InnoVEX roundtable provides insights for startups

Joseph Tsai,
DIGITIMES, Taipei

To encourage entrepreneurs and startups to innovate, Taiwan External Trade Development Council (TAITRA) on June 7 during Computex 2018 hosted InnoVEX 2018 Roundtable, a seminar gathering executives and professionals from IT startups, enterprises, upstream manufacturers, international buyers, entrepreneurs, venture capitalists and accelerators to exchange thoughts and ideas.

TAITRA president and CEO and the roundtable host Walter Yeh, in his opening speech, expressed his gratitude toward the participants of the roundtable and the support for InnoVEX 2018 from their organizations, enterprises or venture capitals including Amazon Launchpad, Business France, Garage+, Colopl Next, European Business Innovation Center of Murcia (CEEIM), JAFCO Asia, Digitimes, Malaysian Global Innovation and Creativity Center (MaGIC), Beijing Software and Information Services Exchange, Tus-Holdings, ZRC Capital, Telefonica and Korea Trade-Investment Promotion Agency (KOTRA).

Yeh noted that the first day of InnoVEX 2018 was a success with visitors and exhibitors both reporting satisfactory experiences

InnoVEX 2018 Roundtable participants

during their tours. Computex 2018 attracted 1,600 companies from 30 countries worldwide and there are also 388 participating startups from 21 countries at InnoVEX 2018 with a total of 13 country pavilions at the show, up from three in the previous year. InnoVEX has already become an important platform for startups, venture capitals, accelerators and buyers and have attracted increasing numbers of venture capitals with the total of visiting venture capitals reaching 200 this year.

With fresh assistance and support, Computex is able to transform from a traditional ICT trade show covering mainly hardware innovations to a worldwide technology event showcasing emerging applications such as Internet of Things (IoT) and artificial intelligence (AI)

and pushing the development of Taiwan's entrepreneurship, said Yeh.

The first topic of the round table was: With the growing popularity of emerging applications including 5G evolution, blockchain, quantum computing, virtual reality (VR) and augmented reality (AR) and AI, how can governments worldwide assist startups to face the rapidly changing industry trends? Yeh first invited Josephine Chao, president of the Epoch Foundation and founder of the Garage+ project to share her observations and experiences in these new business areas and her thoughts on how government can assist startups over the changes.

Chao noted that these fancy technologies are actually not new as many companies such as Google, Amazon have been

developing these applications for many years and now they have suddenly become the latest trends simply because the markets are ready. Although the technology is important, what governments worldwide should focus more on is the human capital: the younger-generation is an important asset to a country's future, but such an asset is now growing weaker.

Kar Sin Ng, manager of International Partnership and Outreach, ASEAN Center of Entrepreneurship from MaGIC, noted that MaGIC is a government agency that has been looking into emerging industries and they are currently conducting a few projects including gathering startups, government units and companies to talk about the problems that startups are facing as well as regulations that could

potentially influence startups to fulfill their ideas, a sandbox that provides a safe environment for startups to test their ideas and products. MaGIC has also been making recommendations to the government to improve startup environments as well as negotiating with multi-national companies, persuading them to provide their expertise to startups as well as cooperating with them to help them grow.

Yeh then asked Prakash Somasundaram, head of Global Projects at Amazon Launchpad, about how venture capitalists and accelerators choose startups and what resources they provide to support.

Somasundaram responded that when Amazon Launchpad started, the first thing it noticed was that were a lot of funding opportunities for startups. But the problem is that once these startups build their ideas and validate them and they have a product that is ready to ship, how can they get the product discovered by all its customers they try to reach and even distribute the product to them? This gap will be a good spot for Amazon Launchpad to jump in. Currently, Amazon Launchpad is more interested in startups making physical consumer products such as baby food that are expected to have good demand from regular consumers.

For the second topic, Yeh asked about how venture capitalists are adopting different strategies compared to corporative venture capitals and he first invited Jackey Wang, co-founder of Tickle Labs and a venture partner of 500 Startups, to talk about her opinions over the potential competition between venture capitals and corporate venture capitals.

Wang noted that in her personal view, there is no competition between corporate venture capital and traditional venture capital. Although both of them are looking to make profits, corporate venture capital has a different purpose over startup investment than traditional venture capital as they are more like government funds, focusing on investing in new technologies and seeking to create a new industry.

Another issue is that corporate venture capital will have difficulties participating in many of the startup events as finding startups is not their main work.

Venture capitals actually have a more variety of roles to play in startup investment as sometimes they raise their money from corporates and sometimes government. In some cases, corporate venture capitals are actually relying on regular venture capitals to help them find new investment targets.

Ines Oliveira Ribeiro, Finance Manager Wayra Spain and Head of Crowdworking Gran Via Open Future, agreed with Wang, saying that there is no competition between corporate venture capitalists, accelerators and venture capitalists. Telefonica as a corporate venture capital has good relationship with regular venture capital.

