can get quite grindy as like many RPG's, you need to level up your character to fight higher level monsters. There isn't much replayability because the game would be similar each time, except for a few minor choices, but it's a game we would come back to play again in the future.



Summon Night: Swordcraft Story

Genre: Action RPG
Developer: Flight-Plan
Info: https://en.wikipedia.org/wiki/Summon_Night:_Swordcraft_Story
Platform: GBA, VBA(emulator)

+ Colourful world and story
 Interesting crafting concept

- Slightly grindy

Gameplay:

Sound:

Replayability:

PLAY

Final Fantasy XV

The Long-Awaited Road Trip Of A Lifetime Is Finally Here By Nazrin Zain



Final Fantasy XV was first introduced as Final Fantasy Versus XIII, part of the Fabula Nova Crystallis series, which also featured other Final Fantasy titles, including Final Fantasy XIII and Final Fantasy Type-0. 10 years later, the game finally came out as Final Fantasy XV, to much fanfare.

After its first unveiling at Los Angeles last year, Square-Enix also announced that the game will be released together with a full-length feature movie, called Kingsglaive, as well as a 5-episode anime short titled Final Fantasy XV: Brotherhood. More on these later.

An Unexpected Journey

Your journey as Prince Noctis Lucis Caellum and his merry band of bodyguards starts off predictably enough as your car breaks down in the middle of the road, and you're forced to

push it to the nearby workshop. As you wait for it to be fixed, you then explore the nearby wilderness, completing sidequests by killing monsters and collecting random items here and there.

One of my complaints here is that this is literally how the game starts. Final Fantasy XV touts itself as a game that both veterans of the series and newbies alike can play. As someone who has played most of the games Square-Enix has to offer, I'm not too fond of the way the game starts out.

We don't get to know the characters at the start of the game, with it deciding to reveal little snippets during inn stays and whatnot. At the time of writing, we haven't figured out yet what exactly triggers these events, as they seem to just randomly happen.

Each story portion of the game is divided

into chapters, which in practice sounds good, but it also means that you're gated out of certain portions of the game. For example, chocobo-riding can't be unlocked until you get to Chapter 3, which is where you first gain access to the Duscae region.

It's a good idea to do as many sidequests as you can, get over to Duscae in Chapter 3, do the chocobo sidequest, and then ride them to places that are far away from the sidequest giver.

While the game starts out as an open game, during the later chapters, you will find yourself going through some very linear, story-driven moments. During these portions of the game, it does feel like a bit of a slog, because for the most part you'll be doing them alone, or joined by another character that you won't really have that much control over.

The first few chapters of the game are pretty drab, however, and in my opinion it's mostly due to how the story was told, rather than the story itself. Things pick up a fair bit somewhere around Chapter 6 and 7, so if you can persevere by then, it will pay off.

Polished Combat Mechanics

One of the best things about Final Fantasy XV however is its battle mechanics. By default, battles play out more like an action RPG-style gameplay rather than a turn-based one, and it is loads of fun, even after tens of hours of gameplay.

The game has a lot of weapons for you to choose from, but typically, we'd stick to using a mixture of heavy sword, daggers and the Engine Blade, as well as magic to make quick work of enemies and monsters.

During battle, you can teleport to certain warp points by pressing the Triangle button, and perform Warp Strikes on enemies for extra damage, and if the point that you're targeting is a weak point, you also have a chance to stagger them, allowing you and your party to deal extra damage.

Magic is a powerful force in this game, however, they are a double-edged sword, because while it can deal massive damage to enemies, they affect your team members too. The easiest way to counter this is to craft magic spells that you collect from draw points with healing items, so that they heal your characters, while damaging your enemies.

Throughout the game, you will also unlock the ability to summon Eidolons, and while there are six of them in total, you can only summon four of them during open gameplay. Even after you have unlocked them, there are certain conditions that need to be met before you can summon these powerful creatures. For example, Leviathan can only be summoned when you are near a body of water.



Sleep Is Important

Leveling up in Final Fantasy XV is a bit different than the rest of the Final Fantasy game.

The gimmick here is that while you will get experience points after every battle, they will accumulate and will only convert to levels when you sleep at either an inn or a camping spot, which is littered throughout the open world.

The difference between at these spots is that inns give you an EXP multiplier, and some of the better ones can be quite expensive, while camping spots are free, and allow you to have meals that will boost your stats when you wake up the next day.

Leveling up in this game is very easy, and for me, when I started Chapter 3, I was already pushing mid-20s because I hoarded all my experience points from the various sidequests, and slept at an inn with a high EXP multiplier.

Interesting Characters

While your party members do help you out in battle, they also do have off-battle usefulness. Noctis, for instance can fish, Prompto takes all your photos, which you can view when you're

about to go to bed, Ignis cooks your food, while Gladiolus is good at spotting harvest points.

All of these skills will level up as well when you sleep, but only if they actually do the tasks. Noctis and Ignis' abilities in particular are a good natural fit for each other because it means you can capture ingredients to cook and eat to boost your stats, which is important sometime in the middle of the game.

The good news is that each of your buddies will also get their own story DLC. At the moment, there is no mention when these will drop, but judging how much the news about it is being thrown about, we expect it to delve deeper into their own story, because honestly, they don't exactly talk about themselves much in the game. ❏



Final Fantasy XV

Genre: RPG
 Developer: Square-Enix
 Info: www.finalfantasyxv.com
 System Requirements
 Platform: Sony PlayStation 4

+ Gameplay - Story

Gameplay: ❏ ❏ ❏ ❏ ❏
 Graphics: ❏ ❏ ❏ ❏ ❏
 Sound: ❏ ❏ ❏ ❏ ❏
 Replayability: ❏ ❏ ❏ ❏ ❏



»
A shot of the trophy we took on Day 1; it awaits the grand champions

ESL One Genting

The new year started off with a bang for Malaysian Dota 2 fans, as they flocked to Genting Highlands for ESL One Genting – the biggest international Dota 2 tournament in the country to date

By Matthew Yap

While the rest of the world was still in the new year's holiday mood, ESL was quick to host the first Dota 2 tournament of the year. Held on local soil at Genting Highlands, the ESL One Genting saw some of the best Dota 2 teams around the world competing for 125,000 USD on the 7.0 patch that turned the game on its head.

Day 1 Results

In Group A, Day 1 started poorly for Fnatic, as the team was defeated by Virtus.pro (VP) in a Best of 1 (Bo1). Newbee won



« The ESL One Genting champions — Digital Chaos. Image by Red Bull Malaysia

the other Bo1 match to send NP into the lower bracket. While in Group B, Digital Chaos (DC) and Wings Gaming won their Bo1 games against Execution (Xctn) and WarriorsGaming.Unity (WG.Unity) respectively.

After the first four sets of Bo1, the tournament moved into the two Best of 3 (Bo3) match ups. VP played against Newbee in Group A, while DC took on Wings in Group B to determine which team got to sit back and study the other teams on Day 2. Newbee and DC won their respective matches, booking themselves a place in the semi-finals on Day 3.

Day 2 Results

On the second day, elimination matches began. Fnatic was the first team sent home by losing to NP 0-2. The Malaysian team pulled off improved performances over Day 1, showing that they have been hard at work to learn more about their opponents and the new patch. WG.Unity did better in Group B against Xctn, showing some flashes of the solidity we saw in the Boston Major. Unfortunately, they were unable to prevail against the Philippines team and lost the series 1-2.

Subsequently, NP and Xctn both fell against VP and Wings respectively in the decider match ups. The two games in the VP vs NP match up looked close, but Wings beat Xctn convincingly to advance to the semi-finals.

Day 3 Results

The semi-finals on the third day saw DC vs VP and Newbee vs Wings, match ups that ensured a west versus east finals. DC took both games in about 40 minutes, a dominant performance to book their way into the grand finals. On the other hand, Newbee had a bit more of a hiccup, dropping game two but ultimately winning 2-1.

Some felt that having to play the grand finals right after that turned out to be a disadvantage for Newbee. And indeed, it turned out to be one of the most gruelling Best of 5 that both teams have ever played. Each team took turns taking a game, with Newbee the



E-sports is serious business these days, with analyst and panels at big events like this »



It may not have been a full-house, but the number of attendees was impressive »

one to win game 1. This resulted in a winner-takes-all game 5, which DC won in convincing fashion. It marked the team's first premiere international trophy, and a deserved one for a team that worked so hard to come this far.

E-SPORTS NEWS

ESL One Genting Meta

Only 29 games were played in total, but it was enough to give us a first impression on the current meta By Matthew Yap

Welcome to 2017, say hi to Dota 3

Right from the onset, it was made clear to us that none of the teams had sufficient time to fully prepare for ESL One Getting, much less the new patch. The game might as well be called 'Dota 3' with the number of drastic changes made to it, including the addition of the shrines and the removal of hero stats in favour of a talent tree. There was no way that the players could figure out the meta in time, but we did get a few interesting takes out of the entire event.

