

Difficult start to hopefully an improving year



Walt Custer and Jon Custer-Topai

The first quarter of 2013 was challenging for most companies in the global electronic supply chain.

Economic conditions were weak worldwide at the beginning of the year. Based upon regional Purchasing Managers 3/12 growth rates (comparing 1Q'13 to 1Q'12), China ended the first quarter very slightly in an expansion mode, but the other key regions in *Chart 1* were still contracting.

Global semiconductor shipments (a measure of electronic assembly activity) dropped to zero growth in March 2013 after what appeared to be a brief (and probably false) demand expansion earlier in the year (*Chart 2*).

Electronic equipment sales declined 2.7% (preliminary estimate) in 1Q'13 vs. 1Q'12 based upon the combined revenues of 115 large global OEMs (*Chart 3*). A financial composite of eight large EMS companies had its sixth straight quarter of declining sales (*Chart 4*) and a group of

10 normally strongly performing ODMs (*Chart 5*) saw sales drop over 10% in 1Q'13 vs. 1Q'12. *Not much good news in early 2013!*

As sales slipped, the ratio of inventories/sales rose throughout the supply chain (*Chart 6*). It should be noted however that this ratio normally increases in the first quarter of a year, and this year's increase was relatively modest.

Chart 7 summarizes first quarter 2013 growth for key sectors of the global supply chain. These values are still preliminary as a number of large companies had not yet reported by early April.

Recent reports indicate that electronics demand is now improving, but 1Q'13 was certainly challenging!

End markets

Mobile communications

- Global smartphone shipments increased 9.4% q/q to 216.4 million

units in 1Q'13.—DRAMeXchange Trendforce

- Smart mobile device shipments grew 37.4% y/y to 308.7 million units in 1Q'13.—Canalys
- Worldwide mobile phone shipments expanded 4% y/y to 418.6 million units in 1Q'13 as smartphones out-shipped feature phones for the first time.—IDC

Computers & peripherals

- Asia-Pacific PC shipments declined 13% y/y to 26.4 million units in 1Q'13.—IDC
- EMEA PC shipments contracted 20.2% y/y to 21.8 million units in 1Q'13.—IDC
- Global tablet shipments grew 142.4% y/y to 49.2 million units in 1Q'13.—IDC
- Solid State Drive shipments in PCs will rise from 31 million units in 2012 to 227 million units in 2017.—IHS

Other

- U.S. gaming hardware sales dropped 32% to \$221.6 million in March.—NPD
- Taiwanese contract makers' digital still camera shipments fell 44% y/y to 5.74 million units in 1Q'13.—Digitimes Research

EMS, ODM & related assembly activity

Worldwide EMS industry revenues are expected to grow from \$352B in 2012 to \$454B by 2016.—IDC

Artaflex became a private company; consolidated stock holding and delisted from TSX Venture Exchange.

Ayrshire Electronics chairman and CEO Milo Bryant passed away after a brief illness.

Celestica received ISO 13485 certification for medical device manufacturing in Oradea, Romania.

Custom Interconnect secured funding from the UK government-backed growth accelerator program.

E.D&A. added a SMD-placement machine, selective solder machine and flying probe test machine in Kapellen, Belgium.

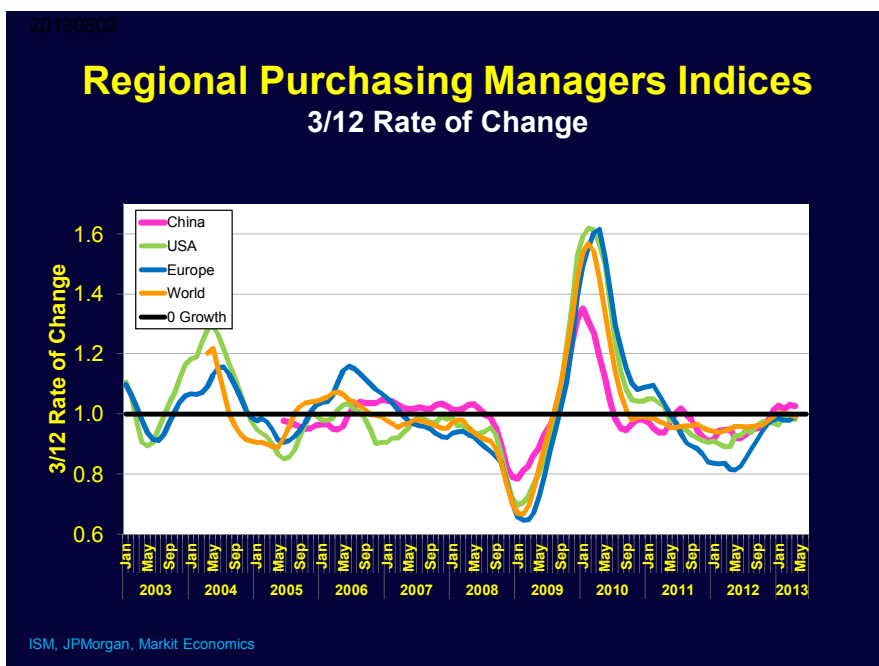


Chart 1.