Edward Lee, director of JAFCO Asia, believes there is competition between corporate venture capital and venture capital, but he noted that they are healthy competitions.

Lee said that both sides are in the venture capital business because they want to make money and investors are looking for good targets for investments, and it is natural to see some competitions.

Lee noted that there are broad selections of investments worldwide and assisting startups to find good partners is also a job for venture capital. Compared the two, corporate venture capital has more flexibility as it can withstand long-term investments, and is able to provide business resources to help startups grow.

QNAP showcases AI solutions, QTS OS and NAS systems

Press release

At Computex 2018, QNAP Systems, Inc opened its technology suite at the Taipei International Convention Center (TICC), Meeting Room 201E, to bring visitors a profound, in-depth experience. Together with new NAS models and solutions, NAS-based machine learning and AI applications in healthcare are being demonstrated to display QNAP's commitment to AI development. There is also a sneak-preview of advancements for the upcoming QTS 4.3.5 NAS operating system.

QNAP's AI solution for the medical industry

QNAP offers both software and hardware strengths to comprehensively fulfill AI computing and storage, and exhibits solid results in ophthalmology. A powerful QNAP NAS running the "QuAI" package demonstrates the absolute power to perform as an AI computing center with machine learning capabilities, trained to identify specific eye diseases. It not only improves medical diagnosis, but also creates possibilities to aid organizations that lack medical resources. All the DICOM images can be backed up to another NAS which operates the Orthanc as a picture archiving and communication system (PACS), which is beneficial to disease management as well as realizing remote healthcare.

QVR Pro video surveillance solution

The QVR Pro surveillance solution runs alongside the NAS OS as an independent operating environment. Administrators can allocate dedicated storage space to QVR Pro and the performance will not be impacted by other NAS applications. Optimized for surveillance management, QVR Pro delivers enhanced usability and the incorporation of NAS functionalities such as cross-platform client monitoring and management, CMS concepts, failover capabilities, and expandable storage. More powerful features include comprehensive camera management and support, smarter event management, and Intelligent Video Analytics (IVA) for face recognition.

Maximized NAS performance

The upcoming TS-x77XU NAS series adds rack-mountable models to the QNAP's range of AMD Ryzen-based NAS. The TS-x77XU features great support for graphics cards for empowering AI machine-learning tasks with higher performance. Graphics cards can also be passed through to virtual machines to provide them with higher performance potential. In aspects of virtualization applications, the support of iSCSI Extensions for RDMA (iSER) boosts the data transfer performance of the TS-x77XU NAS as VMware ESXi storage and reduces the CPU load of the ESXi server. iSER can significantly increase performance, providing an essential tool to optimize demanding virtualization applications.

Sneak-preview of QTS 4.3.5

Alongside QNAP's expanding lineup of 10GbE-capable NAS systems, 10GbE switches, and wireless adapters, the upcoming QTS 4.3.5 QNAP enhances the Network and Virtual Switch app to visualize physical/virtual connections with a network topology map that significantly eases the challenging network management. QNAP's proprietary QBelt VPN protocol is being developed to help encrypt traffic when accessing sensitive data and to decrease the chance of being detected. Advances in storage efficiency go parallel to high-speed networking in response to prevailing 10GbE requirements. From SSD over-provisioning that improves write performance to fully utilize the 10GbE potential to flexible snapshot configurations, QNAP NAS is truly an all-round storage/computing solution.

New products at a glance

● **TVS-951X:** Honored with the Red Dot Award (2018) and Computex d&I Award (2018) for high-quality product design, the high-capacity-compact-size 9-bay NAS features a 14nm Intel Kaby Lake 7th-generation Celeron 3865U low-power dual-core 1.8 GHz processor, and dual 10GbE SFP+ ports, and supports 10GBASE-T connectivity, multimedia transcoding/streaming, and 4K HDMI output as a multifaceted NAS solution.

● **TS-1635AX:** A high-capacity and affordable 16-bay NAS with a high-performance Marvell ARMADA 8040 ARMv8 Cortex-A72 64-bit quad-core 1.6 GHz processor, dual 10GbE SFP+ ports, two M.2 2280 SATA SSD slots, and two PCIe Gen3 slots, supporting Linux virtualization, SSD caching, Qtier 2.0, and more business-ready apps.

● **TS-251B:** An economical 2-bay NAS designed for home users, powered by an Intel Celeron J3355 dual-core 2.0 GHz processor and supporting PCIe expansion, multimedia transcoding/streaming, and 4K HDMI output with optimal cost efficiency.

● **TR-004:** A USB 3.0 Type-C hardware RAID external enclosure that supports up to four SATA 6Gb/s drives and features portability and plug-and-use convenience for QNAP NAS, Windows and Mac computers.

