

"Not so busy" end to 2012



Walt Custer and Jon Custer-Topai

This autumn's "busy season" was not that busy. In 2012's third quarter, most sectors of the global electronic supply chain reported lower sales compared to 3Q'11 (Chart 1). Only data storage, instruments & controls, communication and Internet (datacom) equipment had a revenue increase. The other finished electronic equipment sectors as well as EMS/ODM services, PCB & SEMI capital equipment, active & passive components, electronic materials and the solar/photovoltaic companies saw a 3Q'12/3Q'11 sales decline.

"Recovery" had not yet arrived by year end. Electronic equipment shipment growth was negative (3/12 <1.0) in all regions in the fourth quarter (Chart 2) as this October's world electronic equipment sales were 7% below the same month in 2011 (Chart 3).

EMS and ODM company sales mirrored the year end electronic equipment revenue drop as large EMS firms saw four quarters

of sales decline through 3Q'12 (Chart 4) and even ODM companies had a third quarter revenue decline (Chart 5).

Printed circuit sales growth was also negative in all regions in late 2012 (Chart 6) and the WSTS just revised its predicted semiconductor sales downward for 2012 with modest growth forecasted for 2013 (Chart 7).

Looking forward, my colleague Ed Henderson predicts only 1% world electronic equipment production growth for all of 2012 with a 5.9% increase in 2013.

2012 has not been an easy year but 2013 looks somewhat better.

End markets

Worldwide IT spending is projected to increase 3.8% y/y to \$3.7 trillion in 2013 propelled by big-data technology and cloud computing and global enterprise IT spending is projected to grow 2.5% in 2013 to \$2.679 trillion.—Gartner

Computers & peripherals

- Worldwide PC shipments will drop in 2012, the first time in 11 years—IHS iSuppli
- Global tablet shipments increased 43% y/y to 25 million units in the 3Q'12.—Strategy Analytics
- Global tablet shipments are expected to grow 72.7% q/q and 89.7% y/y to 40.93 million units in 4Q'12.—Digitimes Research
- Global tablet shipments are expected to increase 38.3% y/y to 210 million units in 2013.—Digitimes Research
- Worldwide large format printer shipments declined 5% y/y to 73,000 units in 3Q'12.—IDC

Mobile communication

- Worldwide mobile phone shipments grew 2.4% y/y to 444.5 million mobile phones in 3Q'12.—IDC
- Worldwide mobile phone sales to end users declined 3.1% y/y to almost 428 million units in 3Q'12.—Gartner
- Global smartphone shipments are expected to grow 30% y/y to 865 million units in 2013, accounting for 43.9% of total handset shipments.—Digitimes Research
- Global smartphone shipments grew 35% y/y to 162 million units in 3Q'12.—Strategy Analytics
- Worldwide smart device market will grow from 821 million in 2012 to 1.2 billion in 2013.—Gartner

Consumer electronics

- Global consumer electronics market revenue is expected to have expanded by 1.3% to \$361 billion in 2012.—HIS
- Global TV demand declined by more than 4% in 2012 to 237 million units.—NPD DisplaySearch
- Worldwide TV shipments slid 7% y/y to 58 million units in 3Q'12.—NPD DisplaySearch
- Digital camera shipments will reach 93.8 million units in 2013. Taiwan's four main ODMs will ship a total of 36.4 million units.—Digitimes Research

