

2013: A single digit growth year?



Walt Custer and Jon Custer-Topai

Global electronic equipment production peaked seasonally in late 2012 with the vast majority of the late year growth in SE Asia (Chart 1). Domestically electronic equipment production has been contracting since 2010 but it increased slightly this past fall (Chart 2).

Global semiconductor shipments finally crossed the “growth” line into positive territory in November and Custer Consulting Group’s world semiconductor leading indicator points to a modest continued expansion in 1Q’13 (Chart 3). However based upon the SIA’s region statistics (Chart 4) chip shipment growth was driven by SE Asia and N America with Japan and Europe lagging badly.

In China/Taiwan the major ODM companies (led by Foxconn) had a record year, peaking seasonally in November and generating a 4% composite annual sales increase in 2012 vs. 2011 (Chart 5).

Globally PCBs, semiconductors, electronic equipment and the Global PMI leading indicator all have recovered to indicate real growth (3/12 >1) with further but subdued expansion likely in early 2013 (Chart 6). Of course the results will vary region-to-region with Europe and Japan still struggling.

Looking forward Chart 7 summarizes recent growth forecasts for the global electronics supply chain in 2013. Conditions are still tenuous but this year looks like one of a mid-single digit world expansion driven by SE Asia.

End markets

Worldwide IT spending is projected to grow 4.2% y/y to \$3.7 trillion in 2013.—Gartner

Indian electronic products market is expected to grow at 22% CAGR from \$100 billion (approximately Rs 5,00,000 crore) in

2013 to \$400 billion in 2020.—LSI India

Mobile Communications

- China had 1.104 billion mobile phone users, including 220 million 3G users by the end of November 2012.
- China produced more than a billion mobile phones in the first 11 months of 2012—MIIT
- Smartphone shipment revenues are expected to be more than \$37 billion in 2013, from \$33 billion in 2012.
- Global LTE smartphone sales are forecast to reach 275 million units in 2013.—Strategy Analytics
- Smartphone shipments are expected to increase 24.3% y/y to 876 million units in 2013.—TrendForce
- Computers & Peripherals
- Worldwide PC shipments fell 6.4% y/y to 89.8 million units in 4Q’12.—IDC
- Worldwide tablet PC shipments are expected to reach more than 240 million units and notebook PCs shipments are expected to hit 207 million units in 2013.—NPD DisplaySearch
- Worldwide high performance computing technical server market revenue grew 40.3% to \$3.3 billion in 3Q’12—IDC
- Worldwide purpose-built backup appliance market reached just under \$655.3 million in 3Q’12.—IDC

Consumer Electronics

- Global consumer electronics market contracted 1% in 2012 but is expected to grow 4% to more than \$1 trillion in 2013.—CEA and GFK
- Consumer electronics industry revenues are projected to increase almost 3% y/y to \$209.6 billion in 2013.—CEA

Other

- LCD display sales are expected to reach \$15 billion in revenue in 2013.
- Global touch screen shipments are expected to grow 17.2% y/y to 1.75 billion in 2013.—Digitimes Research
- Camera shipments in smartphones and tablets reached one billion units in 2012.—ABI Research
- Global portable medical electronic