Playing it safe

During the 3-day event, most teams were playing it safe and went for their comfort picks. We saw lots of Slardar, Luna, Juggernaut, and Lifestealer, all picks that were common in 6.88. Slardar and N'aix, in particular, featured heavily in the Boston Major and were both relatively successful. But the former failed to make a significant impact this time, with a winrate of only 28.57%.

Meepo OP, nerf pls!"

A few heroes stood out at the event, none more so than Meepo. With its ability to quickly gain levels and snowball faster than any other hero, Meepo amassed a 75% winrate (three out of four games), showing how devastating it can be in the right hands. It's so powerful that Newbee banned it in all five of the Grand Final games, all within the first ban phase.

Besides the shovel-waving hero, there were a few other heroes that enjoyed success at ESL One. Among the top were N'aix (80% winrate), Queen of Pain (83% winrate), Mirana (63.6% winrate), Shadow Fiend (62.5% winrate), and an Ember Spirit (60% winrate) with a new playstyle. All these

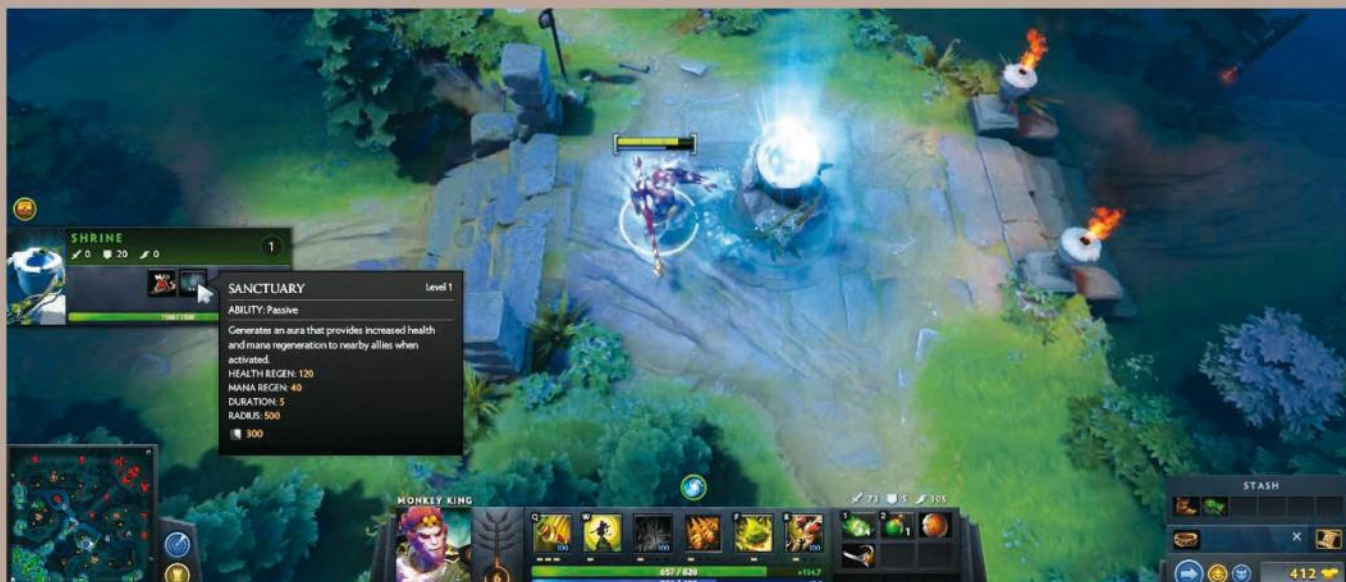


Newbee were so afraid of Meepo that they banned it against DC in every game of the Grand Final match

heroes had one thing in common: Useful level 10 and level 15 talents. This merely reinforced the belief that Talents will dictate much of the new meta going forward.


Evolution of the midlane

For mid heroes, the addition of the shrines goes a long way in neutralising early game harass and pressure, as well as give mana dependent heroes a means to quickly regain mana. Along with the changes to creep camp stack timing, mid heroes now have an easier time in the lane and we believe that places greater emphasis on pulling off successful ganks without needing to overcommit.



The addition of the shrines has made outdated midlaners viable again



DC basking in the spotlight, happy over their win of the first tournament of 2017 

Get To Know The Champions

If you were at ESL One Genting last month you'll be sure to know the name 'Digital Chaos'. A veteran team that has constantly seen success in Premier tournaments and can be usually seen within the Top 10 teams of those tournaments. Despite their success they were unable to grasp the championship trophy until now. Going through many roster changes, it may seem that Digital Chaos might have finally found what they were looking for with their current line-up.

Losing to Team Newbee at the China Top 2016, Digital Chaos turned up the heat at ESL One Genting warming the hearts of their fans by beating Team Newbee in the finals to become the undisputed champions of ESL One Genting. We take a closer look at team Digital Chaos and its members that make up the winning combination.



Rasmus "MiSeRy" Filipsen

Rasmus started his professional career in 2008 and is a well-known versatile player playing for big teams like Team Secret, Evil Geniuses, Cloud 9 and Counter Logic Gaming. He now plays for Digital Chaos as the team captain, and is once again finding great success with his new team. The newly reformed Digital Chaos did well in American qualifiers, but was never able to reach their full potential in international tournaments. However at TI 2016, the team finally rose up and snagged the runner-up spot. At ESL One Genting, Digital Chaos was able to take the gold for the first time in an international event, could this be the beginning of something new?



David "MoonMeander" Tan

David hails from Canada and is one of the most recognisable players from the Heroes of Newearth scene, but due to the decline in the competitive scene, David decided it was time to hop onto the DotA2 bandwagon. David and his former team from "(monkey) Business" created 'OG' and initially didn't do very well. By their third tournament however, OG were able to beat strong teams like Team Secret. They proceeded to take ESL One Frankfurt and secured their invite to TI 2016. After TI 2016, David decided to leave OG to join Digital Chaos as their offlaner. With the team taking the ESL One Genting trophy, it seems that leaving was a good decision.

Martin "Saksa" Sazdov

Martin grew up playing games, playing Starcraft even at an early age of 3 years old and started playing DotA on Garena when he was only 10. His life changed when he decided to leave his university to focus on professional gaming. Around 2015, Martin began to gain notoriety when climbing the matchmaking leaderboards and becoming one of the first players to hit 8,000 MMR like fellow teammate Aliwi 'w33' Omar. Joining Digital Chaos along with w33, MiSeRy, and MoonMeander, they went into TI 2016 as one of the underdogs of the tournament, and although not reaching their goal of first place, they definitely cemented their team as a top-tier team when they became runner-ups.



Roman "Resolut1on" Fominok

Coming all the way from Ukraine, Roman is a 20-year old that plays the carry role for Digital Chaos. He previously played for Team Empire, a premier Russian e-sports organisation where he found great success, with Team Empire taking first place in a number of tournaments but fell a bit short during TI 2015. In 2016, he left Team Empire to join Digital Chaos, and together with a new line-up they were able to become the runner-up of TI 2016. Roman is also the only player to stay in Digital Chaos after the new roster changes.



Aliwi "w33" Omar

You could say that Omar is a through and through DotA player, starting his journey in 2004 with the original DotA and switching over to DotA 2 in 2011. He was well-known for obtaining the highest MMR of any player for a significant time, becoming the first player to hit 8,000 MMR. He had large success during his tenure with Team Secret showing strong solo mid performances. During the post-Shanghai Major reshuffle, Team Secret had decided to remove Omar from their line-up and he found himself invited to Digital Chaos along with fellow Team Secret teammate MiSeRy. Omar's stellar performance in ESL One Genting definitely became an important factor to the team's win. 🇨🇦



Made Possible By The Masses

Our monthly look at crowd-funded projects that are taking the Internet by storm By Matthew Yap and Nixon Ng

Steadicam Volt

These days, there are plenty of people who want to capture videos on their smartphones, in a way that gives professional results. For these people, long-time camera stabilisation tech experts, Steadicam, have developed the Steadicam Volt. Put simply, the Volt is a gimbal for smartphones that uses a pan axis stabilisation method to provide you with stable videos. It's perfect for those Facebook Live sessions!

<http://kck.st/2iFxBjE>



Qkey

With us having more and more websites to subscribe too, as well as for those of us who need to keep work files safe, a way to easily secure our files is important. The Qkey is sort of a login and password managers in physical form. Besides remembering your login credentials for you, it also provides a more secure way to do online payments.

<http://kck.st/2jASPAn>

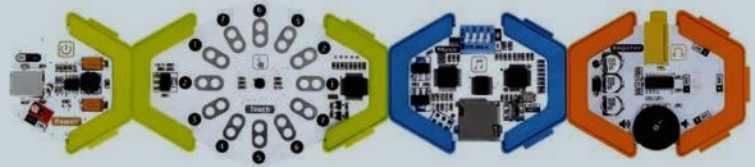
INDIE.