Asus announces new ZenBook, VivoBook and VivoWatch BP

Press release

Asustek Computer has unveiled at Computex 2018 new products, including ZenBook Pro 15 and ZenBook Pro 14 with ScreenPad input device, ZenBook S, a full lineup of VivoBook notebooks, and the VivoWatch BP wearable blood-pressure monitor.

As part of the new ZenBook and VivoBook introduction, Asustek announced a partnership with Hollywood actress, Gal Gadot, as brand ambassador for Asus PC product lines.

The company also gave a sneak peek at Project Precog, a concept device and a convertible dual-screen notebook equipped with artificial intelligence (AI) features. The dual-screen form factor is designed to provide a set of intelligent capabilities, including Intelligent Touch and Intelligent Charging.

"Over the last three decades, Asus has focused on delivering meaningful innovations to market as well as refining every meticulous detail to perfect the computing experience," said company chairman Jonney Shih. "We aspire to bring out the best in everyone by helping them unleash their creative power with beauty, performance, innovation and state-of-the-art technology including AI."

New VivoBook models include VivoBook S15 (S530) and VivoBook S14 (S430), a pair of lightweight notebooks available in a choice of five colors and several textured finishes. Also announced was VivoBook S13 (S330), which features a 13-inch display in an 11-inch body and is the first Asus notebook to feature a four-sided NanoEdge bezel, which enables an 89% screen-to-body ratio for a maximized viewing area. The VivoBook S15, S14 and S13 are powered by 8th Generation Intel Core processors.

New ZenBook notebooks include ZenBook Pro 15 (UX580), ZenBook Pro 14 (UX480) and ZenBook S (UX391). ZenBook Pro 15 and ZenBook Pro 14 run Windows 10 and feature ScreenPad, a new way to interact with ZenBook.

DIGITIMES Research
Taiwan notebooks, 1Q18

Introduction

Taiwan makers' notebook shipments in the first quarter of 2018 performed weaker than originally expected, slipping 17.1% sequentially and 7.4% on year to reach only 27.07 million units. The on-year decline was much worse than that of a quarter ago. (Note: Unless otherwise indicated, all figures and tables in this report refer to output from Taiwan makers.)

The makers' shipment declines were in line with the generally weak performances of notebook vendors. Lenovo, Apple and Asustek Computer all had higher-than-expected shipment declines in the first quarter. Lenovo's shipments to overseas markets were seriously impacted by the China-US trade tensions. In the gaming notebook segment in its home market, the China-based vendor was sandwiched between US-based first-tier brands and local white-box vendors. In China's regular consumer sector, Lenovo lost market share to newcomers including Xiaomi and Huawei.

Taiwan makers' notebook shipments are expected to rise 5.6% sequentially in the second quarter due to brand vendors' seasonal inventory preparation, but the volumes still went down 8.3% on year.

Despite the positive factors including the preparations for clients' new products and back-to-school demand in the second quarter, some makers have seen inventory pressure as a result of overstocking of components in January and February in a bid to minimize the component shortage impact plaguing the industry.

Worldwide notebook shipments also performed weaker than expected, dropping 16.8% sequentially and 4.7% on year to come to 34.22 million units.

The enterprise sector continued seeing rising shipments on year in the first quarter with a single-digit percentage growth, but the consumer sector had an on-year shipment decline up to 10% in the quarter, lacking stimulations from new innovations and technologies. The consumer sector's weak shipment performance in the first quarter was also a result of the Chromebook and gaming notebook markets reaching maturity, with Chromebook shipments even starting to experience on-year decline.

As notebook costs have been picking up, vendors have begun giving priority to raising the value of the devices – and hence their profitability – over shipment volumes, further stifling the shipment momentum of consume models.

In the second quarter, worldwide shipments are expected to see a 5.5% rebound sequentially as most notebook brand vendors are preparing new devices. Compared to the same quarter a year ago, the worldwide shipments in the second quarter are expected to still see a decline worse than that of the first quarter. The trade tensions between the US and China are expected to further undermine China-based vendors' notebook shipments to North America in the second quarter. And the Chromebook market is expected to continue experiencing on-year declines in the second quarter despite the period being the traditional peak season for the product segment.

Shipments breakdown

Clients

Acer returned to become the fourth-largest client of Taiwan makers in the first quarter of 2018, surpassing Asustek Computer, whose notebook shipments went down over 30% sequentially, affected mainly by its business re-organization and management reshuffle.