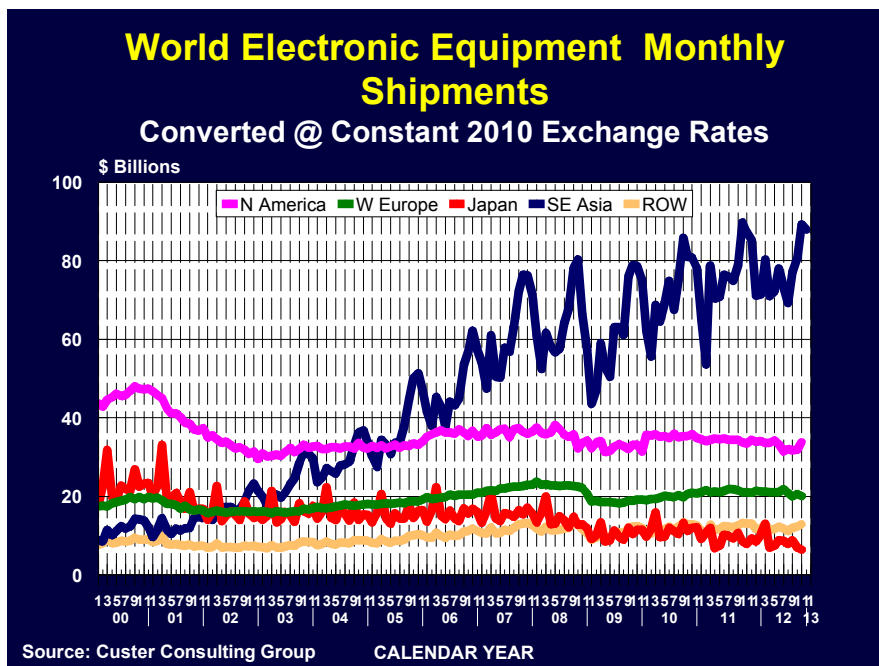


Chart 1.

products market is projected to grow from \$51.9 billion in 2012 to \$77.4 billion in 2017.—BCC Research

- Global smart home market is expected to grow from \$21.8 billion in 2012 to \$72 billion by 2017 driven by remote monitoring, control and security.—Strategy Analytics

EMS, ODM & related assembly activity

Electronic design activity in Europe grew 20% y/y in 2012, with UK up 19% and Germany up 16%.

Taiwan-based OBMs, JDMs (joint-development manufacturers) and ODMs shipments decreased 2.5% q/q and 26% y/y to 14.64 million handsets in 4Q'12.—Digitimes Research

Altek Company is celebrating its 40th year in business.

Axiom Manufacturing Services invested in a Takaya Flying Probe test system.

BGM Engineering added a Europlacer iineo II SMT platform.

Booz Allen acquired SDI.

Compal plans to enter the server ODM business in 2013.

CTS

- acquired D&R Technology.
- began providing turn-key manufacturing services to Qualstar, including the purchase of its existing inventory and ongoing inventory management.

Escatec named Markus Walther CEO.

Flextronics

- has about three-quarters of its manufacturing capacity in low-cost countries, including China, Brazil and Ukraine.
- spent about \$10 million to upgrade equipment and make other improvements at its Silicon Valley plants over the past nine months.