Trends come and go, but when they do it doesn't mean they're no longer interesting. 3D printing was a fad for a while, but now only those most passionate about it seek to improve on the technology. INDIE aims to deliver industrial grade 3D printing features at an affordable price, while maintaining high quality. It comes with WiFi connectivity, support for third-party filaments, and a heated bed to prevent prints from warping.

<http://bit.ly/2k604ii>



HoneyComb: Playful Electronic Blocks




HoneyComb connects the world around you. HoneyComb is a set of playful new electronic blocks, designed for makers of all ages and skill levels. With so many different types of blocks and endless combinations, specifically provided functional modules, you can quickly design, program and prototype your own creations. The starter kit comes with 3 modules (Music, Camera, and IoT) which are interchangeable with every kit. It's great for children as it supports Lego compatibility and allows children to share their projects worldwide through an app.
<http://kck.st/2krTmVN>

ONEMicro: Personal Surround System

Most surround systems offer you a hard decision, immersive sound or simple wireless setup? Why not both? All ONEaudio speakers are of audiophile-grade design sharing the same DECT technology. ONEMicro is the smallest speaker in the series and has been widely reviewed and recognised for its full-bodied vocal, crystal clear sound, excellent sound imaging and solid bass. ONEaudio technology surround system supports 6-channel concurrent broadcast, ultra-low current consumption, and is intrinsically accurate in timing and achieves channel synchronisation within 0.5µs.
<http://kck.st/2jdqdJ8>



NIFTYX : Wearable Charging Cable & Powerbank

NIFTYX offers you the handiest solution for device charging. You no longer have to worry about leaving your charging cable behind and run out of juice during important moments. NIFTYX bracelets are able to charge your devices up to 2.4A while providing a fast charging solution. The bracelets are made with leather and supports Lightning and Micro USB devices. The emergency powerbank is only 210mAh which is enough for emergency use, but the campaigner is looking to increase the capacity without compromising size. NIFTYX offers you the handiest solution for device charging. You no longer have to worry about leaving your charging cable behind and run out of juice during important moments. NIFTYX bracelets are able to charge your devices up to 2.4A while providing a fast charging solution. The bracelets are made with leather and supports Lightning and Micro USB devices.
<http://bit.ly/2j4fTYK> 

Subscribe



Log on to our website and subscribe to **CHIP** today!

www.chip.com.my

12 issues + 4 FREE issues + FREE gift at RM125.93 *(with GST)*
or

6 issues + 2 FREE issues at RM62.96 *(with GST)*

Why subscribe?

- Never miss an issue. Every copy delivered to your doorstep!
- Value for money. Receive free issues when you subscribe!
- No extra cost. Free postage and delivery!
- Money back guarantee. Not a happy reader? Write to us within 60 days and we'll refund you for all un-mailed issues!



Replacing Xperia Z Battery

The elegant, water-proof Xperia Tablet Z from Sony is the ideal partner while travelling, so if the battery is weak then changing it will certainly be worthwhile By Martin Luna

The Sony Xperia Tablet Z still looks very chic today. Thanks to its waterproof design, its four-core processor and the 2 GB RAM, it's considered one of the best products of its time. In fact, for a product that was launched in 2013 it was one of the foremost competitors to Apple's iPads at the time.

Today, users consider the Sony Xperia Tablet Z as an affordable used equipment. However, battery performance deteriorates over time. As a result, the Xperia Z ends up constantly being

plugged into the wall for long usage.

This is, naturally, a huge limitation for a device meant for mobile use.

But here's a good news: If the battery life of your Xperia Z is on the declined, then you just have to replace it. All you need to do is follow these six steps and you will have a brand-new boost of life to your tablet. As for tools, you will only need a small screw driver, a pair of tweezers and a pry tool. Focus on carefully following the instructions given and do not be rough!

How To Proceed

You can get an original replacement battery from Sony. Important tip while searching: Sony uses similar names for smartphones and tablets. So, do not forget the word 'Tablet' when conducting your search.

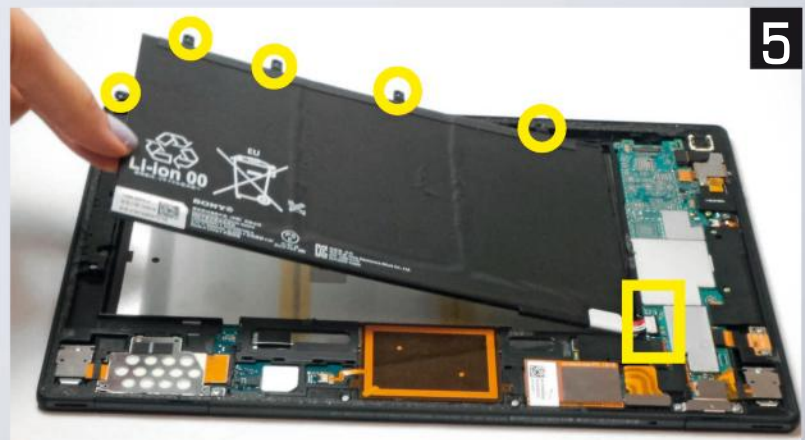
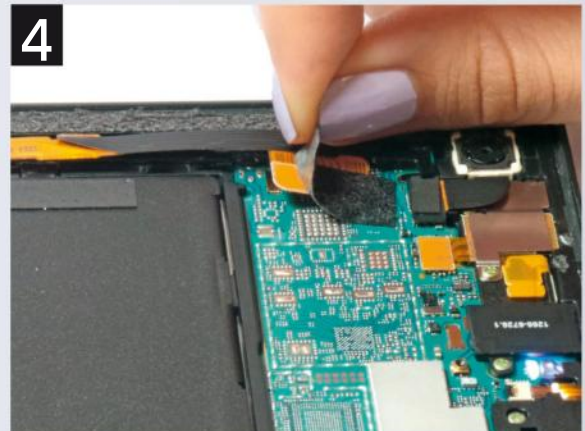
1 Get the tools ready

The three tools below are all you will need to change the battery module of Sony Xperia Z: A Philips screwdriver, angled tweezers and a prying tool.

2 Remove the back cover

Place the tablet with the display downwards on a table. Take the prying tool, set it against a corner and gently lift the back cover.

Foto: Sony (Aufmacher), ifixit (6)



3 Detach battery

After you have removed the back cover, disconnect the power supply of the battery from the main circuit board. Here, the angled tweezers will help you better. You will find the plug on the right side in the corner.


4 Remove the camera module

Loosen the black adhesive tape and separate the camera from the main circuit board. This will reveal the screws that were hidden under the camera module.

5 Remove the battery screws

Remove the screws (see yellow marking), then gently lift the battery pack of the tablet from the casing and remove it carefully.

6 Place the new battery

Hold the substitute battery at a slight angle to the main circuit board and insert the power cable. Then place it in the casing, screw it in and re-assemble the tablet. 

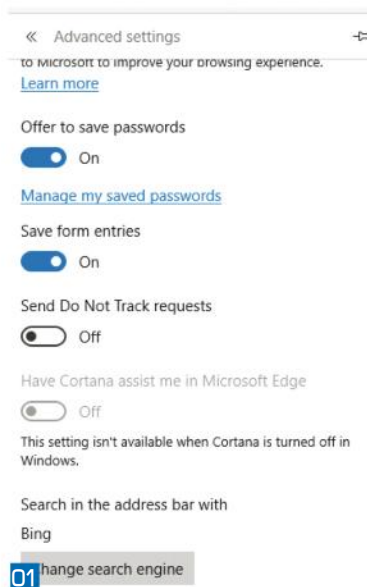


Tips & Tricks

FEBRUARY 2017

WINDOWS & OFFICE

01 Windows 10
Manage and display passwords saved in Microsoft Edge



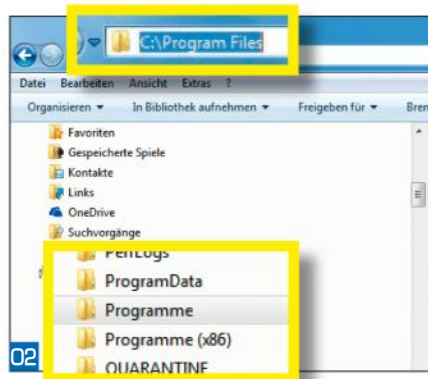
Saving and deleting passwords is very easy in Microsoft Edge

The Windows 10 browser, Microsoft Edge, has a useful password manager that can help you save and manage passwords. You can access it by clicking on the button with three dots that open the 'Settings' and then scroll down to the 'Advanced settings' option. Under the privacy settings, you can not only activate or deactivate the storage of passwords but also manage saved passwords. Select the option and Edge will then display the websites for

which you have saved passwords. By clicking on the cross on the right side of it, you can delete the password. However, if you wish to edit the username or password then double-click on the saved website. You will now see the relevant username, but Edge will not show the password in clear text.

To read the passwords, you will need to use the Windows control panel and open the 'User Accounts' applet. You will then find all the passwords saved in Microsoft Edge under 'Login information'. Select the password you wish to read and click on the blue link 'Show'. After entering your Windows password, the 'Login information management' will display the saved web password.