Primarily focusing on the enterprise sector, Dell's notebook shipments rose 1.4% sequentially in the first quarter at the expense of competitors, including Lenovo, who lost orders in the business-use segm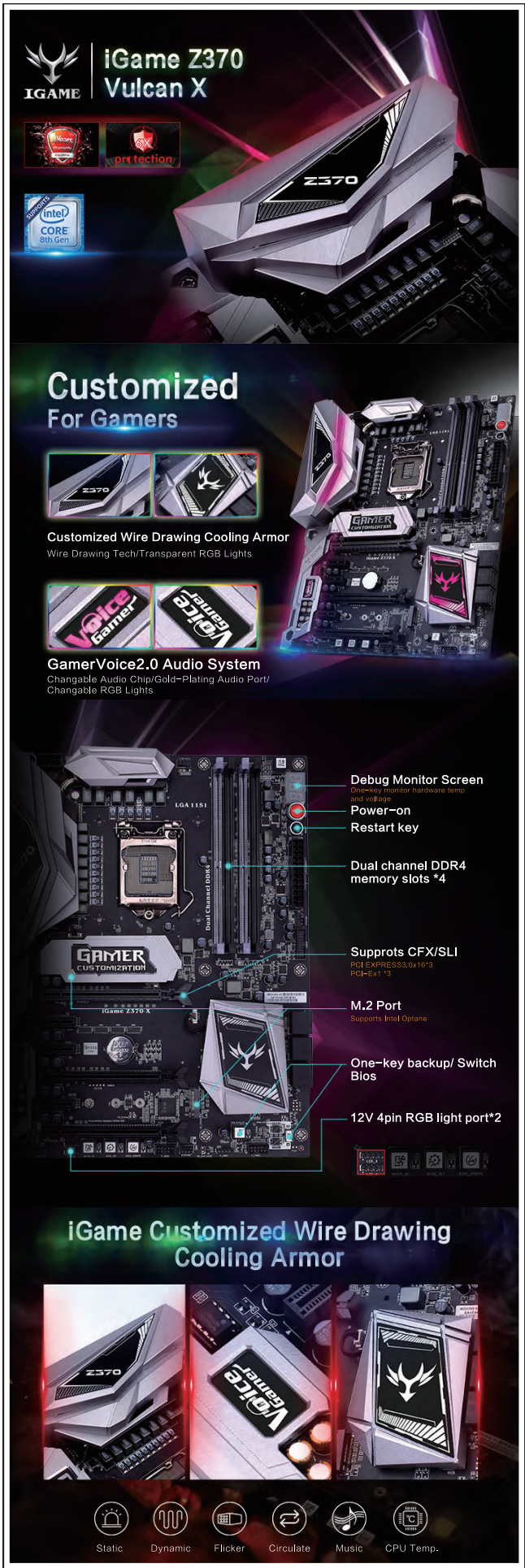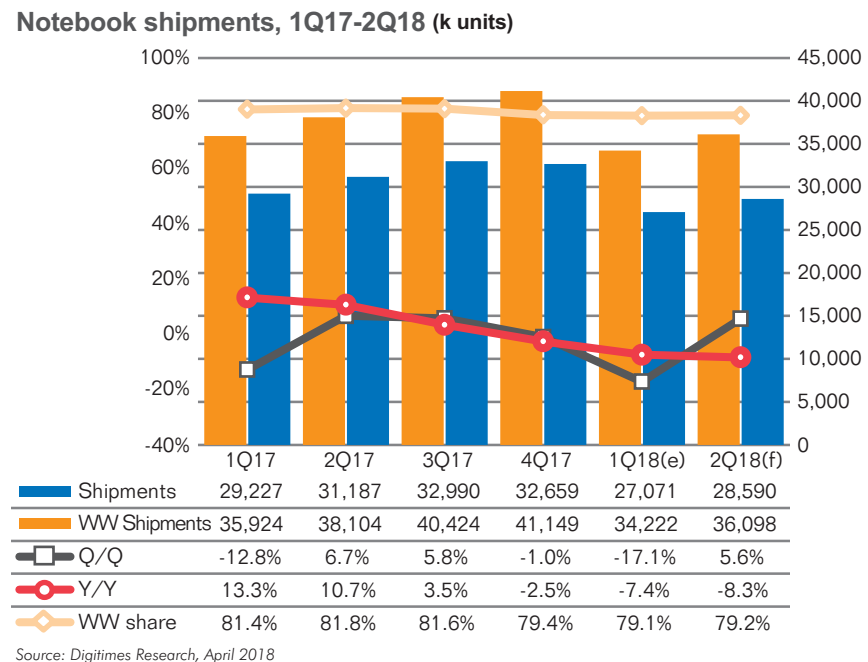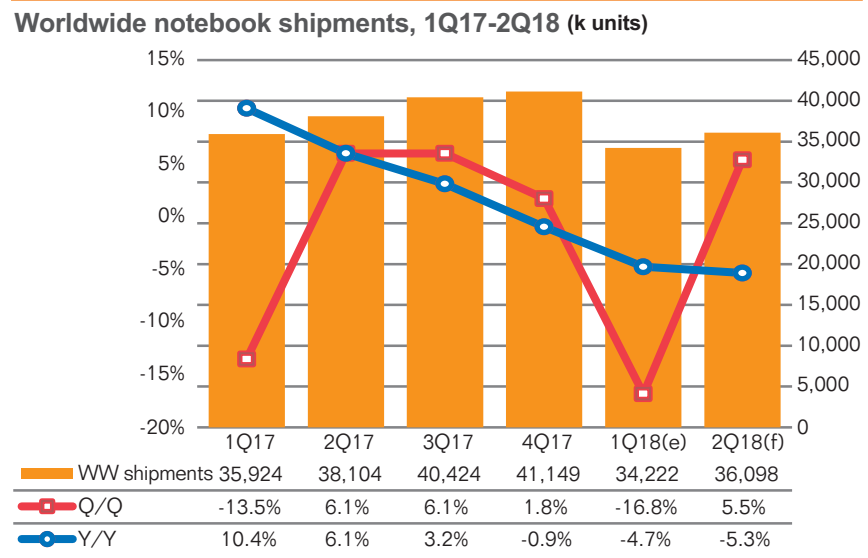ent. Apple cut its notebook orders with Taiwan partners by 33.5% sequentially in the first quarter as it prepared to transition to its upcoming inexpensive MacBook series.