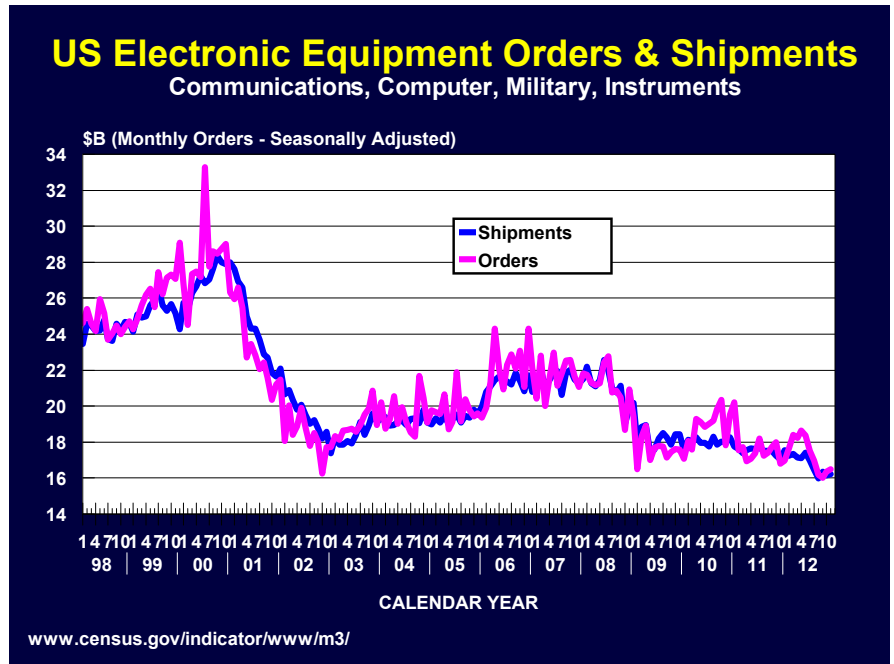


Chart 2.

- took over manufacturing operations in Tianjin, China and in Jaguariuna, Brazil, owned by Motorola Mobility, a unit of Google.

Foxconn/Hon Hai

- bought an 8.88% stake in GoPro for \$200 million.
- closed its factory in Brazil's Manaus Free Zone that produced plastic parts for mobile phones.
- is expanding smart device production in southern Guangxi, China.
- completed the first phase of its Nanning, China complex that will mass-produce LCD screens for tablets and TVs and communications equipment including routers.
- preparing to establish optoelectronics R&D centers in Tokyo and Osaka,

Japan with an estimated investment of at least US\$1 billion in 2013.

- GIS subsidiary will expand lithography process-based production to develop thin-film type products.
- workers in Fengcheng, Jiangxi Province went on strike to demand a wage increase and "dignity."
- bought a 10.7% stake in Woodman Labs for \$200 million.

Industrialex Manufacturing acquired TriStar Systems.

Kaynes Technology India commissioned 0.1 million PCBA units/month and also parts manufacturing at IMT Manesar, dist. Gurgaon, Haryana.

Kitron's US subsidiary received ISO 9001: 2008 certification.

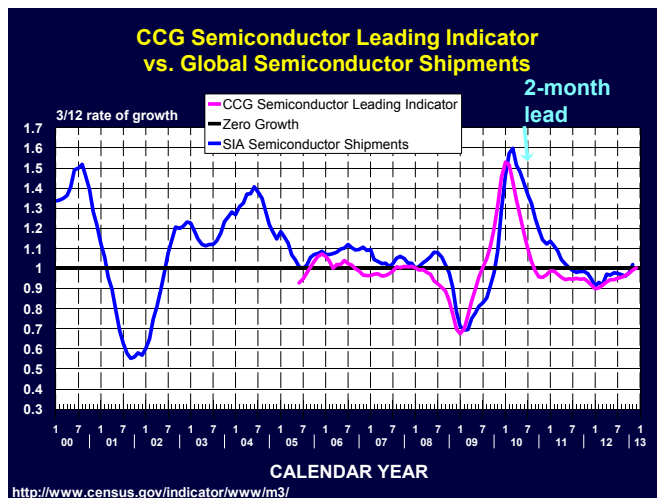


Chart 3.

Monthly Semiconductor Shipments \$ Billions (3-month average)			
	11/11	11/12	% CH
Americas	4.59	5.03	+9.7%
Europe	3.03	2.80	-7.4%
Japan	3.82	3.41	-10.8%
Asia Pacific	13.79	14.49	+5.1%
Total	25.22	25.73	+2.0%

SIA www.sia-online.org/

Chart 4.

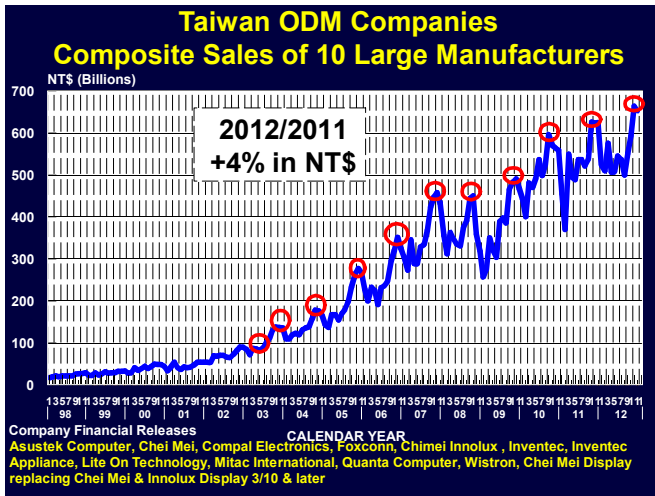


Chart 5.