Other

- Energy harvesting device market

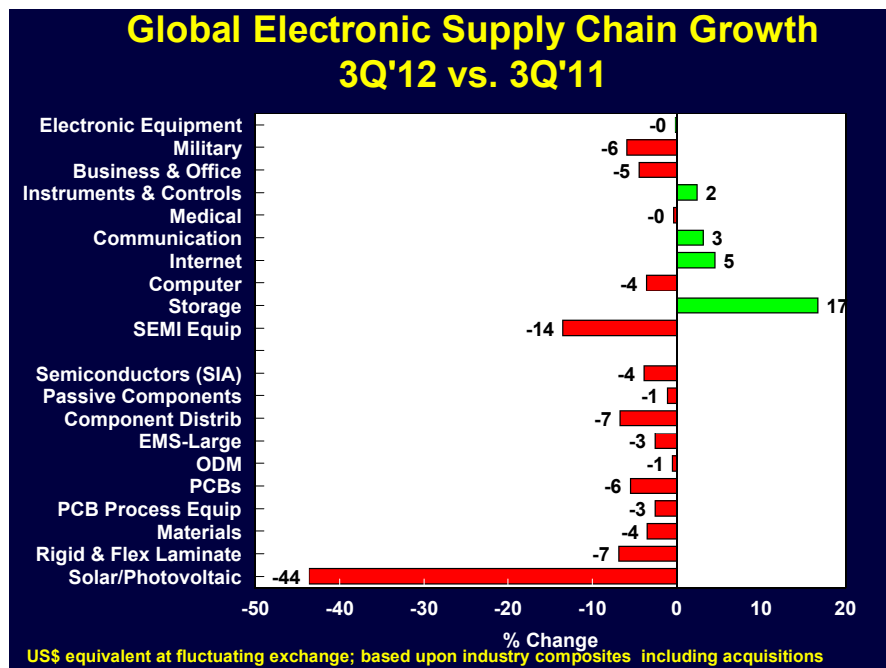


Chart 1.

will grow from \$19 million in 2012 to about \$45 million in 2013.—Yole Development

- China medical electronics revenue is forecast to increase 18.4% y/y to \$4.8 billion in 2012 and grow at a 13% CAGR to \$7.4 billion by 2016.—IHS iSuppli
- Flat panel display manufacturing equipment spending is expected to rise 121% from \$3.8 billion in 2012 to \$8.3 billion in 2013.—NPD DisplaySearch

EMS, ODM & related assembly activity

European electronic manufacturing services provider market is expected to grow from \$45.8 billion in 2011 to \$68.2 billion in 2016.—Frost & Sullivan

India implemented its National Policy on Electronics which aims to achieve US\$ 400 billion turnover by 2020.

AccuSpec added Panasonic high-mix SMT solutions in Erie, Pennsylvania.

Benchmark Electronics appointed Peter Dorflinger Non-Executive Chairman of the Board.

Compal

- factory workers went on strike in Chengdu regarding overtime work compensation.
- laid-off 100 employees in Taiwan tablet PC division.
- plans to reduce production at two factories in Kunshan, China in 1Q'13.

Danfoss Power Electronics added SIPLACE software options to its five high-flexibility SIPLACE SX2 placement machines in Hasselager, Denmark.

Digicom Electronics introduced a diamond track cleaning process.

Ducommun completed AS9100 Rev. C aerospace certification in Appleton, Wisconsin.

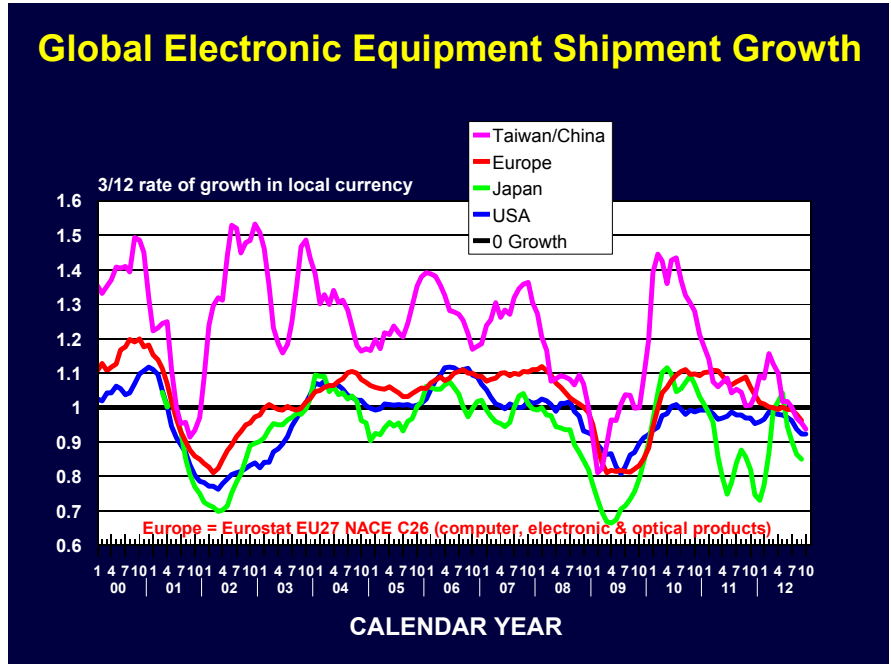


Chart 2.