Efore laid off 37 employees globally.
Engent added a DEK Horizon 03iX print platform in Norcross, Georgia.
EPIC Technologies relocated its operations from a 56,000 SF facility in Lebanon, Ohio to a 74,000 SF facility in Mason, Ohio.
Escatec

- appointed Martin Svensson as its first specialist salesman for its contract R&D service in Heerbrugg, Switzerland.
- named Wolfgang Plank as head of its Micro Optic Electronic Manufacturing Services facility in Heerbrugg, Switzerland.

Fideltronic Poland became a manufacturing partner for Fideltronik.

Flextronics

- completed its Motorola Mobility Operations acquisition.
- appointed Christopher Collier Executive Officer and CFO.
- opened 5,000 M2 medical design center in Milan, Italy.

Foxconn/Hon Hai

- booked a portion of 512Mb DDR2 production capacity at Winbond Electronics with prices 15-20% higher than the prevailing market price in order to secure a steady supply of memory chips.
- resumed hiring (at a rate of 10,000/week) assembly-line workers in Zhengzhou, China.
- was ranked the world's 113th-largest company by Forbes magazine.

GPV appointed Torben Hjort as Head of Global Supply Chain.

GTK appointed Gary Bowen, Production Manager.

Kitron

- CEO Jürgen Bredesen resigned.
- named Cathrin Nylander CFO.

Liad Electronics Breda (Netherlands) added four new Mydata SMD towers.

Michigan Mechanical changed its name

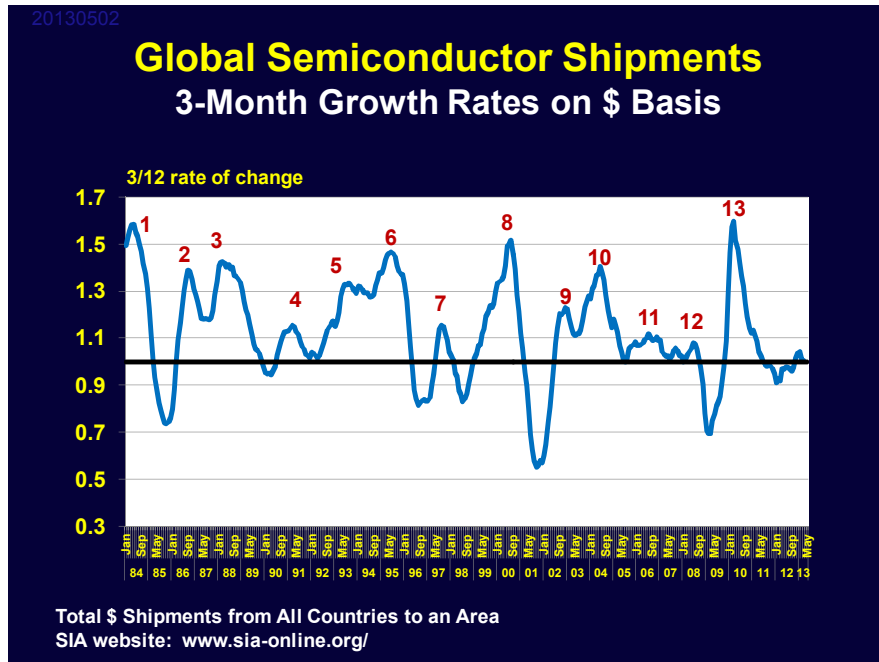


Chart 2.

to Michigan Manufacturing International (MMI).

Pegatron increased its China workforce by 40%.

Saline Lectronics appointed Merideth Armstrong as Quality Manager.

Stadium appointed Charlie Peppiatt, CEO.

StecaElektronik added a Mek AOI machine.

PCB fabrication

Aspocomp Group re-elected Tuomo Lähdesmäki as Chairman of the Board and Johan Hammarén as Vice Chairman.

Daleba Printed Circuits named Matthew Chesterman, Managing Director.

DK Thermal (Canada) appointed Dan Spencer to Western Regional Sales

Manager.