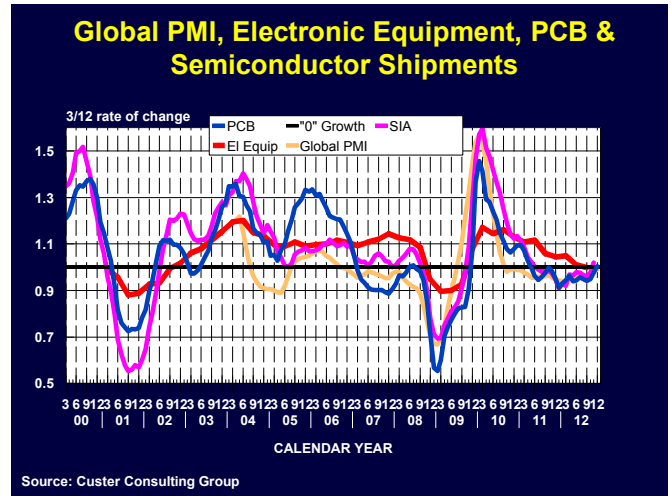


Chart 6.

Lacroix Electronics Solutions hired M. Alain Ponsot as GM.

Limitless Electronics is building the first large-scale electronics manufacturing operation in Africa.

Limtronik invested in reflow soldering systems from Rehm Thermal Systems.

NBS became an approved manufacturing, RMA and logistics provider to Altobridge.

Nortec has been certified as a GE medical systems approved supplier.

Nortech Systems acquired a 58,000 SF manufacturing facility in Mankato, Minnesota from Winland Electronics.

Note rejected Lifco's take-over offer.

OSI Optoelectronics began offering engineering, prototyping and contract manufacturing services.

Panasonic closed its plasma television assembly plant in Shanghai, China.

PartnerTech

- appointed Martin Valfridsson as Executive VP Operations for Machining in Sweden.
- received a production and assembly contract from CybAero.

Pentagon EMS relocated manufacturing to a 38,000 SF facility in Hillsboro, Oregon.

PRADOTEC began offering electronic manufacturing services in Malaysia.

Prime Technological Services hired Stephen Budd as Account Development Manager for the Carolina Region.

Sanmina's LED lighting plant experienced a hazardous spill in Turtle Lake, Wisconsin. Solid Semecs invested in two SIPLACE SX machines in Vrabe, Slovakia.

Sparton and Ultra Electronics' JV received a \$71.2 million Sonobuoy contract from the U.S. Navy.

Suntron sold its embedded computing solutions (ECS) business unit to Axiomtek USA and its Methuen, MA facility to EIT.

TQ-Group acquired shares of the insolvent EMS provider SRI Holding.

Wistron is setting-up a notebook assembly factory with Acer in Brazil.

PCB fabrication

Global PCB relay market is expected to grow at a 9.5% CAGR from \$2.39 billion in 2012 to \$4.51 billion in 2019.—Frost & Sullivan

"Japanese PCB industry is following the US and European "downtrend" trajectory that will result in oscillating at \$5-6 billion level".—Dr. Hayao Nakahara

PCB & MCM electronic design automation revenue grew 9% y/y to \$153.0 million.—EDA Consortium

Advanced Circuits is expanding its Aurora

corporate headquarters facility by 52,000 SF.

All Flex acquired the CAD and panelization portion of TRI-C Design.