Dynamic Controls plans to cut 60 jobs and close its contract manufacturing division in Christchurch, UK in 2013.

Electronic Manufacturing Solutions purchased and installed a second Panasonic CM101-D.

eXception Group's EMS Division achieved Investors in People accreditation.

Flextronics

- appointed Lawrence Zimmerman to its Board of Directors.
- started production for Nokia Siemens Networks at its US\$5 million LTE plant in Sorocaba, Brazil.

Foxconn/ Hon Hai

- is investing CNY1 billion (US\$160 million) to set up handset, PC, headphone/earphone, LCD TV and data communication cable factories in Hunan Province, China.

will build a LCD TV plant in Chongqing, China.

- established production lines in Indonesia.
- bought a plot of land in Brazil for US\$12.6 million for expansion.
- formed a partnership with MIT to cultivate talents in U.S.

GlobeTek restarted operations after Hurricane Sandy.

Hanza Årjärg's Sweden and Poland factories received a CEM contract for Humphree marine products.

IEC Electronic

- appointed Edward Kay, Jr. to its Board of Directors.
- was ranked No. 6 on Forbes 100 Best

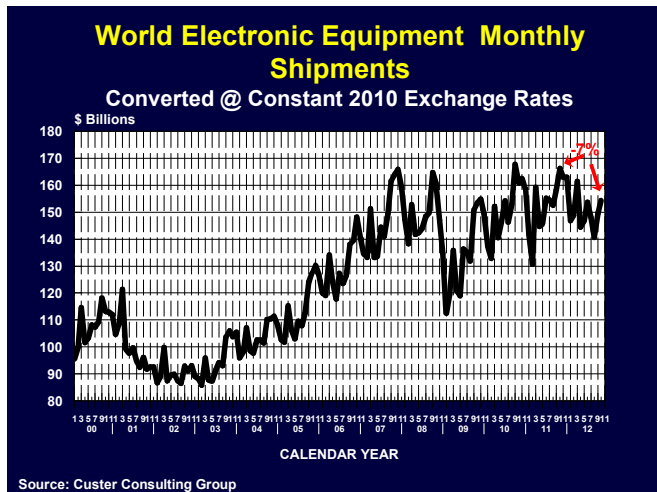


Chart 3.

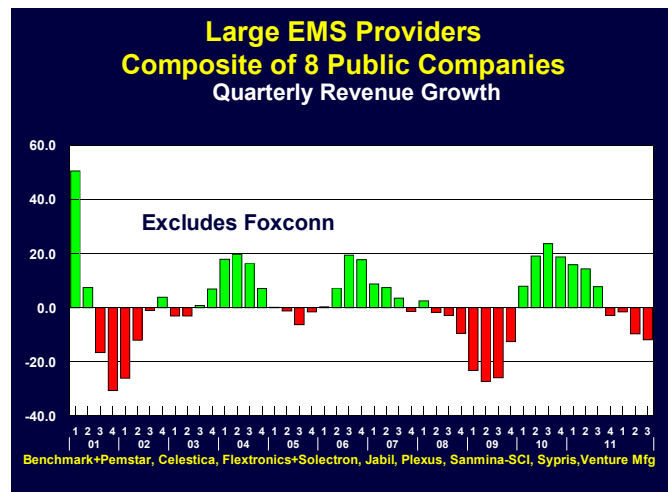


Chart 4.