DKN Research co-developed thin metal-free flexible circuits with micro via holes for scientific and medical devices.

Endicott Interconnect Technologies named Jim Matthews Jr., CEO replacing retiree Jay McNamara.

Epec Engineered Technologies completed a \$500,000 upgrade to its New Bedford, MA facility.

Flex Interconnect Technologies appointed Allan Knox, Applications Engineer.

Fuba Printed Circuits Tunisie initiated an IPO for entry to the Tunisian stock exchange.

Invotec Group named Anthony Jackson, Product Assurance Manager and Tony Ridler, Technical Manager.

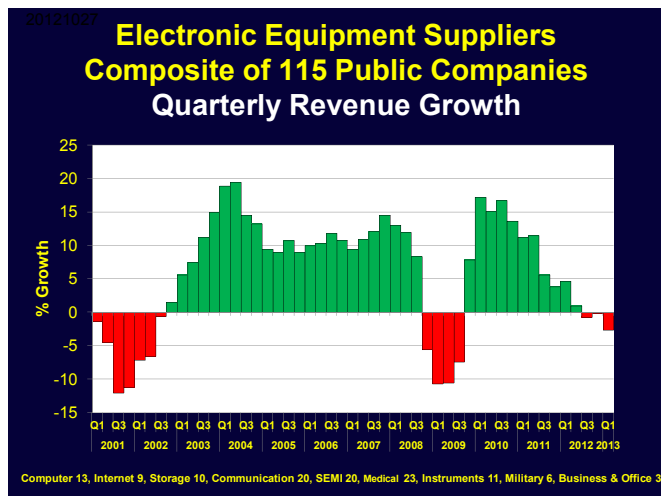


Chart 3.

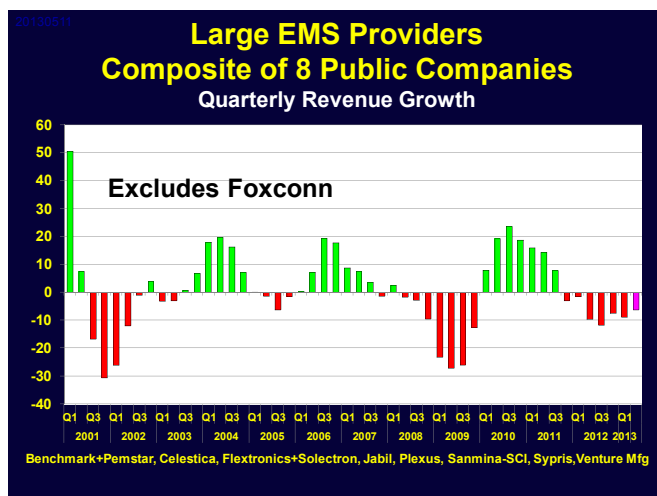


Chart 4.

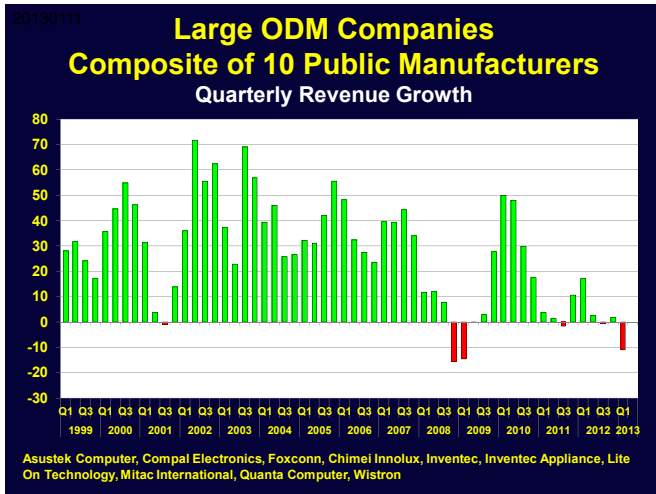


Chart 5.

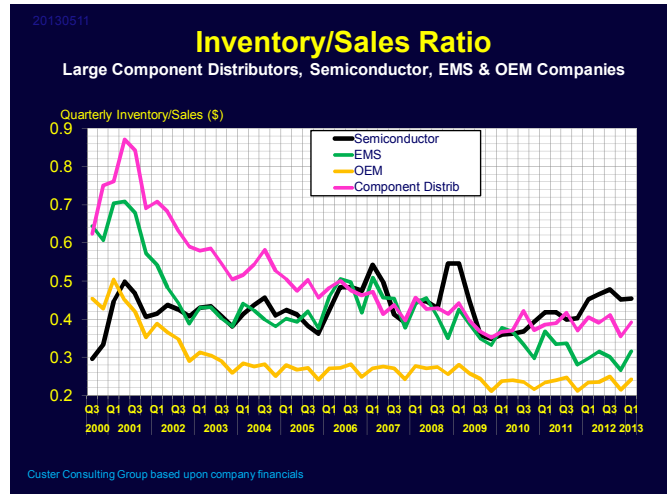


Chart 6.