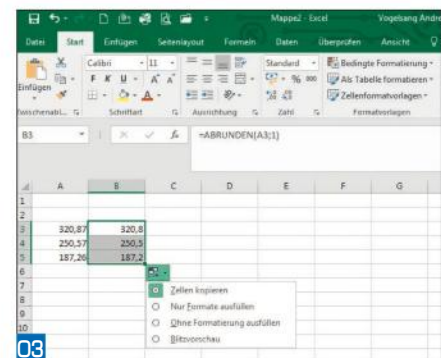
02 Windows 7
Replace logical folder names by actual path names



Click on an empty place in the address bar and the path name will be revealed

Windows 7 does not name folders with the correct names. If you wish to find out the correct path name then open the Windows Explorer using the shortcut [Windows]+[E]. In the folder structure, for which you want to determine the correct path, for example, 'Programs'. Next, click on a free space in the address bar. Windows will then replace the logical name of the directory by its actual path, i.e. as seen in the example 'C:\Program Files'.

03 Excel
Round off numbers with the help of formulae



An Excel function can automatically round-off numbers with many decimal places

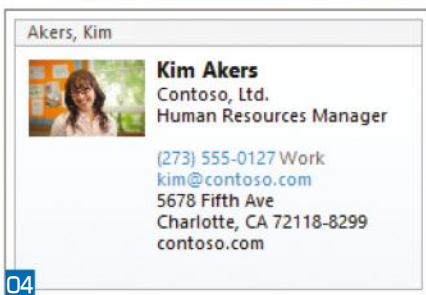
You can round off all numbers to a desired decimal point using the function 'ROUNDOFF(Number;Number_Places). You have to enter the number with the decimal point in 'Number'. Once you have done so, place a semicolon and then the number of decimal points after it. If you only want numbers without a comma then use '0'. For example, if you want Excel round off the number 320.496 to one decimal point then type the formula '=ROUNDOFF(320.496;1)'. Now '320.4' will appear in the cell as the result.

In order to round off all numbers in the column, you have to take a different approach. It is also possible to enter the formula individually for each cell but that will take longer for many numbers. Therefore, you can have all the numbers displayed in the column next to it. For this, click in the cell next to the first number Excel will then apply the formula to all the following cells, which you wish to round-off. If this cell is not available, then insert a new column on the extreme right in the 'Start' menu using 'Insert'. Then, type the following formula: '=ROUNDOFF(Cell;Number_Places)'.

For 'Cell', type the first cell which you wish to round-off. For example, should Excel round-off all numbers in column A to one decimal point and the first number is in cell A3, then the formula will be '=ROUNDOFF(A3;1)'. Drag the small square at the corner of the cell with the formula just entered downwards, so that not only the number in cell A3 but also all cells under it are rounded off.

Excel will then apply the formula to all the following cells.

04 Windows
Open VCF files and save in address book



Digital visiting cards (VCF) can be easily opened and saved in the address book

Many emails contain VCF files with personal information – like a digital visiting card. The sender can disclose a lot of information about himself via the VCF file. In Windows, the VCF file can be mostly opened by double-clicking on it. If this does not work, then right-click on the file and go to the tool 'Windows Contacts' under the category 'Open with'.

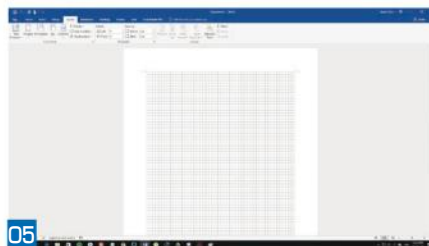
Programs like Outlook and Thunderbird can also use VCF files. In the settings, you will find an extra import function for VCF files. Once activated, the mail program will automatically insert the contact into your Outlook or Thunderbird contacts. iPhone or Android smartphones can also open VCF files. Just tap the file to view it or save the contact directly in the address book.

05 Word
Display and print the grid network lines

You may exit Word to display the grid network lines – a useful feature if you wish to position words and images precisely. In Word, open the menu 'View'. There, you will

find the checkbox 'Grid network lines' in the 'Display' section. Set a checkmark here and the lines will appear.

They cannot be printed since they are exclusively provided for work purposes. Nevertheless, if you want to print the grid lines, you have to create them yourself. For this, go to the tab 'Insert' and click on the button 'Table | Insert table'. In the following window 'Insert table', enter these values: 'Column number:40', 'Line number:48', 'Fixed column width:0.4". Next, select the finished table via the angular button on the top left with the arrows in every direction and you can now control the line and column width in the 'Layout' section. Pay attention that '0.4" is entered for both of them. In order to precisely position the grid network, select the complete table. Then mouse over the top of the page where the ruler is. If the ruler is not visible, then get it by clicking on the checkbox 'Ruler' (above the box 'Grid network lines'). At the point where the grey area of the ruler from the left edge is separated by a white line as seen for the first time, the mouse pointer will turn into a double arrow and you can then move the table.



To print the lines, you have to first create a Word table To print the lines, you have to first create a Word table

06 Windows 7
Always work with the latest drivers

Outdated drivers are classic causes of PC problems, which is why it's important to keep them up to date. Windows cannot do this for all drivers, but this function can be added later. For regular update of graphics and sound cards, you only need to activate the automatic updates of Windows. For this, type 'Windows Update' in the Start menu search, go to the tool with the same name and click on the left on 'Change Settings'. Next, activate the option 'Automatically install important updates' (recommended) under 'Important updates'. Here, you can also specify a time as to when Windows should search for updates. Once done, click

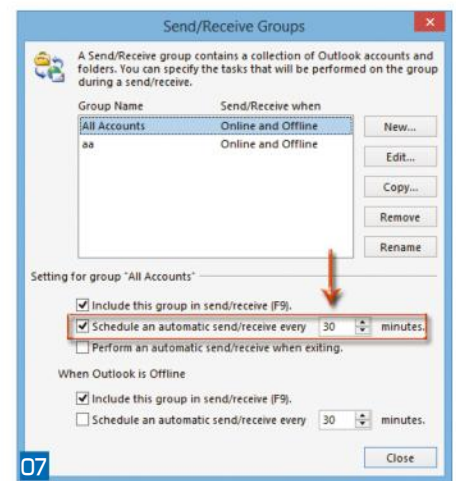
on OK to save your settings.

An alternative is to use the Driver Easy tool to ensure that all installed drivers are always updated. This tool will look for a suitable update for every driver, but will require you to initiate the process. After installing the tool, run it as an administrator and select 'Scan now'. When the scan is done, it'll show you all the current version of drivers. If there are new ones, you can download them by clicking on 'Get Drivers' and wait for that to complete. Restart your computer once the updates have been installed, for the changes to take effect.



Driver Easy searches for outdated device drivers and updates them

07 Outlook
Check mail program automatically for new messages

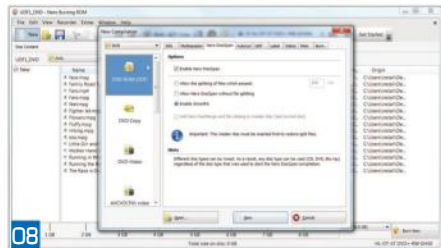


After setting the time interval, Outlook will update your accounts at accordingly

You can set the intervals that Outlook uses to update its inbox. You also have the option to carry out a mail-check anytime. First, start Outlook and click on the F9 key. Then press the on 'Send/Receive' option under the menu option 'Advanced'. Under 'Send/

Receive”, you can choose ‘Open Send and Receive”. Subsequently, under ‘Settings for group”, select the corresponding accounts and set the number of minutes for ‘Automatic transfer every X minutes” so that Outlook will regularly update your account after that time interval.

08 Windows 10 Archive important files on DVDs or CDs



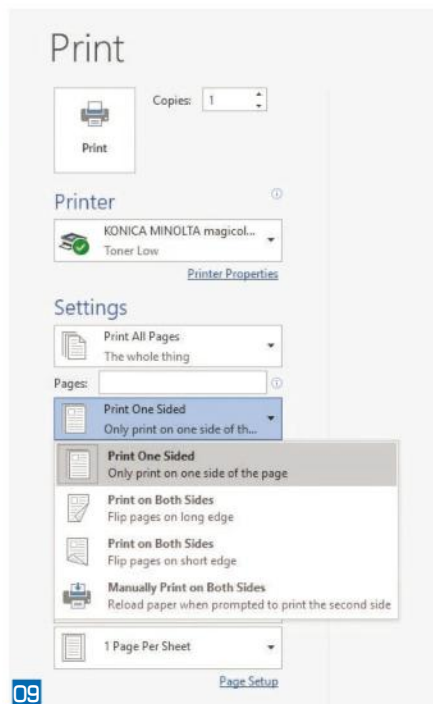
Archiving of Data on CD or DVD also works under Windows 10 using built-in tools

Windows 10 has built-in tools to burn DVDs and CDs. First, place a blank CD in the optical drive and close it. Then open Explorer and double-click on the drive. In the following dialog window, you can assign a name to the DVD or the CD and select a variant before the burning process, then press the ‘Next” button. The Explorer will now show you that there are no files present on the inserted disk. Simply drag files into the window to add them. They will then appear in the Explorer as ‘Data that should be written on the disk”. Click on ‘Manage | Complete Burning process” to trigger the burning process. You can also set the speed before you click ‘Next”. Close the assistant by clicking on ‘Finish” after completion of the writing process.