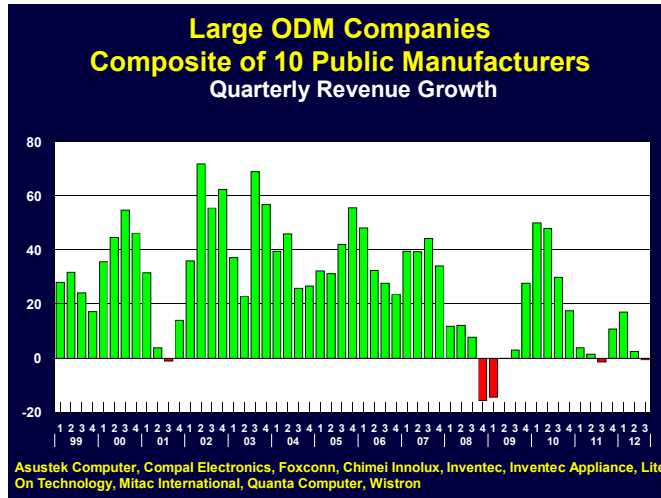


Chart 5.

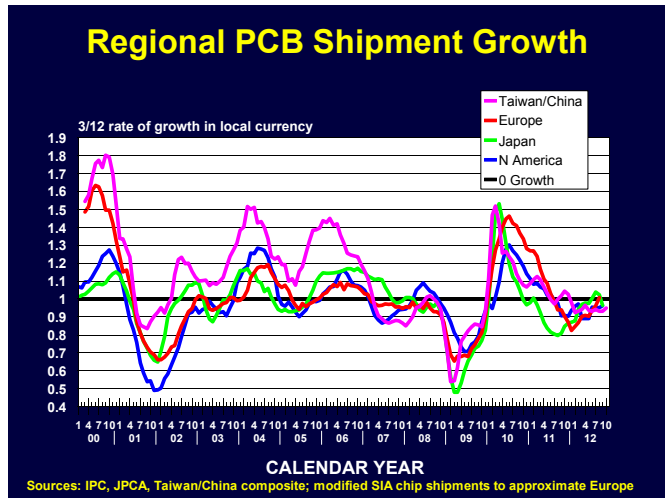


Chart 6.

Small Companies in America.

Innokas Medical added two Mek iSpector AOI systems.

Inovar named Thomas Carlin CEO.

Jabil

- Chairman William Morean will not stand for re-election at the company's annual meeting of shareholders in January 2013.
- appointed Mark Mondello CEO, effective March 1, 2013.

JJS Electronics added a SMT line consisting of a DEK Horizon 03iX printer, Dual Mydata MY100DXe14 and MY100SX14e placement machines.

Kimball Electronics Group partnered with Stratec Biomedical for the production of PCBAs for in-vitro diagnostic equipment.

Kitron

- named Israel Losada Salvador COO.
- consolidated all its Karlskoga, Sweden administration to Jönköping.
- is investing EUR 6 million to expand its manufacturing facility in Kaunas, Lithuania.
- Marl Manufacturing entered a supply partnership with Anglia.

NBS

- expanded design services to include complete electronic and mechanical design.
- updated two lines at its Santa Clara, CA facility with GL screen printers.

OCM Manufacturing named Arlene Sugrue as Director of Business Development.

Pegatron Czech reduced its workforce by 760 workers in Ostrava.

PKC Mexico elected CTM as their union.

Plexus

- added 50 employees in Kelso, Scotland.
- Chairman John Nussbaum will be succeeded by Dean Foate.
- appointed Michael Schrock as Lead Director.

- San Jose, California facility received ISO 13485 certification.

Saline Lectronics facility in Saline, Michigan received ISO 13485 standard recertification.

Sanmina-SCI

- changed its name to Sanmina Corporation.
- began providing engineering and manufacturing services at its Haukipudas, Finland facility for Uros' Goodspeed Device.
- restructured its facility in Kuching, Borneo, Malaysia.
- retrenched 800 workers in Malaysia.
- began manufacturing radar transmit receiver modules for MDA.

Season Group acquired DSP Design.

Sechan Electronics added CircuitCAM

and CheckPoint software modules from Aegis Software.

SMTA elected Bill Barthel as its 11th president.

Sparton acquired Onyx EMS for \$43.25 million.

Steiner Elektronik Technologie added a 2nd JUKI line in Rousse, Bulgaria.

Suntron began offering large complex electromechanical structure integration at its Tijuana, Mexico facility.

TS3 Technology added a complete Aegis Software suite.