Murrietta Circuits achieved MIL-PRF-55110G for polyimide materials.
PJC Technologies appointed Lance Riley, VP of Corporate Sales and Marketing.
Printed Circuits added a Pluritec Inspecta Combo HPL X-Ray registration system.
Quadra received ISO 9001 accreditation.
Rockwell Collins will close down PCB production by January 2014.
Sanmina's Wuxi, China PCB facility received AS9100 certification.
Screaming Circuits began offering PCBexpress® quick-turn fab integrated with PCB assembly.
Shenzhen Sunshine Circuits became certified to use Integral's Zeta® glass-free laminate and film solutions for rigid PCB applications.

SKN Electronics added surface mount assembly production lines.
Spirit Circuits received ISO 14001:2004 certification.
Taiwan PCB Techvest plans to ramp up its PCB production capacity significantly by end of 2013.

Materials & process equipment

AIM Solder appointed Rich Sales Company as its representative in Arkansas, Louisiana, Oklahoma and Texas.
Alpha received information that imitation soldering materials bearing the Alpha name are being sold in the China market by unauthorized manufacturers and distributors.

ASC International opened 13,000 SF corporate offices in Medina, Minnesota.
Aspen Labs and **Digi-Key Corporation** introduced free online CAD tools to support PCB design and development.
Cencorp Americas appointed Petri Koivunen, Director of Sales in Americas and VP, Laser & Automation Systems and Terho Tamminen, VP, Life Cycle Management.
DownStream Technologies launched FabStream for PCB design.
Dymax Oligomers & Coatings appointed Matthew Sheridan as Sales Manager, Oligomers and Coatings.
Elite Material joined the High Density Packaging User Group.
Enthone North America named Ron Bader, Director of Sales. Congrats Ron!
Etek Europe appointed Gabriel Burke, GM in Ireland.
FBC Holding purchased all of the assets of an east coast-based provider of used and refurbished PCB and SMT machines.

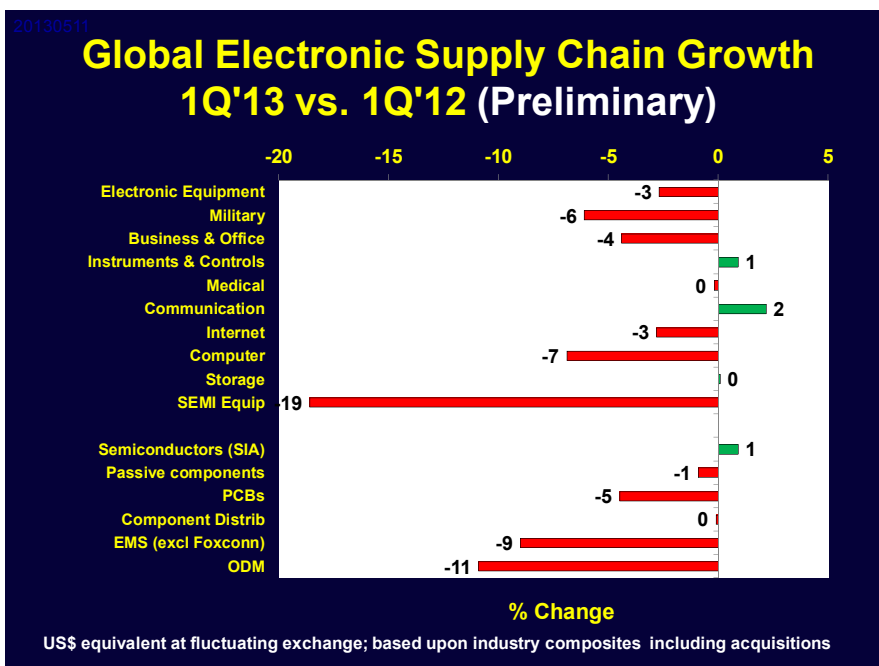


Chart 7.

FCT Assembly

- appointed CDK Sales Solutions as its manufacturers' representative for Southern California.
- expanded its Fort Collins, Colorado facility.