09 Word Print files cleverly and save consumables

In case of large documents, it may be logical to print many pages on one sheet to save paper and ink or toner. This action is very simple in the text program Word. Once you have opened the documents, call the command ‘File | Print”. In the ‘Print” menu, go to ‘Settings” in the left column and then select ‘1 page per sheet”. Open the collapsible menu and select an alternative, for example ‘4 sheets per page” before you fire the print command.

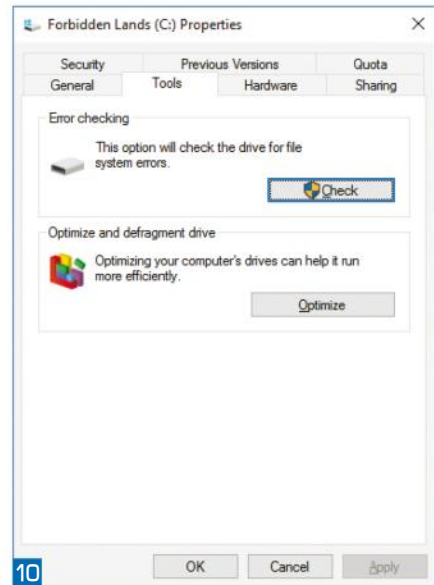
If you wish to define the number of pages on one page irrespective of the Word specification, then export the file first to the PDF format. For this, click on ‘Export” in the ‘File” menu and press the button ‘Create PDF/XPS document” in the next window. In the PDF file opened with Adobe Reader, go to the command ‘File | Print” and set the desired page number in the area ‘Page adjustment and options” where you will activate the ‘Multiple” button. Next to ‘Pages per sheet”, select ‘user-defined” to set the individual numbers. Then click on ‘Print”.



You can include more pages on one sheet in Word while printing

10 Windows 10 Check and repair hard disk using built-in Windows tools

If Windows 10 is behaving increasingly unstable, then you should check the hard disk for errors and get it repaired if needed. Open Explorer, go to the category ‘This PC” in the left column and select the hard disk which you wish to examine. After right-clicking on it, open ‘Properties”, activate the tab ‘Tools” and press the button ‘Check”. To start the check, click on ‘Scan drive”. If the testing tool finds an error, Windows will automatically try to rectify it. The entire process may take a few minutes, depending on the size of the hard drive.



When the Windows tool finds a hard disk error, it will try to repair the drive

11 Excel Set line breaks in Excel cells manually and automatically

Text in Excel rows cannot be written, by default, in multiple rows in one cell. In order to accommodate multiple rows in one cell, press the key combination [Alt]+[Enter] for line break. This causes the cursor to jump to a new line within the same cell. In this manner, you can pack several lines into one cell.

You could also set it so that the line break is automatic. Using the shortcut [Ctrl]+[1], open the window ‘Format cells” where you have to activate the tab ‘Alignment”. Now select the option ‘Line break” under ‘Text control” and click on OK, which will then apply the change. Now write in one line and the text automatically runs into the next line as soon as it reaches the end of the cell.

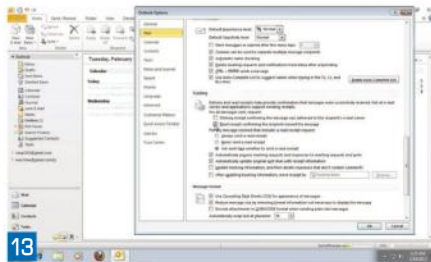
12 Windows Activate and customise preview window in Explorer



The Explorer option ‘Layout” gives you a glance into the contents of individual files

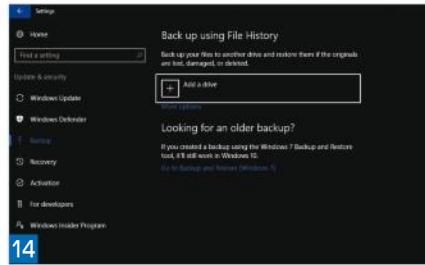
The preview window in Windows Explorer gives you the option to view files directly in the File Manager. You can activate this practical function by opening any folder in Explorer, expand the drop-down menu 'Organise' and enable the option to 'Preview Window' under 'Layout'. A small window will immediately open on the right side of the Explorer. As soon as a file is selected, you will see a preview with the file contents there. If you click on the small separation line next to the preview, you can adjust the size of the window. The function can be enabled anytime by removing the check mark for the option 'Preview Window'.

13 Outlook
Disable read confirmation of the mail client



Thread carefully when it comes to read confirmations on Outlook

The read confirmation in Outlook is a two-edged thing. On one hand, confirmation that a mail has been read by the recipient can be useful, but having the 'Read' messages could quickly flood one's mail account. Some recipients may also feel annoyed by the request for the read confirmation. In order to disable this function, open the tab 'File' and go to the 'Options'. Under 'Outlook Options', click on the menu option 'Email' on the left side. Scroll to the bottom of Email options till you reach 'History', then remove the check mark that reads 'Read confirmation which confirms the viewing of the message by the recipient' if you do not wish to send emails with read confirmation anymore. If you also do not wish to send any read confirmation to the sender, then enable the option 'Never send a read confirmation'. If you are interested as to which senders are requesting a read confirmation from you then activate 'Always confirm the sending of a read confirmation'. Save the settings with OK.



Windows 10 keeps the system up-to-date by creating a recovery point

14 Windows 10
Back up important system files using Windows Recovery

You can create regular backup to secure your data, a feature available in Windows 10. To initiate a backup, open the Control Panel and go to 'System and Backup'. After clicking on the link with the same name, go to 'Recovery' and select 'Configure Recovery'. The window 'System Properties' will now open. Next, press the button 'Create' on the bottom right in the tab 'Computer Protection'. Windows 10 will then create a recovery point, which will 'save' the status of your system at the recorded state. However, the storage space for backups is limited. Windows 10 deletes older backups after some time, so if you wish to permanently archive your backups, you should use tools like Paragon Backup & Recovery or EaseUs Todo Backup. You can also use a program like SugarSync to create a backup for your data on the cloud.

15 PowerPoint
Insert checkmark symbol in the PowerPoint slide



With the check mark icon, you can highlight the main point of your presentation

When making enumerations or lists in Microsoft Office PowerPoint, the check mark symbol turns out to be very helpful. You have three options to insert a check mark in a PowerPoint slide. Type a small 'ü', select it, change the font to 'Wingdings' and the 'ü' will turn into a check mark. You can get the same result by setting the font as

'Wingding', the hold down the [Alt] key and enter the number sequence '0252' on the numeric pad. The third way to get the check mark is via the 'Insert' tab. Here, click on the button 'Symbols' on the right, change the font to 'Wingdings' and search for the Checkmark symbol. Select it and confirm the insert by pressing the 'Insert' button.

16 Windows
Reactivate the missing clock from the taskbar



Configure the info area and activate the clock in the context menu of the taskbar

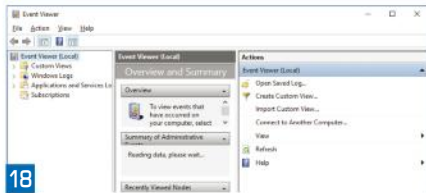
The clock on the right corner of the Windows taskbar gets more attention during the day than the wristwatch of the user, so it can be annoying when it disappears from the taskbar. But with a few tricks, you can get your usual time display back, just by reactivating the system icon. To do so, right-click on an empty area of the taskbar and open the 'Properties' via the context menu. On the tab 'Taskbar', click on the button 'Customise' in the field 'Info area'. In the 'Info area symbols' window, click on the link 'Activate or deactivate system icons'. Now set the 'Pattern' of the system icon 'Clock' to 'On' and confirm the action by clicking on OK.

17 Excel
Overhaul corrupted Excel file using built-in tools

A damaged Excel file, or any other office file, can be repaired using built-in tools; no additional programs are required for this. Start by booting up Office Excel and click on 'File' at the top left or on the 'Office' button and go to the link 'Open' in the left column. Now select the damaged file and click on the arrow next to the 'Open' button at the bottom right. In the expandable menu, select the command 'Open and repair' and a window with three buttons will now appear. Now, press the left button called 'Repair'

and Excel will subsequently try to repair the damaged file. If this is successful, save the restored file. But if an error occurs in this action or Excel could not repair the file, then repeat the process. As soon as the Excel window with the three buttons re-appears, press the button 'Extract Data' instead of 'Repair'. You should now be able to access the file.