In the second quarter of 2018, Acer will leapfrog Apple to become the third-largest clients of Taiwan makers. Acer's shipments will grow 16% on quarter due to the contribution from Chromebooks and the expansion in North America's gaming market.

Hewlett-Packard (HP) is expected to see shipments rise 9.2% sequentially in the second quarter with the releases of its new competitive products including entry-level gaming and workstation notebooks. Dell's shipments will grow another 10% sequentially in the second quarter. In addition to the enterprise sector, the vendor will push its Chromebooks and high-end ultrathin notebooks.

Lenovo's shipments from Taiwan makers will drop below the two million mark and come to only 1.67 million units in the second quarter. The sharp drop will stem from the trade tensions between China and the US, resulting in losses of orders from North America's government and enterprise procurement markets. Lenovo's strategy of increasing its outsourcing to in-house production line LCFC will also play a role in the reduction of orders for its Taiwan manufacturing partners. Lenovo's loss in North America will mean gains by HP and Dell.

Worldwide notebook shipments, 1Q17-2Q18 (k units)

	1Q17	2Q17	3Q17	4Q17	1Q18(e)	2Q18(f)
WW shipments	35,924	38,104	40,424	41,149	34,222	36,098
Q/Q	-13.5%	6.1%	6.1%	1.8%	-16.8%	5.5%
Y/Y	10.4%	6.1%	3.2%	-0.9%	-4.7%	-5.3%

Source: Digitimes Research, April 2018

Notebook shipments, 1Q17-2Q18 (k units)

	1Q17	2Q17	3Q17	4Q17	1Q18(e)	2Q18(f)
Shipments	29,227	31,187	32,990	32,659	27,071	28,590
WW Shipments	35,924	38,104	40,424	41,149	34,222	36,098
Q/Q	-12.8%	6.7%	5.8%	-1.0%	-17.1%	5.6%
Y/Y	13.3%	10.7%	3.5%	-2.5%	-7.4%	-8.3%
WW share	81.4%	81.8%	81.6%	79.4%	79.1%	79.2%

Source: Digitimes Research, April 2018

For the worldwide shipments, Asustek outshipped Apple by less than 50,000 units in the first quarter of 2018, placing the Taiwan-based vendor in fourth place in terms of global notebook vendor rankings. However, Acer will take over the fourth position in the second quarter
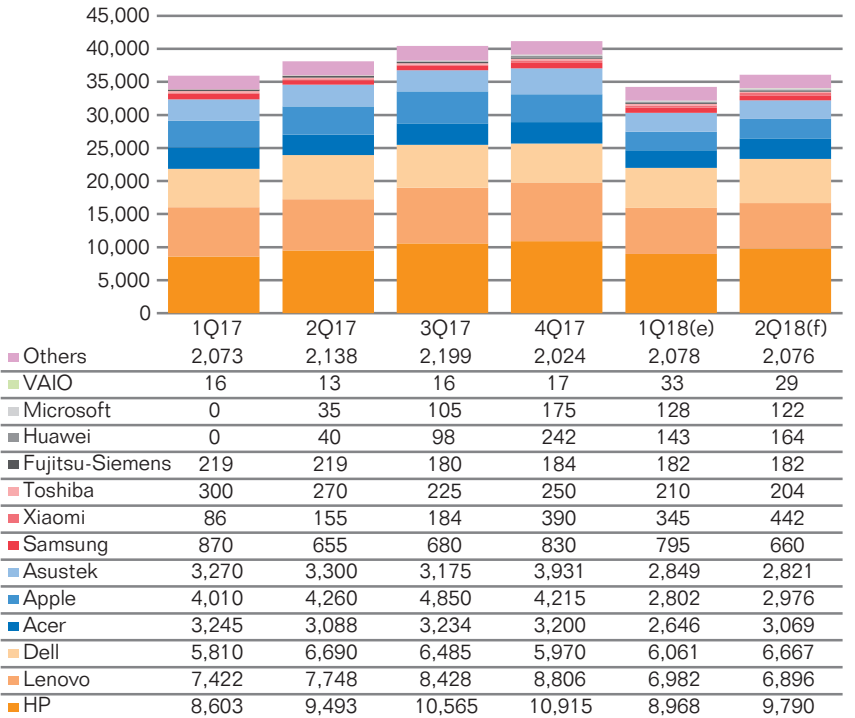
with a small margin. Apple's new inexpensive MacBook series will not begin mass production until June and prior to that, Apple's shipments will remain weak.