Giga-tronics sold its SCPM product line to Teradyne.
JOT Automation moved its HQ to Oulu, Finland.
Mass Design launched No Cost SoloPCB Design software.
MatriX Technologies acquired **FocalSpot**.
Omron Europe B.V. (Industrial Automation Business) named Hiroyuki Usui, CEO.
Park Electrochemical appointed Robert Yaniro, Corporate Controller and Steve

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Photo: izenbamboo.com

In other words, at a time in history when we're looking to use less non-renewable natural resources, bamboo is a terrific alternative and kudos to the folks at iZen (and other companies), who are pioneering the use of this grass in more and more electronic products.

iZen's bamboo keyboard

92% of the keyboard is made from pure bamboo. The rest is metal and plastic in small amounts. It's got a rechargeable lith-

ium ion battery. At the end of its life, you can send it back to iZen for recycling. Or, if you loved your keyboard and have a sentimental streak in you, you can bury the biodegradable bamboo housing in your backyard.

Additionally, according to the manufacturer, the bamboo is harvested in a way that doesn't tear up the environment or the panda's habitat. No gnarly toxins or dyes are used on the bamboo.

And, from a "people" vs. "planet" perspective, the products are made in China at a manufacturing plant that "...offers a clean and safe environment for its employees, pays fair wages, does not use child labor and is sweatshop free."

Summary

iZen's bamboo Bluetooth keyboard is a great product innovation that substitutes a low-cost, renewable resources for a higher cost non-renewable one. Moreover, from a systems perspective, it intentionally seeks humane supply chain working conditions

for people who manufacture the keyboards. And the process of growing, harvesting and transporting the bamboo provides jobs and income to people in rural areas.

Harvey Stone is a long-time environmental entrepreneur, consultant and writer within the electronics industry. Most recently, he has co-developed DfE Online™ - the industry's only comprehensive source of DfE principles, practices, methods and case studies (<http://www.techforecasters.com/dfe-online>). Harvey is also the author of MELTING DOWN—a "Jason Bourne meets climate change" thriller novel. He can be reached at harvey.stone@harvey-stone.com

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Pittari, VP of Business Development.

Peak Group named Karl Miles, Technical Sales Manager.

SEHO partnered with **Industrial Vision Technologies** to enhance AOI capabilities.

Specialty Coating Systems relocated its Woking, United Kingdom, Parylene coating service operation to new facility with additional 8,200 SF of production and office space.

Universal Instruments named Peter Roelvink Regional Manager, European Customer Operations.

Semiconductors & other components

India's semiconductor consumption increased 7.4% y/y to USD 8 billion in 2012.—Gartner

Acceleration/yaw sensor sales will increase 12% y/y in 2013 to \$2.84 billion and grow an additional 19% y/y to \$3.39 billion to 2014.—IC Insights

GaN and SiC power IC market is set to rise from US\$143 million in 2012 to US\$2.8 billion in 2022.—IHS

Global IC packaging, testing sales grew 2.1% y/y to US\$24.53 billion in 2012.—Gartner

Global semiconductor sales increased 1.1% m/m and 0.9% y/y to US\$23.48 billion in March 2013.—SIA

Worldwide semiconductor foundry market grew 16.2% to \$34.6 billion in 2012.—Gartner

Industrial semiconductor market value reached \$32.3 billion in 2012.—Semicast Research

MEMS pressure sensor shipments will grow 14% y/y to US\$1.71 billion in 2013.—IHS

Motion sensing IC market reached record-high sales of \$2.54 billion in 2012.—IC Insights

Smartphone processor market grew 60% y/y to \$12.9 billion in 2012.—Strategy Analytics

Worldwide IC shipments that include Bluetooth technology are set to rise from 1.6 billion in 2011 to 3.1 billion units in 2017.—IHS

Worldwide semiconductor assembly and testing revenues increased 2.1% to US\$24.5 billion in 2012.—Gartner

North American semiconductor equipment industry posted \$1.14 billion in orders worldwide in March 2013 (3-month average basis) and a book-to-bill ratio of 1.14.—SEMI

Southeast Asia region front-end fab equipment spending is expected to double next year from \$810 million in 2013 to \$1.62 billion in 2014.—SEMI

Worldwide semiconductor manufacturing

equipment spending declined 16% to \$37.8 billion in 2012.—Gartner

Worldwide semiconductor photomask market is expected to grow from \$3.2 billion in 2012 to \$3.5 billion in 2014.—SEMI

Worldwide silicon wafer area shipments decreased 1.6% q/q and increased 4.8% y/y to 2,128 million square inches during 1Q'13.—SEMI

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