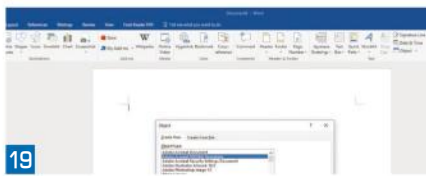
18 Windows 10 Open the activity log events viewer



The tool 'Event Viewer' records all activities of the operating system meticulously

Windows 10 logs all activities in the Event Viewer, which can be used to track exactly what your system has done and when. The fastest way to Open the viewer is via the taskbar. Right-click on the Windows icon and select the option 'Event Viewer' in the context menu. You can also start the program using a command line. To do this, press the key combination [Windows]+[R] to open a 'Run' window and type the command 'eventvwr.exe' in the line 'Open:' and confirm the action by clicking on OK. The events viewer will then open in a new window.

19 Windows 10 Insert PDF document in Microsoft Word



PDF documents can be easily inserted into Word files

If you wish to insert a PDF file into Microsoft Word, there's no need convert it into a text document or take a screenshot. Instead, you can use Adobe Reader for this. Open the Word document that you want the PDF inserted into, then go to the 'Insert' tab. On the right side of the menu group, first search for the group 'Text'.

Then click on the arrow next to the icon 'Object' and go to the first option 'Object' in the collapsible menu. Select the first option 'Adobe Acrobat Document' in the window with the same name and then click on OK. An Explorer window will now open in which you can select and open any PDF file with 'Open'.

Word will now insert the PDF file in the Word document and at the same time, the selected PDF document is opened in Adobe Reader. However, you can close this file immediately.

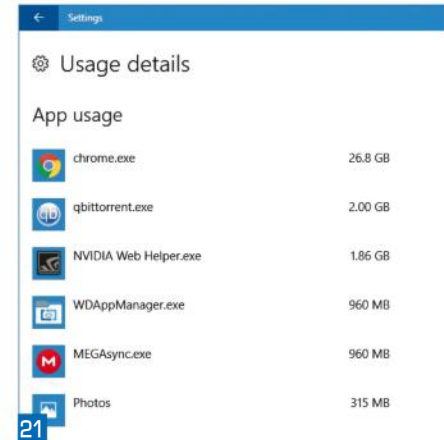
20 Windows Replace or change the defective file 'Shell32.dll'

If your PC reports that the file Shell32.dll is missing, then do not let Windows start. If you are still using Windows XP, Vista or 7, then simply insert the Windows DVD into your computer. After changing the booting, the sequence, start Windows from the DVD and subsequently the 'Computer repair options'. Generally, Windows will now replace the missing DLL file which helps in solving the problem. Under Windows 8 and 10, you only need to open the BIOS or UEFI. In 'Troubleshooting', select 'Advanced Options' and enable the 'Start help'. If this does not help, then go to 'Recover system'. If these actions do not work, then manually replace the file Shell32.dll. To do this, start Windows in safe mode, open the path 'C:\Windows\System32' and search for the file 'shell32.dll'. After right-clicking on the same, go to 'Properties' and check the 'File version' in the 'Details' tab. The version of the replacement file should exactly match the old version as far as possible. You will find a selection of several versions on the website dll-files.com, however these are paid versions. Save the old 'shell32.dll' on a USB stick and delete the file subsequently from the computer. Then insert the new 'shell32.dll' and restart Windows.

21 Windows 10 Display the data utilisation of the last 30 days in the network

You can display your data utilisation for the last 30 days in Windows 10. Click on the 'Windows' icon on the bottom left and go to 'Settings'. Now go to the category 'Network and Internet Connection'. Click

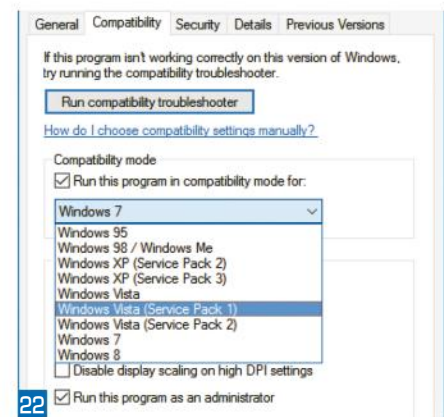
on 'Data usage' on the left. The network traffic of the last 30 days will be displayed here. The 'Network utilisation' of the various programs will be listed via 'Usage details'.



Windows 10 shows which program has sent how much data in the last 30 days

22 Windows 10 Play old games and applications in the latest Windows

There is a function in Windows 10 with which you can start older programs and games which are actually no longer compatible with Windows 10. Look for the EXE file of the program which you wish to start in the compatibility mode. Open the context menu by right-clicking on it. Here, select the option 'Properties'. Now set a check mark for the function 'Run program in compatibility mode for:'. After the list has opened under it, you can select Windows version earlier up to Vista. The settings will be applied by clicking on OK. You can start the program as per usual.



Windows 10 can also mock another operating system for older programs

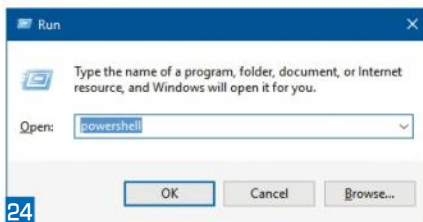
23 Windows 10 Manage stored passwords in the Edge browser

Microsoft Edge has an integrated password manager which can help you save and manage passwords. We will explain to you where you can find the function and also show you an alternative method. Start Edge and click on the three dots in the upper right corner. In the following dropdown menu, select 'Settings' and scroll all the way down till you can click the option 'Show advanced settings'. Under Privacy settings, you can not only activate or deactivate the storage of passwords but also manage the stored passwords. Click on this option. Now all those websites will be displayed to you for which you have saved the passwords.

By clicking on the 'X', you can delete the respective password. If you wish to edit the user name or the password, then double-click on the corresponding website. The stored name will be shown openly to you. However, the password will not be revealed.

If you need the password to be displayed as clear text then go to the Control Panel and select the category 'User accounts'. You will find all the passwords stored in Microsoft Edge in 'Manage your credentials'. Select the desired website here and then click on 'Show'. You will be able to see the password after confirming a security question.

24 Windows 10 What to do if the Start menu is not working



You can restart the crashed Windows Explorer via PowerShell

Sometimes it may happen that the Start menu of Windows 10 does not work. There are various methods to resolve this problem. In many cases, restarting Windows will do the job. Go to the desktop and press the key combination [Alt] + [F4]. Now select 'Restart' and click on OK to confirm the reboot.

Some virus scanners cause this error in the Start menu. Uninstall your antivirus software after testing. If the Start menu

starts working, install another virus scanner and update it to the latest version.

If the Windows Explorer is at fault then open the Task Manager by pressing [Ctrl] + [Shift] + [Esc]. Click on 'More Details' on the bottom left. Scroll to the section 'Windows processes' in the 'Processes' tab and search for the option 'Windows Explorer' there. Right-click and select 'Restart'.

A temporary switch from the usual Start menu in the Tablet mode can also resolve this problem. Press [Win] + [A] to show the Info Centre. Click on the icon 'Tablet mode' on the bottom left. The Start menu should be displayed in the full screen mode by clicking on the Start button. Press [Win] + [A] again and then click in the Info Centre on 'Tablet mode' in order to go back to the Desktop Start menu.

The EDB Log file may also be another cause of this problem. In Windows Explorer, go to the path 'C:\Users\Name\AppData\Local\TileDataLayer\Database' where you can replace the 'Name' with your user name. Look for the file 'EDB00001.log' and delete it. Instead of '1', any random number can be in the file name. If the file cannot be deleted then press [Win]+[X] and select 'Computer Management'. Go to the area »Services and Applications« and stop the service »tiledatamodelsvc« there.

The last method is via the PowerShell. First press [Ctrl] + [Shift] + [Esc] to open the Task Manager. Now disable 'Windows Explorer' using 'End Task' under 'Windows Processes'. Then, go to 'File > Run new task' in the menu bar of the Task Manager and then type 'powershell'.

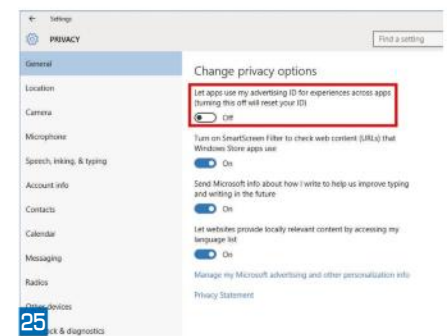
In the PowerShell, type the command 'Get-appxpackage-all*shellexperience* -packageType bundle |% {add-appxpackage -register -disabledevelopmentmode (\$_.installlocation + "\appxmetadata\appxbundlemanifest.xml")}' (without the curly brackets). After the process is complete, also type 'Get-AppxPackage | %{Add-AppxPackage -DisableDevelopmentMode -Register "\$(\$_.InstallLocation)\AppxManifest.xml" -verbose}'. Finally, click on 'File > Run new task' in the Task Manager. Here, type 'explorer.exe' and confirm with OK.