Xiaomi's shipments will rise to 442,000 units in the second quarter. Starting the second quarter, the China-based vendor has outsourced its new entry-level and gaming notebooks to
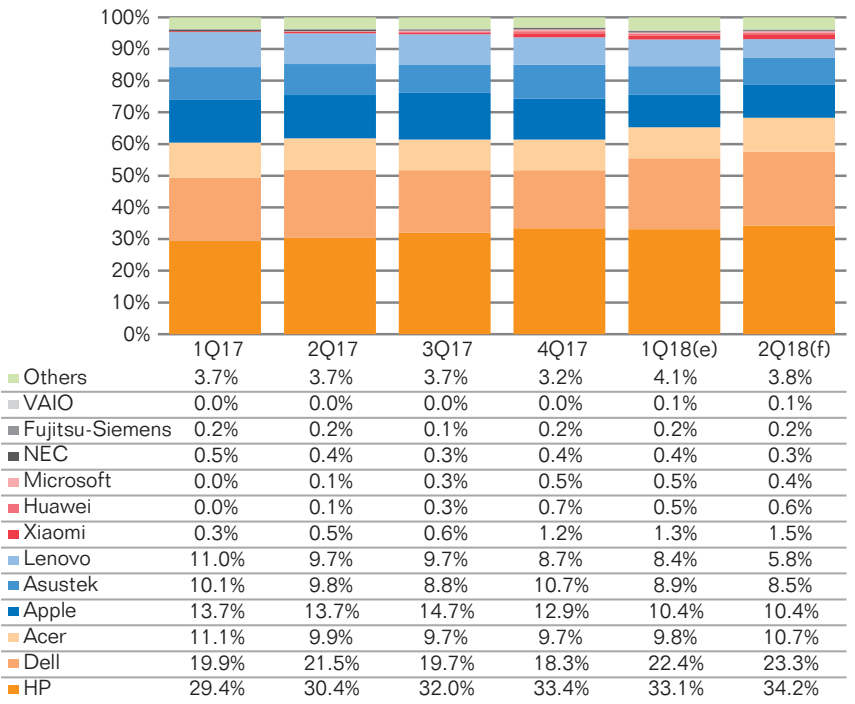
Quanta Computer and will also add China-based manufacturer Huaqin Telecom Technology to its supply chain. China-based Xiaomi and Huawei have both been aggressively expanding their shipment scales, at the expense of fellow vendor Lenovo's performance in their home market.

HP's strategy for the second quarter is to push Chromebooks in the consumer sector; high price/performance-ratio gaming notebooks in mature markets; and product rental services and workstation notebooks in the enterprise sector. The strategy is expected to boost HP's shipments by around 822,000 units sequentially.

With weak results in the first quarter, Acer is looking to gain momentum in North America by promoting its Chromebooks, Marvel-themed notebooks and new Predator gaming devices. Yet to fully recover

from its business restructuring, Asustek will see shipments stay below three million units in the second quarter.

CPUs

With Nvidia delaying the release of its next-generation GeForce 1100 series GPUs to the fourth quarter, Taiwan's shipments of AMD-based notebooks are expected to witness an above average growth in the second quarter of 2018 thanks to increasing demand for gaming models featuring AMD's CPU and GPU combination. Compared to the same quarter a year ago, shipments of notebooks using AMD's hardware will also rise by over 40%, increasing their market penetration from below 10% to around 12%.