PCB fabrication

Global PCB design software market will grow at a 5.3% CAGR between 2011 and 2015.—TechNavio

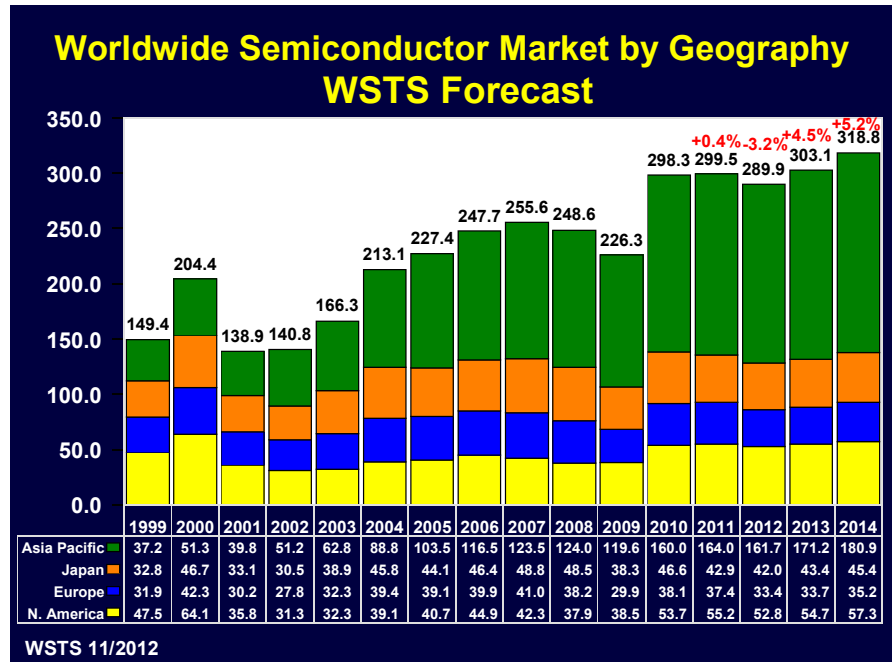


Chart 7.

Taiwan PCB makers production value (w/ manufacturing in Taiwan and/or China) is expected to increase from NT\$517.5 billion (US\$17.65 billion) in 2012 to NT\$534 billion (US\$18.3 billion) in 2013.—IEK
AER Technologies added a RTX-113 X-Ray inspection system.

Apex Circuit International is building a new plant in Thailand with initial monthly capacity of 500,000 SF which is scheduled to begin trial production in June 2013.

BBG Silicon Valley acquired PCB fabrication operations of Hunter Technology.

CCI Canadian Circuits celebrated its 20th anniversary.

Cheer Time is liquidating its PCB subsidiary in Zhejiang, China due to continued losses at the plant.

Cicor received a CHF 30 million blanket order from Albis Technologies for telecommunications products.

DYCONEX added a RENA 25- μ m laminate cleaning unit.

Dynamic Electronics plans to sell its PCB plant in Fujian, China.

Endicott Interconnect received Zeta[®] certification enabling it to produce PCBs using Integral's dielectric films.

Exception PCB spent more than £200,000 on hardware and software to support product changeovers on the 'My Data' mount lines.

Firan Technology Group Aerospace-Tianjin received AS9100 certification.

Global Brands Manufacture began trial production at its new PCB plant in Chongqing, China with initial 600,000 SF of PCBs/ month.

GSPK Circuits received the Queen's Award.

In2Tec and **Gwent Electronic Materials** jointly developed a PCB which has components that can be disassembled with hot water.

Invotec Group added an Orbotech Paragon 9800i LDI system and upgraded its resin fill and brush system process and robotic loaders and un-loaders in Tamworth, UK. IPC named Sanjay Huprikar VP of Member Success.

Kingwell Group acquired Port First. Leiterplatten Pfullingen was sold after filing for insolvency.

Meizhou Bomin Electronic purchased multiple Paragon™-Xpress LDI systems, Fusion™ 22 AOI systems, PerFix™ AOR systems and a Sprint™-100 inkjet legend printer from Orbotech.

Mekoprint named Morten Christensen Development Manager.