25 Windows 10 Stop Microsoft from eavesdropping on your privacy

Windows 10 has the makings of a real data sucker. No other operating system will

collect so much personal data. Microsoft already grants itself a row of access rights to private data during installation. While installing Windows 10, if you select 'Express-Settings' then you are automatically giving extensive access rights to Microsoft. Therefore, click on 'Customise settings' during the installation. Disable as many options as possible. You can activate the Smart Screen protection if you are not using any other virus protection.

Every Microsoft account is linked with an ID through which the company can link the collected app and browser data with your mail address and name. It is possible to not register for a Microsoft account and use a local account but then services like Cortana will no longer work.



In Data Security settings on Windows 10, disable everything that is not absolutely required

In any case, you should customise the privacy settings in Windows 10. For this, press [Win] + [I] and click on 'Data protection'. Disable the option 'Let apps use my advertising ID for experiences across apps'. You should allow access to your location only to specific apps like a map service. For this, set the corresponding slider to 'On' or 'Off'. Camera access, microphone access, account information, contacts and calendar are also important. Allow access to the corresponding data which you actually use and which can function as such. For example, Skype needs access to the camera, microphone and your account.

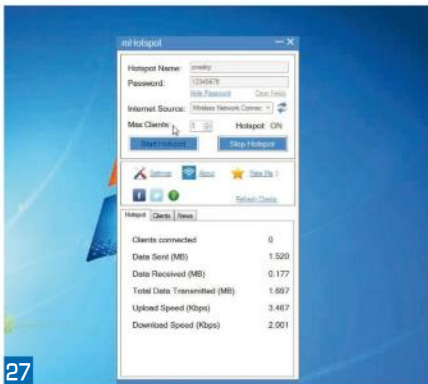
Cortana might be useful but Microsoft reveals your location, contacts, voice input, information from Emails and SMS, browser and searches, calendar details and much more. If you do not use the voice assistant regularly then it is best to deactivate it. Unfortunately, the transmission of personal data to Microsoft under Windows 10 cannot be fully blocked. Even when services like Cortana are disabled, Windows 10 sends some information to Microsoft.

HARDWARE

26 Wireless network Create WLAN hotspot on the computer

With a WLAN hotspot, you can provide Internet access to a smartphone or another computer when only one device can be officially connected. For example, in a hotel. This so-called WLAN Tethering works with the tool mHotspot without any complications. Even if the WLAN connection is unstable at a specific location, a notebook can be abruptly converted to WLAN repeaters using mHotspot. After downloading the tool – make sure to reject all the unwanted additional offers during the installation process – enter a name for the network and assign a password. You will then have to select the option to share the connection over a wireless network connection. You can also set the number of users who are allowed to log on to your network. After clicking on ‘Start Hotspot’, the tool will share the Internet connection of your notebook or PC, which you can then access from other devices by using the password

27 Computer games Testing a hardware’s gaming ‘readiness’ using benchmark tests



With mHotspot, you can extend a wireless network to other computers without much effort

Using the online test ‘Can you RUN it’, you can find out whether your PC or notebook works well with the latest games. In this case, the tool will test your graphics card, CPU and RAM. To start the test, go to systemrequirementslab.com and type the name of a game, such as ‘League of Legends’ or ‘Anno 2070’ in the field ‘Search for a game’. You will then be given the

option to conduct the test via Java (‘Begin Detection’), download the (‘Desktop App’) program to run the test, or you can just view the requirements of the game. We’ll go with the (‘Begin Detection’) example here. Please note that if you choose this option, you will need the latest version of Java. After you have clicked on ‘Begin Detection’, the website will ask for access to Java.

Click on ‘Run’ to get it to start. Once the test is running, make sure that you don’t install any other programs. After the test, ‘Can You RUN it’ will show you the results on the page, separated by ‘Minimum’ and ‘Recommended’ tabs. You’ll want to look at the ‘Recommended’ tab, which tells you whether your PC can really meet the requirements of the game. Furthermore, you will find some information about your graphics card under the section called ‘Video Card’.

28 Laser printer The correct way to dispose empty toner cartridges

A mere 10% of all empty toner cartridges find their way to the correct recycling. This is problematic, because toners and the toner cartridges contain poisonous materials that are harmful to our health and the environment. Therefore, they must not be thrown away along with the usual garbage. There are many options to responsibly deal with empty cartridges.

Re-filling: The most environment-friendly option is to refill a cartridge. Many dealers offer this service and you can thus save a lot of cash.

Disposal: If you wish to dispose of the cartridge then you can do so at a speciality store, electronics store or recycling depot.

Return to manufacturer: Almost every manufacturer of toner cartridges has a standing offer to take back empty cartridges for free. But to do this, you’ll first have to register on the manufacturer’s website. Then you’ll need to print a free return ticket, pack the empty cartridge and send the package.

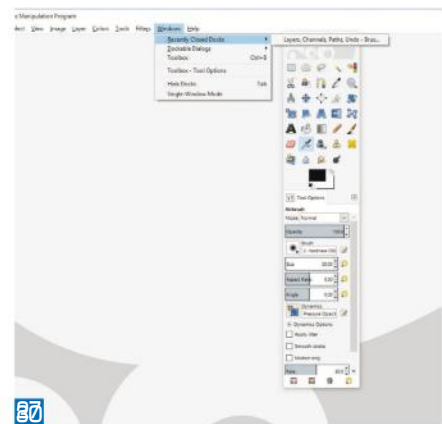
29 TV Optimal adjustment for a HD TV’s picture sharpness

In every TV menu, you will find the ‘Sharpness’ option. Even if it appears to be sharp enough, you rarely get a good, sharp

picture by keeping the setting on high or at the maximum level. The reason is because in most TV sets, there is a tool for edge smoothing when it comes to picture sharpness setting. In case of high sharpness, the TV smoothens outlines in the picture in order to induce a sharpness effect. This can be useful for blurred images, like in old VHS videos. But for high-resolution images like those from Blu-ray, HDTV or even DVDs, an edge smoothing can be superfluous. On the contrary, the effect could actually cause the picture to look softer, which results in loss of detail. Basically, this means that the ideal value for picture sharpness depends on the picture source. The higher the resolution of the material, less picture sharpness is required.

WEB, TOOLS & PHOTOS

30 Gimp Retrieve missing Gimp toolbox



If you miss the toolbox in Gimp, then it is easy to retrieve it with just a few clicks

While working with the image editor Gimp, if the toolbox accidentally gets lost then you may have inadvertently hit the Tab key while working. Fret not, because it is relatively easy to retrieve in the foreground. If you press the Tab key again, then Gimp will display the previously visible docks once more. Alternatively, you can also show or hide the docks via the command ‘Window | Hide Docks’. If you accidentally clicked the ‘Close’ button of the toolbox Docks, then open the ‘Window’ and hover the mouse on the option ‘Recently closed docks’. If the toolbox appears here, set it here by clicking on the option again. Otherwise, you can find the option ‘New toolbox’ below in the ‘Window’ menu. The toolbox will be available again after clicking on this option.

31 Smartphone Track and delete duplicate photos



Anti-Twin tracks photo duplicates for you, deletes them and frees up a lot of space

If you use services like Facebook or WhatsApp often on your cellphone, then you may quickly lose the overview of your photo gallery. The app Duplicate File Finder will help you in locating duplicate photos. Once you have installed the app, go to 'Settings' to configure the media type you are searching for on your smartphone. To expedite the search, remove the check mark for 'Video' in the settings. Now click on 'SCAN' in the home screen. After the search is complete, the app will display a list of all the duplicate images found. Photos you wish to delete can be selected and then sent to the trash by clicking in the top bar.

Alternatively, you can search and delete for duplicates using a PC. In that case, Anti-Twin is the tool you'll want to use. With Anti-Twin, search criteria can be easily defined using the intuitive user interface. If you wish to free up a lot of storage space in the shortest possible time, it is best to search for larger files. After installation, select the individual folder under the title 'Which files to compare?' underlined in blue colour, to start your search for duplicates. Of course, you can scan the entire hard drive, but it will likely take a lot of time to complete the search. Thereafter, choose the method of comparison. If you want a particularly thorough search, then you should select the option 'Compare contents', so that Anti-Twin will find duplicate photos even if they have different file names. After you have set the search criteria, click on 'Search for duplicate files'. Once the search is done, Anti-Twin will display a list of all the duplicate files found. You can select the files to be deleted by checking the coloured box before the file path. Clicking on 'Delete selected files' on the bottom right will then remove all duplicate files. In the next window, the program will prompt you on

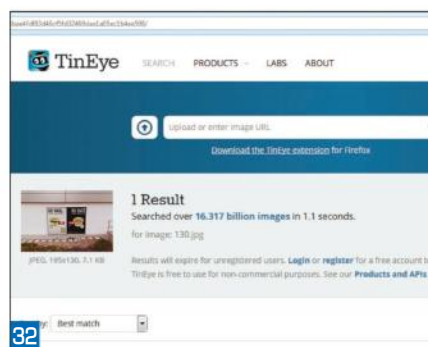
what you intend to do with the files. Here, you'll want to select 'Move to Trash'; you can undo the removal later. Click on 'Yes, Trash' to complete the process.

