

Seasonal expansion with mixed patches of organic growth



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Business conditions were weak through the first half of 2013. Normal seasonal growth is now underway, and there are also mixed signs of improvement beyond pure seasonality.

Using global and regional PMIs (Purchasing Managers Indices) as a measure of expansion (Chart 1), world growth was flat from May to June, with the USA, Europe, Taiwan and Japan reporting improved PMIs, and China and S Korea deteriorating.

In addition to widespread economic doldrums in 1H'13, the electronic end markets changed. Apple lost some sales momentum, and as a result its suppliers suffered. Concurrently, personal computer demand declined (Chart 2) as media tablet and smartphones eroded PC sales (Chart 3).

The combined result of economic weakness and product uncertainty was a very weak 1Q'13 and a subdued seasonal

rebound in 2Q'13 with June 2013 electronic equipment shipments down 6% vs. June 2012 (Chart 4).

The traditional Taiwan-listed ODM companies (typically with China mainland manufacturing) felt the pain as their

2013 will not be a banner year, but its second half looks more promising than its start!

combined quarterly sales "growth" has been negative since early 2012 (Chart 5).

However, U.S. electronic equipment orders improved in May and Taiwan chip foundries (a leading indicator for global semiconductor shipments) reported a large jump in combined June revenues (Chart 6).

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End markets

Global IT spending will grow 2% y/y to US\$3.72 trillion in 2013.—Gartner

Taiwan tablet shipments will grow 24.5% y/y to 120 million units in 2013 even though global tablet demand is expected to grow 60-70% y/y to 230-240 million in 2013.—MIC

Mobile Communications

- Consumer wireless electronics sales will increase by 54% y/y to 73 million units in 2013.—Strategy Analytics
- Mobile-cellular subscriptions will reach 6.8 billion by the end of 2013; 99 countries already had more cell phones than people in 2011.—United Nations
- Global smart connected devices (PC, tablet and smartphone) shipments are expected to surpass 1.7 billion units by 2014 with roughly one billion units delivered to emerging markets.—IDC
- Smart connected devices in emerging markets will surpass 1 billion units shipped by 2014 with more than 60% going to BRIC countries.—IDC

Datacom & Telecom

- Data center network equipment revenue declined 11% q/q to \$2.3 billion in 1Q'13.—Infonetics Research
- Ethernet switch market increased 1% y/y to \$4.7 billion worldwide in 1Q'13.—Infonetics Research
- Computers & Peripherals
- PC shipments contracted 10.9% y/y to 76 million units in 2Q'13.—Gartner
- PCs, tablets and mobile phones are jointly projected to grow 5.9% to 2.35 billion units in 2013.—Gartner
- Storage
- External disk storage systems factory revenues declined 0.9% y/y to \$5.9 billion in 1Q'13.—IDC

Other

- 3D printing revenue is projected to grow from \$1 billion in 2012 to \$4 billion by 2025.—IDTechEx
- Advanced automotive electronics

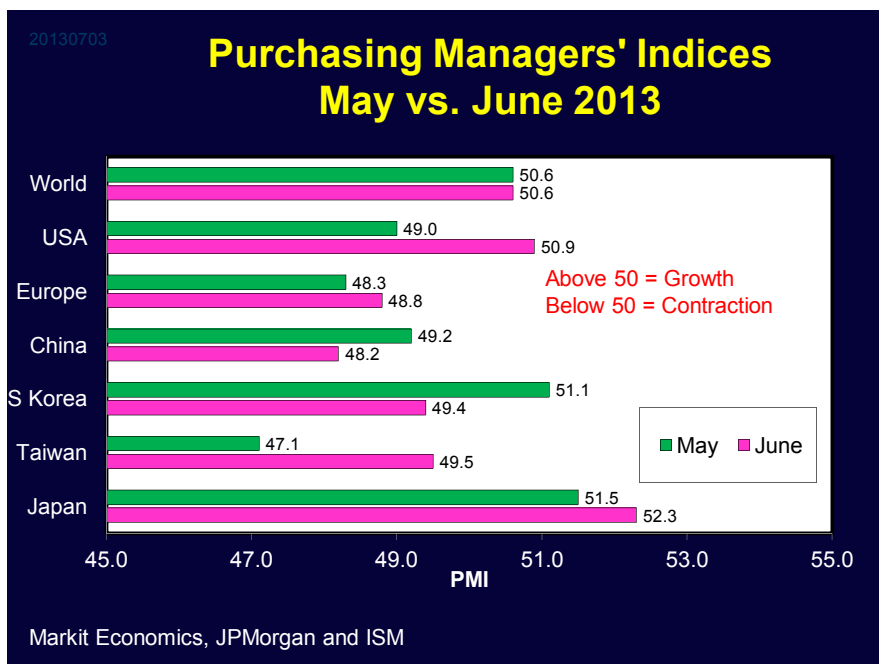


Chart 1.