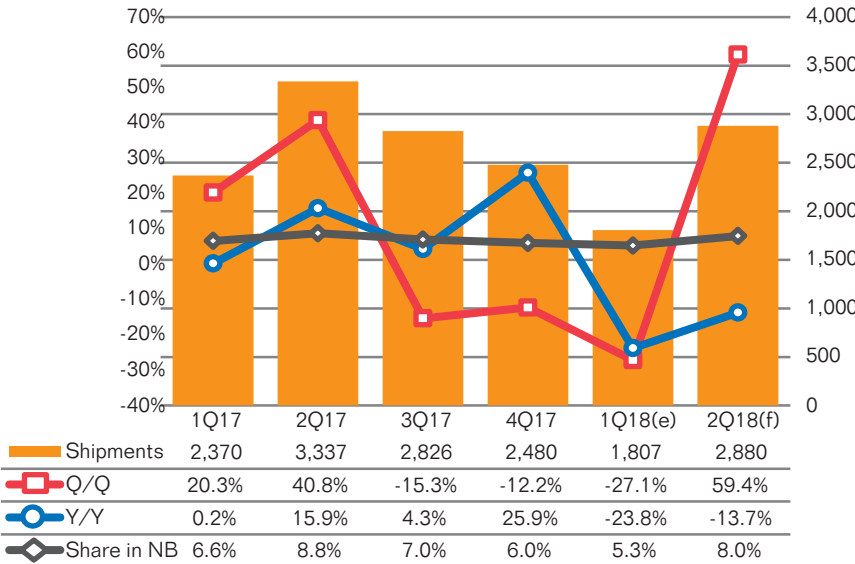The second quarter is the traditional strong season for Chromebook products and increasing
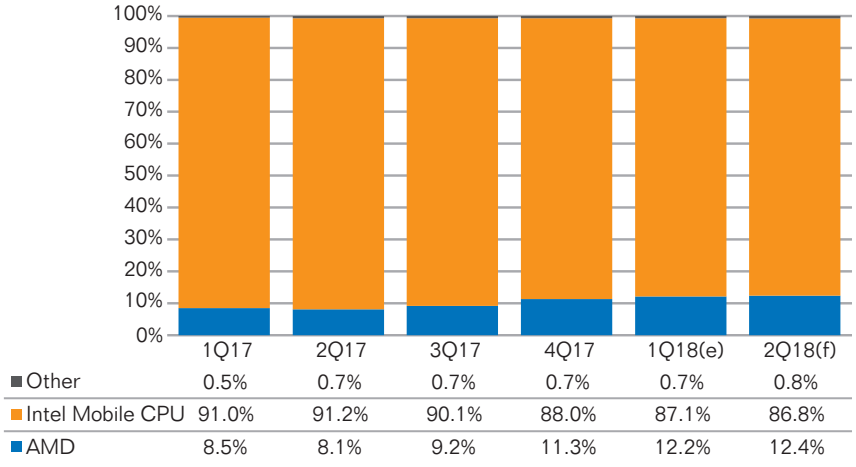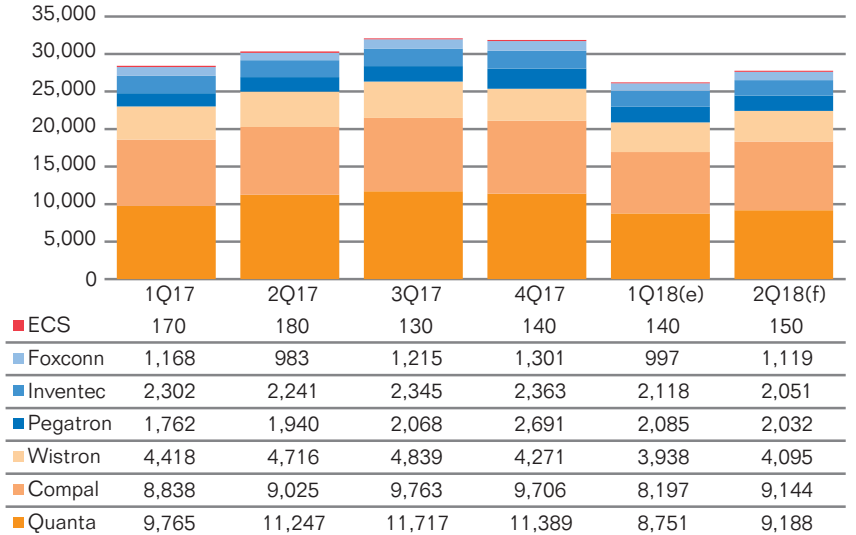
shipments for Chromebook models using ARM-based solutions from MediaTek and Rockchip will boost the volumes in the "Other" segment.

Screen size

The shipment share of 14-inch models – most of them featuring the hugely popular ultrathin bezel design – rose to 23.9% in the first quarter of 2018, up from only around 21.6% in the same quarter of 2017.

The shipment share of 15-inch models will reach 43.5% in the second quarter of 2018 as many vendors' mainstream 15-inch products will be released.

The 12-inch and the below 12-inch product segments will both enjoy sequential shipment growths in the second quarter thanks to strong seasonal demand for Chromebooks and from the education sector.

Makers

Wistron performed the best among the top makers in the first quarter of 2018, seeing its shipments drop only 7.8% sequentially, as its orders from Dell, Lenovo and Acer all increased from a quarter ago.

Quanta witnessed an over 23% decline sequentially in first-quarter shipments primarily due to Apple's order cuts. Quanta's orders from Apple for the second quarter will remain feeble, but its overall shipments will rise to around 9.19 million units thanks to orders from its Taiwan-based brand clients.

Compal Electronics will see its shipments rise to 9.14 million units in the second quarter, only less than 50,000 units behind the top ODM Quanta. The growth will be contributed by HP and Dell placing extra orders.