Aspocomp purchased a MicroCraft printer from Viking Test for its Oulu production facility.

AT&S India Managing Director and COO Ric Rawley left the company.

Elekonta Marek added an Orbotech Fusion 22 AOI system.

Elvia PCB Group's facility in Coutances, Normandy received ISO TS 16949 certification.

Global Brands Manufacture plans to spend US\$40 million to ramp up PCB production capacity in Chongqing to 1.2 million SF/month in 1Q'13.

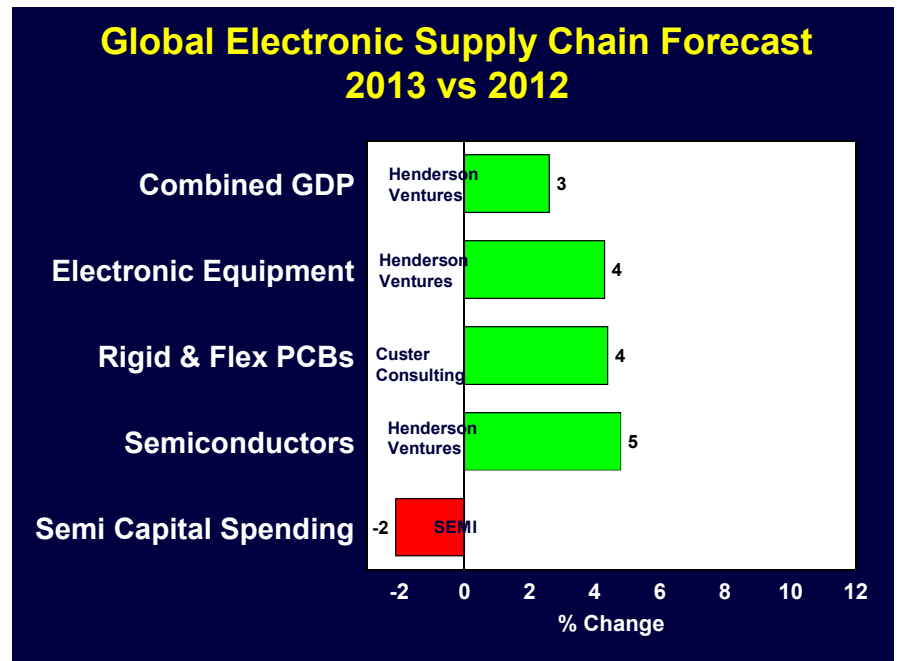


Chart 7.

Hawk Electronics helped develop circuit boards and cables used in the Large Hadron Collider.

MEIKO and **SCHWEIZER** entered a PCB production JV in Vietnam.

NECOP Technology Centre started PCB production at the National Institute of Electronics in Pakistan.

Q.P.I. Group Holding acquired Macer Sweden.

TTM Technologies became a partner in an optical data transmission technologies' development project sponsored by EU.

Unitech Printed Circuit Board consolidated its PCB and solar cell plants in Yilan, Taiwan into a single subsidiary in order to help stem losses from the solar cell unit.

Materials & process equipment

Global electronic chemicals and materials revenues will grow from \$22 billion in 2012 to nearly \$28.8 billion in 2017.—BCC Research

- Wafers segment is expected to grow at a 5.7% CAGR from nearly \$12.1 billion in 2012 to \$16 billion in 2017.
- Gases should grow at a 3.2% CAGR from \$3.3 billion in 2012 to nearly \$3.9 billion in 2017.
- Polymers segment including conductive polymers is expected to grow at a 6.9% CAGR from nearly \$2.1 billion in 2012 to nearly \$2.9 billion in 2017.

Global glass fiber supply is expected to grow by more than 8% y/y to 5.30 million tons and demand will expand 6% y/y to 4.94 million tons in 2012.—Reportlinker

Global organic electronics market is projected to grow at a 31.5% CAGR between 2011 and 2015.—TechNavio

Agilent

- acquired a 7.39% stake in Adlink.
- opened a new calibration and repair service center for electronic test instruments in Hanoi, Vietnam.