market is forecast to grow more than 50% from 2010 to \$240 billion by 2020.—IHS

- Flexible displays are projected to grow from 3.2 million in 2013 to 792 million units in 2020.—IHS
- LCD TV shipments grew 4% y/y to 44.8 million units in 1Q'13, led by strong growth in China.—NPD DisplaySearch

EMS, ODM & related assembly activity

Global ODM notebook computer shipments fell 17% y/y to 33.2 million units in 1Q'13.—IHS

Medical design and manufacturing contract manufacturing market is expected to grow from \$16 billion in 2012 to \$34 billion by 2019.—Frost & Sullivan

Global electronics contract manufacturing market will grow at a 9% CAGR from \$435 billion in 2013 to \$670 billion in 2018.—BCC Research

- Computers and telecommunications contract manufacturing market will expand at a 9.3% CAGR from \$243 billion in 2012 and \$250 billion in 2013 to \$389 billion by 2018.
- Consumer and industrial contract manufacturing market is projected to expand at an 8.9% CAGR from \$128 billion in 2012 and \$132 billion in 2013 to \$203 billion by 2018.

Worldwide electronic assembly market is expected to increase 3.2% y/y to \$742 billion with Asia Pacific accounting for 413.9 billion; America, \$126.6 billion; Japan,

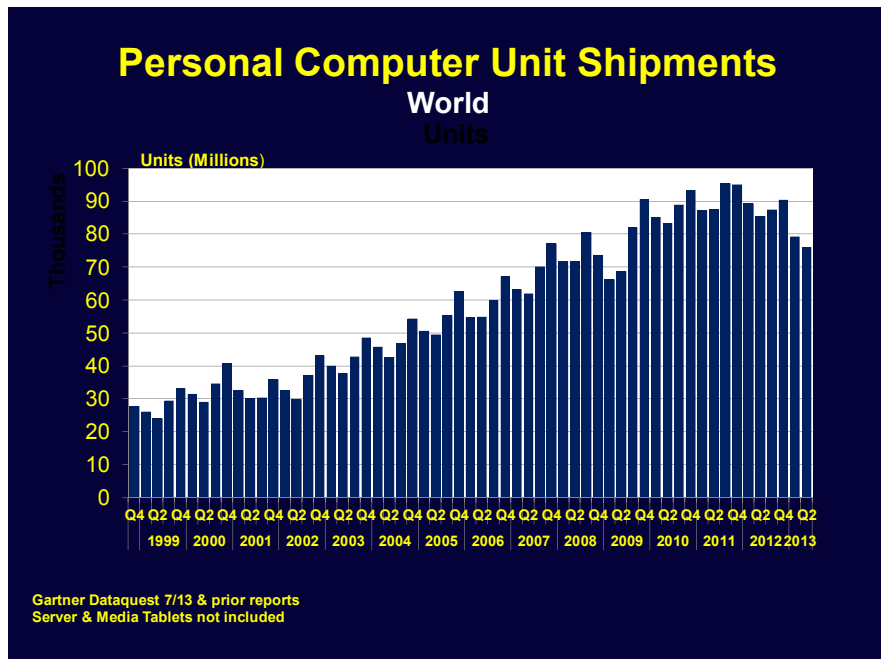


Chart 2.

\$101.8 billion and EMEA, \$96.6 billion.—ZVEI

AlphaEMS expanded its Fremont, California facility to over 46,000 SF.

Applied Wiring Assemblies terminated its operations in Georgetown, Canada.

Asian Circuits added SMT electronic assembly service for prototype and small production runs.

Assel received China Compulsory Certification for the majority of product categories sold in China.

BTSR International added a Juki ISM storage management system.

Carolina Electronic Assemblers installed a Juki FX-3 XL/KE-3020 large board line.

Connect Group NV invested EUR 2 million to install a production line in Oradea, Romania.

Connor Solutions

- named Steve Henderson Business Development Director.
- invested £3.6m in Sunderland, UK to double capacity to 50,000 SF.

Creation Technologies Design Services opened a 10,000 SF design center in Oak Creek, Wisconsin.

Creonix was sold to Sparton.