Murata and **Cogiscan** introduced RFID-based PCB traceability solutions.

Murrietta Circuits began offering re-tinning services.

Prism Electronics added Aegis NPI software system.

RJR Circuits added a Maskless Lithography digital imaging system in Denver, Colorado.

Scion International relocated its Stone, UK office to KEELE University Science and Business Park.

Sunlord Electronics is investing CNY 1.01 billion in Quzhou City, China to expand e-parts and PCBs.

Sunstone Circuits added an administration and office building at its corporate HQ south of Portland, Oregon.

Taiwan PCB Techvest

- started commercial runs at its new plant in Suining, China with production capacity of 600,000 SF/month.
- plans to increase capacity of new production lines to 1.5 million SF in 2013.

Techno-Service added an Acceler8 high-production scanner from Gardien.

TPCA signed a memo of understanding with JPCA to enhance ties between Taiwan's and Japan's PCB Industries.

Trackwise developed a technique for manufacturing flexible PCBs of any length.

Tripod Technology expanded its PCB production capacity to one million SF in Hubei, China.

TTM added a Dynachem SmartLam5000 in Santa Ana, California.

V-PS appointed Ad Vermeulen as GM.

Materials & process equipment

Atotech

- added a new clean room for flat panel display and semiconductor manufacturing equipment in Feucht, Germany.
- celebrated the 25th anniversary of delivery of its first UNIPLATE system.
- introduced CupraEtch™ DE, a differential etch process for SAP manufacturing.

China's automation control systems

- will reach RMB 131.1 billion (USD 21 billion) in 2013, with a 12% CAGR.
- including PLC, machine vision, human-computer interfaces, servo, step drives and middle and low voltage motors, as well as industrial computers, will reach RMB 131.1 billion (USD 21 billion) in 2013.—IMS Research

China imported 14,978 industrial robots in 2010, up 171% since 2009.—International Federation of Robotics

Global laser equipment market sales will grow 1-2% in 2012 from US\$7.46 billion in 2011.

Agilent opened a terahertz measurement research lab at University of Leeds in UK

and an X-ray diffraction manufacturing facility in Wroclaw, Poland.

Aurora Industries moved 70% of the production capacity at its phenolic resin laminate factory in Kunshan, China back to Taiwan.

Brooks Automation acquired Crossing Automation.

Coherent acquired Innolight and MiDAZ.

Count On Tools purchased a TL-1 Tool Room Lathe and Super Mini Mill Vertical Machining Center from Haas for its Gainesville, GA headquarters.

Data I/O named Anthony Ambrose President, CEO and Director.

DfR Solutions added Creyr Innovation to its partner network for Northeastern U.S.

Ellsworth Adhesives appointed Rajinder Khanna Business Director for India.

Everett Charles Technologies debuted tilt universal prober for NPI testing.

Goepel electronic and SiliconAid Solutions entered a chip level debug in board and system environment joint development.

Hitachi Metals and **Hitachi Cable** merged. Iteq will complete its new plant in Hubei, Taiwan with a capacity of 300,000 units of CCLs in 1H'13.

JUKI Automation Systems Europe named Jens Mirau VP of Technical Sales and Services, Logistics and Finances.

Kamtress Automation Systems received approval for trademark KAS.

KIC appointed SmartRep as its exclusive distributor for Germany, Austria and Switzerland.

Kyocera Tycom announced its new line of hybrid flute PCB drills.

Kyzen and **Polyonics** teamed up for a PCB label durability study.

Mentor Graphics added a design rule checking product to HyperLynx suite.

Mirtec expanded its manufacturing operations in Anseong, South Korea by additional 15,250 SF to support 2,500 units/year.

Nordson MARCH named Jonathan Doan Director of Marketing.

Nordson YESTECH provided upgraded FX Series AOI systems to EBW Electronics.

Olympus launched its updated Stream materials science microscopy imaging software family that measures distribution of copper plating thickness.

OptoTherm appointed Zugo Photonics as its sales representative for Indonesia, Philippines, Singapore, Thailand, and Vietnam.

Orbotech laid-off 100 employees in Israel.

Park Electrochemical elected Peter Maurer to its Board of Directors.

Plasmatrete North America opened