Aismalibar expanded its IMS based copper clad laminate business to North America.

Cookson's Alpha and Enthone businesses became part of the newly formed Alent plc.

ASYS opened a new office in Zapopan, Mexico

BPM Microsystems launched its newly redesigned website at bpmmicro.com

CGI Americas appointed Francisco Briceno as Latin America Engineering & Sales Manager.

Coherent acquired Lumera Laser.

Elite Material is investing CNY160 million (US\$25.7 million) to expand CCL capacity to 900,000 units/month in Zhongshan, China.

Enthone launched enthone.cn

Iteq

- plans to invest NT\$4.5 billion (US\$155 million) to expand CCL and flexible CCL capacity in Taoyuan County, Taiwan, in 2013 and 2014.
- plans to add 100,000 M2 additional capacity at its plant in Taiwan in 3Q'13.
- postponed plans to build new plants in Hubei, China.

OK International launched its new corporate web site at www.okinternational.com

Park Electrochemical named John Jongbloed VP of Business Development and Tom Warren, Director of Business Development.

Rainbow Technology Systems doubled its production space to 1,200 M2 in Glasgow, Scotland.

SmtXtra UK purchased Elcoteq Pecs Hungary.

Teknek named Douglas Gray as Asia Regional Manager and Richard Meredith as master distributor for South East Asia market.

Tektronix added a service and calibration laboratory in Moscow, Russia.

ThinFlex plans to invest NT\$320 million to ramp up its monthly production capacity of adhesive-less double layer FCCLs in Kaohsiung, Taiwan to 240,000 M2.

Universal Instruments appointed Butch Garrison as Director of Strategic Accounts and Western U.S. GM and Twan Aldenizee as Regional Manager of European Customer Operations.

VisionMaster appointed Sincotron as its manufacturers' representative in Scandinavia and the Baltic states.

Vitronics Soltec hired Gerjan Diepstraten as its Advanced Technology Manager.

VJ Electronix is celebrating its 10 year anniversary.

ZESTRON opened a HQ and Technical Center in Kanagawa, Japan.

Semiconductors & other components

Fab equipment spending for front-end fabs is expected to have zero growth in 2013.—SEMI

Fabless semiconductor makers grew 6% y/y and integrated device makers fell 4% y/y in 2012.—McClean Report 2013

Global smartphone applications processor market revenue grew 58% y/y in 3Q'12 to \$3.8 billion.—Strategy Analytics

Global tablet applications processor market revenue grew 77% y/y in 3Q'12 to \$0.9 billion.—Strategy Analytics

LED fab manufacturing equipment revenue is forecast to decline 9.2% y/y to \$1.68 billion in 2013.—SEMI

Printed and flexible sensor sales are expected to reach over \$140 million in 2013.—IDTechEx

Semiconductor silicon revenue declined 2.3% y/y to \$303 billion in 2012.—IHS iSuppli

Taiwan's passive components production value is expected to grow from NT\$102.53 billion (US\$3.53 billion) in 2012 to NT\$106.39 billion in 2013.—IEK

Worldwide semiconductor revenues are forecast to grow 4.9% y/y from \$304 billion in 2012 to \$319 billion in 2013.—IDC Forecasts

Worldwide wafer fab equipment spending is forecast to decline 9.7% y/y to \$27 billion in 2013.—Gartner

Walt Custer is an independent consultant who monitors and offers a daily news service and market reports on the PCB and assembly automation and semiconductor industries. He can be contacted at walt@custerconsulting.com or visit www.custerconsulting.com.

Jon Custer-Topai is vice president of Custer Consulting Group and responsible for the corporation's market research and news analysis activities. Jon is a member of the IPC and active in the Technology Marketing Research Council. He can be contacted at jon@custerconsulting.com.