CSM Electronics added a Nordson YESTECH BX benchtop AOI system.

CTS consolidated its manufacturing facilities in Singapore and Glasgow, Scotland.

Darekon acquired Apelec and transferred its electronics manufacturing to the company's Haapavesi and Savonranta factories. Datest completed a recertification audit for ISO9001 / AS9100C.

ESCATEC

- joined UN Global Compact.
- installed a Nikon XTV160 2.5D X-Ray inspection system.

Firstronic and **Maxway Technology** formed a JV, Maxtronic in Shenzhen, China.

Flextronics

- was chosen to participate in China's central bank's new pilot Qualified Domestic Individual Investor program.
- added Zalaegerszeg, Hungary to its design, manufacturing, logistics and

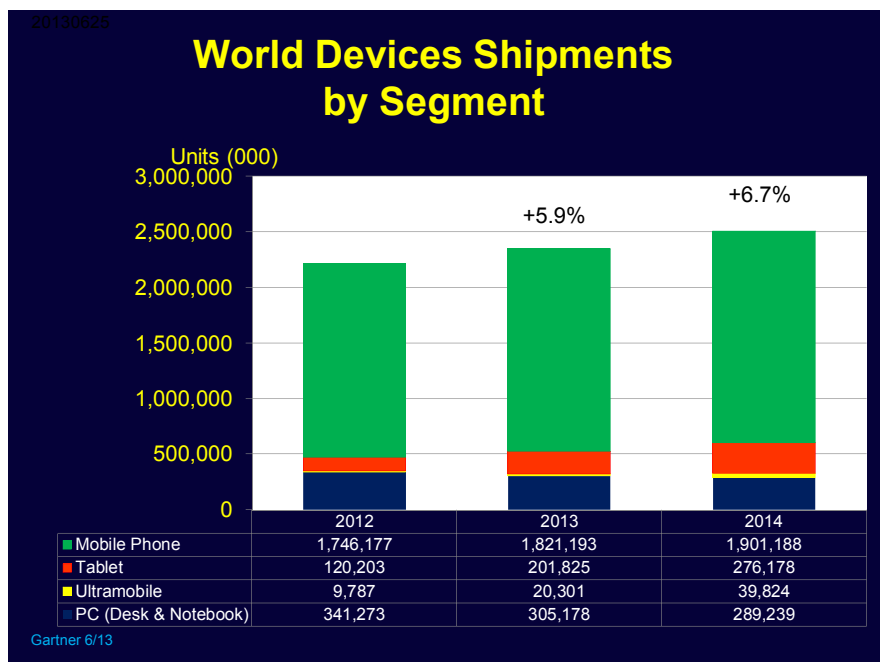


Chart 3.

Taiwan.

- shipped 7 million motherboards with 1.7 million units being brand models, 1.5 million graphics cards and 1.5 million notebooks in the first five months of 2013.

Endicott Interconnect Technologies filed for Chapter 11 bankruptcy.

Epec acquired Suncoast Digital Technology. FastPrint acquired eXception's PCB Business.

Firan Technology Group established an aerospace PCB JV with Tianjin Printronics Circuit.

Fujikura rebuilt two factories that were destroyed by floods in Thailand in 2011, added an additional plant in Thailand and purchased a factory in Vietnam from bankrupt Japanese makers.

Kyoei Denshi is doubling its capacity in 2013.

Global Brands' sales of automobile boards totaled US\$107 million or 23% of the company's total revenues in 2012.

Gorilla Circuits received Integral Technology's Zeta certification.

Graphic installed an outer layer strip-etch line from WISE.

KCE is investing Bt4.6 billion to expand its PCB production capacity by 185,000 M2/month with the addition of another facility in the Lat Krabang Industrial Estate (Bangkok, Thailand).

Lenthor named Rich Clemente, GM.

Multek opened an interconnect technology center in Silicon Valley.

Nan Ya PCB is investing most of its targeted capex of NT\$2 billion (US\$67 million) on FC CSP (chip scale package) substrates in 2013.

NCAB Group appointed Carl Moehring as Western Regional Manager and hired Kelly David as Accounting Manager.

Nippon Mektron built a new back-end plant for FPC.

PGF Technology Group added two MYDATA MY100 SXE100 machines.

PJC Technologies promoted Scott Pihl to VP of Operations.

PragoBoard joined FabStream's global network of PCB manufacturers for the Czech and Slovak regions.

Q.P.I. Group and its subsidiaries Q.P.I. Circuits and Q.P.I. Electronic Design Automation moved to new location in Helmond, Netherlands.