Chromebook

Chromebook shipments in the first quarter of 2018 were weaker than Digitimes Research's previous forecast, declining sequentially by 27.1% and annually by 23.8% – their first-ever on-year drop. The sequential decline was a result of weak sales in the fourth quarter of 2017 that led to inventory pileups among vendors. The on-year drop was due to strong shipments during first-quarter 2017, as the top-5 vendors all aggressively participated in the Chromebook competition at the time.

Acer had the highest Chromebook shipments in the first quarter of 2018 with its volume reaching nearly 600,000 units. HP and Dell each shipped more than 300,000 units in the quarter, while shipments from Samsung, Lenovo and Asustek reached 100,000-300,000 units each.

Shipments in the second quarter are expected to rise nearly 60% sequentially because of a seasonal pickup in demand and a low comparison base in first-quarter 2018. However, compared to the same quarter a year ago, the volume will still drop 13.7%.

Notebook shipment share by major client, 1Q17-2Q18

	1Q17	2Q17	3Q17	4Q17	1Q18(e)	2Q18(f)
Others	3.7%	3.7%	3.7%	3.2%	4.1%	3.8%
VAIO	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
Fujitsu-Siemens	0.2%	0.2%	0.1%	0.2%	0.2%	0.2%
NEC	0.5%	0.4%	0.3%	0.4%	0.4%	0.3%
Microsoft	0.0%	0.1%	0.3%	0.5%	0.5%	0.4%
Huawei	0.0%	0.1%	0.3%	0.7%	0.5%	0.6%
Xiaomi	0.3%	0.5%	0.6%	1.2%	1.3%	1.5%
Lenovo	11.0%	9.7%	9.7%	8.7%	8.4%	5.8%
Asustek	10.1%	9.8%	8.8%	10.7%	8.9%	8.5%
Apple	13.7%	13.7%	14.7%	12.9%	10.4%	10.4%
Acer	11.1%	9.9%	9.7%	9.7%	9.8%	10.7%
Dell	19.9%	21.5%	19.7%	18.3%	22.4%	23.3%
HP	29.4%	30.4%	32.0%	33.4%	33.1%	34.2%

Source: Digitimes Research, April 2018

Global major vendors' shipments, 1Q17-2Q18 (k units)

	1Q17	2Q17	3Q17	4Q17	1Q18(e)	2Q18(f)
Others	2,073	2,138	2,199	2,024	2,078	2,076
VAIO	16	13	16	17	33	29
Microsoft	0	35	105	175	128	122
Huawei	0	40	98	242	143	164
Fujitsu-Siemens	219	219	180	184	182	182
Toshiba	300	270	225	250	210	204
Xiaomi	86	155	184	390	345	442
Samsung	870	655	680	830	795	660
Asustek	3,270	3,300	3,175	3,931	2,849	2,821
Apple	4,010	4,260	4,850	4,215	2,802	2,976
Acer	3,245	3,088	3,234	3,200	2,646	3,069
Dell	5,810	6,690	6,485	5,970	6,061	6,667
Lenovo	7,422	7,748	8,428	8,806	6,982	6,896
HP	8,603	9,493	10,565	10,915	8,968	9,790

Source: Digitimes Research, April 2018

Notebook shipment share by CPU, 1Q17-2Q18

	1Q17	2Q17	3Q17	4Q17	1Q18(e)	2Q18(f)
Other	0.5%	0.7%	0.7%	0.7%	0.7%	0.8%
Intel Mobile CPU	91.0%	91.2%	90.1%	88.0%	87.1%	86.8%
AMD	8.5%	8.1%	9.2%	11.3%	12.2%	12.4%

Source: Digitimes Research, April 2018

Top makers' notebook shipments, 1Q17-2Q18 (k units)

	1Q17	2Q17	3Q17	4Q17	1Q18(e)	2Q18(f)
ECS	170	180	130	140	140	150
Foxconn	1,168	983	1,215	1,301	997	1,119
Inventec	2,302	2,241	2,345	2,363	2,118	2,051
Pegatron	1,762	1,940	2,068	2,691	2,085	2,032
Wistron	4,418	4,716	4,839	4,271	3,938	4,095
Compal	8,838	9,025	9,763	9,706	8,197	9,144
Quanta	9,765	11,247	11,717	11,389	8,751	9,188

Source: Digitimes Research, April 2018

Chromebook shipments, 1Q17-2Q18 (k units)

	1Q17	2Q17	3Q17	4Q17	1Q18(e)	2Q18(f)
Shipments	2,370	3,337	2,826	2,480	1,807	2,880
Q/Q	20.3%	40.8%	-15.3%	-12.2%	-27.1%	59.4%
Y/Y	0.2%	15.9%	4.3%	25.9%	-23.8%	-13.7%
Share in NB	6.6%	8.8%	7.0%	6.0%	5.3%	8.0%

Source: Digitimes Research, April 2018