32 Image search Determining image source via backward search

If you wish to know the source of an unknown photo, Google can help you with that. Go to Google's image search and click on the small camera icon on the right side next to the search line. Next, click on the 'Upload image' tab. Select the image you want searched in the Explorer via 'Search' and click on the button 'Open'. Google will now upload the image and start the search. Select the correct image from the results and you will soon come to the website on which the image is present.

You can also do a backward search using Google Chrome. To do this, right-click on an image and select the option 'Search Google for image'. If the photo is in your PC then you don't need to upload to Google. Search for the image, then right-click on it and select the 'Google Chrome' under 'Open with'. The photo will then open in Chrome and can be used to search for the image source by right-clicking on it.

If Google does not work for you, then it is recommended to use TinEye, which is a search engine specially for images. Apart from photo upload, you can also enter image URLs for search in TinEye.



Not only Google image search but also a search engine like TinEye gives the origin of photos

33 Microsoft Edge Repair an unstable Internet browser by resetting

If Microsoft's Edge browser is irritating you, there is an option to reset it. You cannot re-install Edge because it is integrated in

Windows and there is no tool to repair Edge. However, you can delete all the data and reset the browser in this manner. To do so, click on the three dots on the top right and open 'Settings'. Then, go to 'Select the element to be deleted' and tick the check mark for all of them. Finally, click 'Delete' and restart Edge.

34 Smartphone Encrypt emails on Android cellphones

Did you know that you can encrypt messages from your Android smartphone? First, install the security app APG, an app that encrypts your mails in the popular OpenPGP format. Open the app and go to the option 'Manage private key' in the menu. Here, you can either create a new security key or import an existing one. In case of a new key, enter a user name and your mail address under 'Main ID'. Then under 'Usage', activate the option 'Sign and encrypt' and set a password. The APG app supports various mail services like the app K-9 Mail. After downloading K-9 mail, you have to register using your email address and password. Activate the app 'APG' under 'Cryptography' as 'OpenPGP Provider' and you can now send and receive encrypted mails.

35 Photography Find the optimal settings for moon photos

The moon exudes a special attraction as a photo subject. To capture an optimal picture of Earth's only satellite, you have to make a few special camera settings. Before that, having a tripod is recommended if you want to avoid shaky pictures. The focal length should be very large so that you can zoom in close to the moon, so telephoto lenses with a minimum of 150 to 200 mm are optimal. Due to the brightness of a full moon, it's perfect to snap your shots using a shutter speed of about 1/30 to 1/50 seconds. Also, set the aperture to a value between 8 and 11 (just like what you'd do for landscape photography). The result should be a sharp photo of the moon. Do experiment with the settings during your photo session and, depending on the cloud condition, you can also test different shutter speeds.



LOGAN

IN CINEMAS 2 MARCH 2017



LPF/C/P1-3/SYK268/106207/2016/Lulus

LOGAN CONTEST

Terms & Conditions:

- Contest open to all Malaysians except the employees of Online Dynamics (M) Sdn Bhd & Twentieth Century Fox Film (Malaysia) Sdn Bhd.
- Only original entry form is accepted.
- The judges decision is final and no correspondence will be entertained.

- Prizes are not transferable or redeemable for cash.
- Closing Date: **10th March 2017**
- Send your entries to:
**Online Dynamics (M) Sdn Bhd/
LOGAN Contest
A-5-07, Block A, Neo Damansara,
Bandar Damansara Perdana, Jalan PJU 8/1
47820 Petaling Jaya, Selangor Darul Ehsan.**

LOGAN CONTEST

1st Prize
 Messenger Bag x 1
 Shot Glasses x 1
 Bottle Opener x 1
 Keychain x 1
 In-Season Passes x 2 double

2nd Prize
 Shot Glasses x 1
 Bottle Opener x 1
 Keychain x 1
 In-Season Passes x 2 double

Consolation
 Keychain x 1
 In-Season Passes x 4 double



LOGAN CHIP CONTEST

Questions:

- Looking forward to another sequel of LOGAN? Why?

Name: _____

I/C No: _____

Address : _____

Tel/HP: _____

Email: _____



12/1/2017 – A performer doing an interpretive dance at the Neffos X1 launch



7/1/2017 – Teamwork is important when your in an important tournament like ESL One Genting



7/1/2017 – The announcer at ESL One Genting hyping up the crowd



6/1/2017 – Things are all fun and games...until the competition starts to take back the ESL One Genting trophy



6/1/2017 – There's more than just one type of model at MSI's launch in ESL One Genting

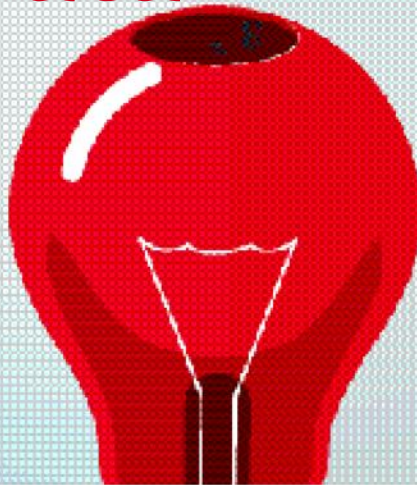


12/1/2017 – Models showing off the new Neffos X1 smartphone

FEBRUARY

Intelligently Encrypt Data

Data encryption is now more important than ever. In this article, we'll show you how you can do exactly that easily and with little hassle



China: Flying High

The world's biggest brands all send their ideas to China for mass manufacturing. If you think that China is all about low cost manufacturing and copycat products. Think again. Chinese companies based in Shenzhen and Shanghai are starting to change the way people look at the country.

Optimise Your SSDs

SSDs may be fast, but you'll only be able to unlock its full potential by tweaking it to the most optimal settings available. Learn how to make the most out of your speedy digital storage devices.



FULL HD 24/7



INFORMASI INSPIRASI MOTIVASI



EXCLUSIVE AT
CHANNEL 420



powered by **TM**

WRITE. DRAW. DIGITIZE.
THE FIRST TABLET FOR NATURAL SKETCHING AND NOTE-TAKING




On-demand
Halo keyboard


Real Pen with
endless battery life

YOGA BOOK

THE WORLD'S THINNEST 2-IN-1*

- 
Browse
- 
Type
- 
Watch
- 
Create

INTEL INSIDE®. EXTRAORDINARY PERFORMANCE OUTSIDE.
LENOVO YOGA BOOK IS POWERED BY
INTEL® ATOM™ x5 PROCESSOR.



FIND OUT MORE:  1800 88 7148  www.lenovo.com/my  www.facebook.com/LenovoMY  www.twitter.com/Lenovo_MY

AVAILABLE AT:
LENOVO EXCLUSIVE STORES: KUALA LUMPUR: Brightstar Computer Sdn Bhd (Plaza Low Yat) • D' Mobile Sdn Bhd (Plaza Low Yat) • FCC Retail Sdn Bhd (Mid Valley) • SNS Network (M) Sdn Bhd (Plaza Low Yat) SELANGOR: FCC Retail Sdn Bhd (Digital Mall Section 14) • IT Comp Sales & Services Sdn Bhd (One Utama) • IT Comp Sales & Services Sdn Bhd (The Mines) • Pro Trade Marketing (Plaza Alam Sentral) • Thunder Match Technology Sdn Bhd (IOI City Mall) JOHORE: Grex Multimedia (Danga City Mall) PAHANG: Core ICT Sdn Bhd (Berjaya Megamall) PENANG: Mind Maker Sdn Bhd (Komtar ICT Mall) PERAK: SNS Network (M) Sdn Bhd (Ipoh Parade) TERENGGANU: Aidea.com Technology (Jln Kampung Dalam, K. Terengganu) and also available at Lenovo authorized retailers.
*Based on Lenovo's internal analysis as of 18 August 2016 of 10.1" or greater 2-in-1 computers (sold with keyboard) using Windows, Android, Chrome or OSx sold by major competitors shipping >1 million units worldwide annually; measured with keyboard attached in closed position.
© 2016 Lenovo, all rights reserved. Lenovo and the Lenovo logo are trademarks or registered trademarks of Lenovo in the United States, other countries, or both. Ultrabook, Celeron, Celeron Inside, Core Inside, Intel, Intel Logo, Intel Atom, Intel Atom Inside, Intel Core, Intel Inside, Intel Inside Logo, Intel vPro, Itanium, Itanium Inside, Pentium, Pentium Inside, vPro Inside, Xeon, Xeon Phi, and Xeon Inside are trademarks of Intel Corporation in the U.S. and/or other countries. Microsoft and Windows are registered trademarks of Microsoft Corporation. Google and Google Play are trademarks of Google Inc. Every effort has been made to ensure the accuracy. Lenovo will not be liable for any inadvertent error which may occur in editorial or typography in this advertisement. All images are for illustrative purposes only.
Lenovo Technology Sdn Bhd (886298-11)