Specialized Coating Services added a Nordson YESTECH's BX-UV automated conformal coat inspection system.

Spirit Circuits invested in a CCD camera AOI system from Viking Test.

Sunshine Circuits was certified to produce

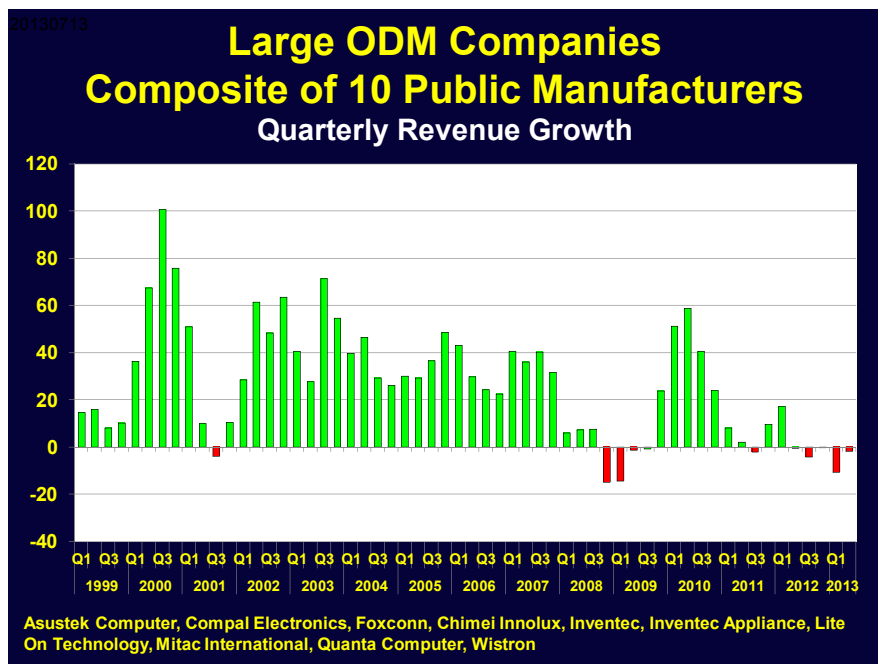


Chart 5.

PCBs using Integral's Zeta glass-free laminate and film solutions.

SVTronics purchased a VisionPro AP500 SPI unit from ASC International.

TTM Technologies' Exec. VP and COO Shane Whiteside left the company.

Unimicron

- discontinued traditional rigid PCB production investments and is gradually retiring its capacity for below 6-layer rigid PCBs.
- is expanding its Any-Layer HDI board and IC substrate capacity and upgrading substrate manufacturing processes.

Unitech shifted 50% of its total HDI board capacity to Any-Layer products.

Viasystems became a member of Electronics Industry Citizenship Coalition.

Zhen Ding plans to spend US\$100 million in 2013 to expand FPCBs capacity.

ZOT Engineering added a KISS 103 selective soldering system in Scotland.

ZVEI PCB and Electronic Systems extended Dr. Wolfgang Bochtler's term as Chairman of the organization for another three years.

Materials & process equipment

Total industrial machine vision sales are expected to grow at an 8% CAGR.—Yole Développement.

Altus Group named Andy Wolfe Sales Support Manager.

Avantor Performance Materials named Jitesh Mehta as Director of Sales and Marketing for Electronic Materials in

North America and Europe and Gary Dailey as Global Marketing Director for Electronic Materials.

CCI Eurolam appointed Christian Backhaus Sales Manager.

Conductive Compounds received ISO 9000:2008 certification.

DEK

- appointed Jens Katschke to lead its European-based Solutions Engineering Team for the Electronics Assembly business.
- launched a new customer-inspired web platform.

Diagnosys Systems relocated its UK facilities to Ferndown, Dorset, and Portsmouth, Hampshire.

ETEK Europe appointed Michal Okolotowicz as Sales & Applications Manager.

FlexLink opened operations in Turkey's Izmir area.

Fritsch is celebrating its 35 year anniversary.

Henkel named Kevin Becker as VP of Product Development and Engineering.

Hermes Microvision is building an equipment plant in Southern Taiwan Science Park scheduled for completion in 4Q'14.

IDEMITSU developed a new metal plating process on low loss polystyrene resin for the high-speed PCBs.

Insulectro hired Greg Clementz as Technical Account Manager for the U.S. Midwest region.

Isola expanded production of RF/Microwave materials in Germany.