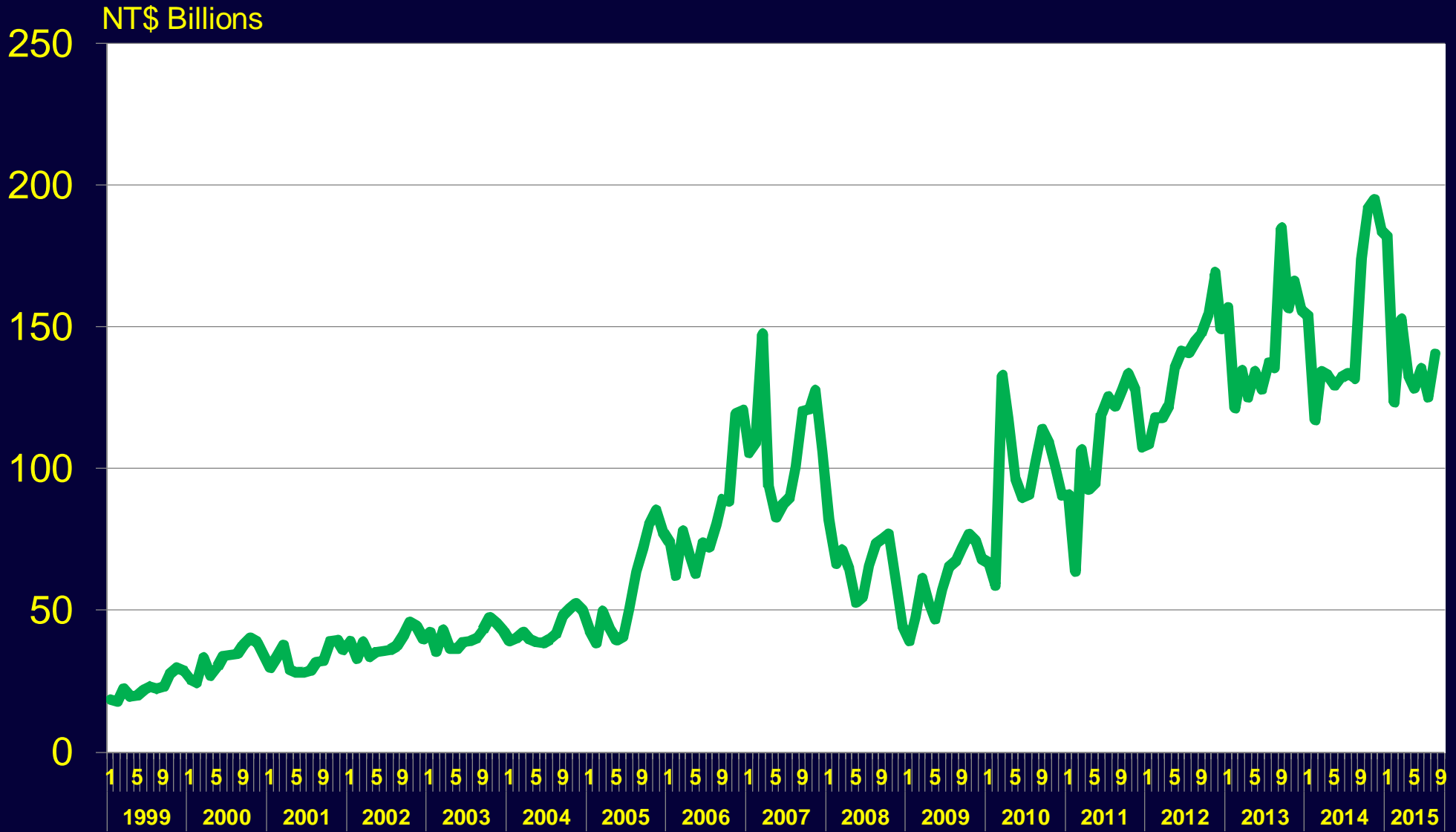




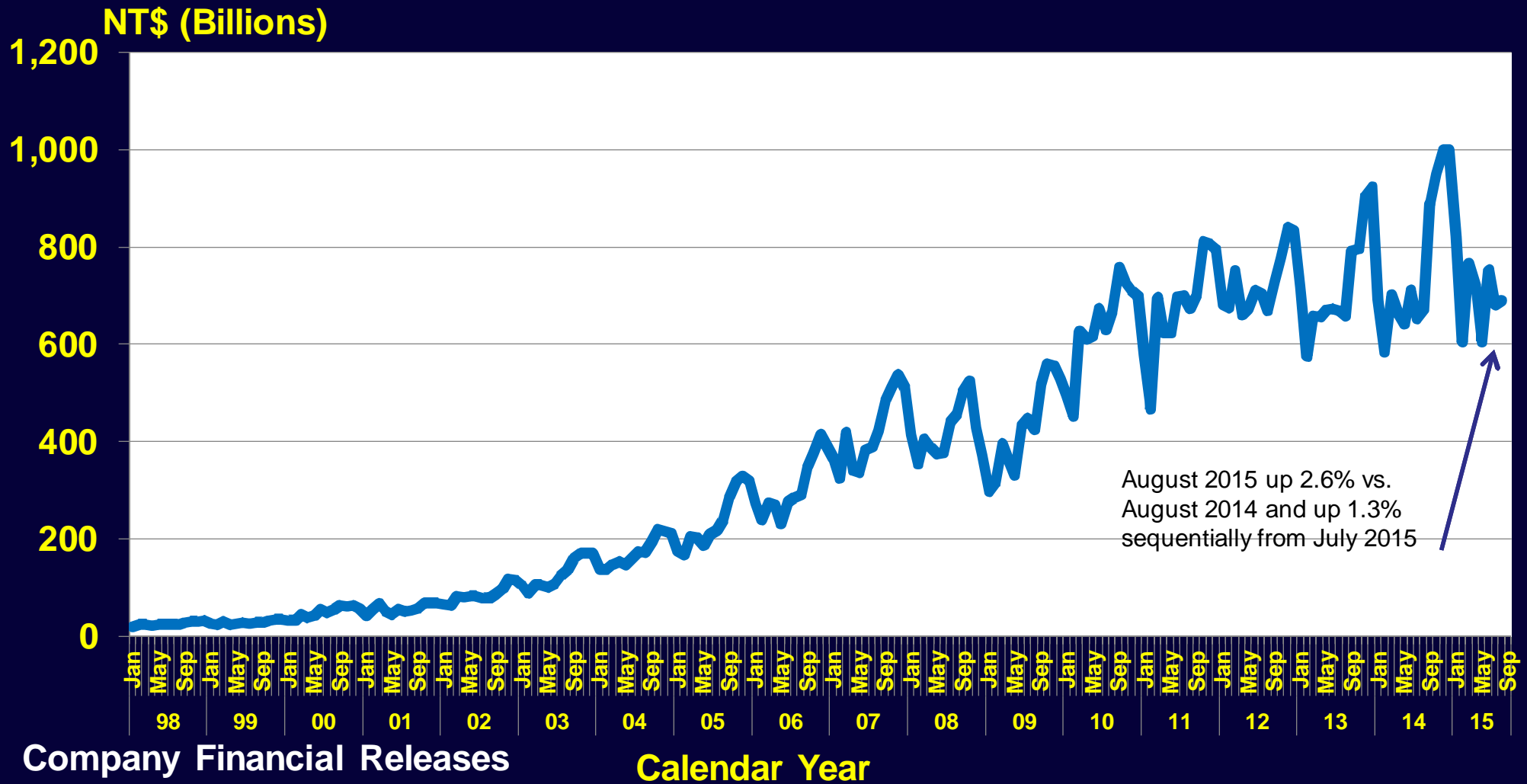
Chart 2

# Taiwan/China Motherboard Vendor Sales Composite of 22 Manufacturers



Taiwan listed companies, often with significant manufacturing in China

# Taiwan ODM Companies Composite Sales of 11 Large Manufacturers



Asustek Computer, Chei Mei, Compal Electronics, Foxconn, Chimei Innolux, Inventec, Inventec Appliance, Lite On Technology, Mitac International, Pegatron, Quanta Computer, Wistron, Chei Mei Display replacing Chei Mei & Innolux Display 3/10 & later

# Taiwan Wafer Foundries Composite of 14 Manufacturers



VIA Technologies, Advance Microelectronics, Advance Wireless Semiconductor, Epasil Technologies, Inotera Memories, Macronix Intl, Mosel Vitelic, Powerchip Semi, Precision Silicon, ProMOS Tech, TSMC, United Microelectronics, Vanguard International Semi, Winbond Electronics

Chart 5

# Taiwan Package & Test Companies Composite of 20 Manufacturers



ASE, Ardentec, ChipMOS Tech, Chipbond Tech, E'dale Tech, Formosa, Advance Tech, Fupo Elec, Greatek Elec, International Semiconductor Tech, King Yuan Elec, Lingsen Precision, Orient Semiconductor, Powertech Tech, Signality System, Sigurg Microelectronics, SPIL, Thalín Semiconductor, Vate Tech, Walton Advanced Tech

Chart 6

# Taiwan Memory Companies Composite of 8 Manufacturers



Silicon Integrated Systems, Inotera Memories, Macronix Intl, Mosel Vitelic, NanYa Tech, Powerchip Semiconductor, ProMOS, Winbond Elec



Chart 8

# Taiwan Solar/Photovoltaic Panel Companies Composite of 27 Manufacturers

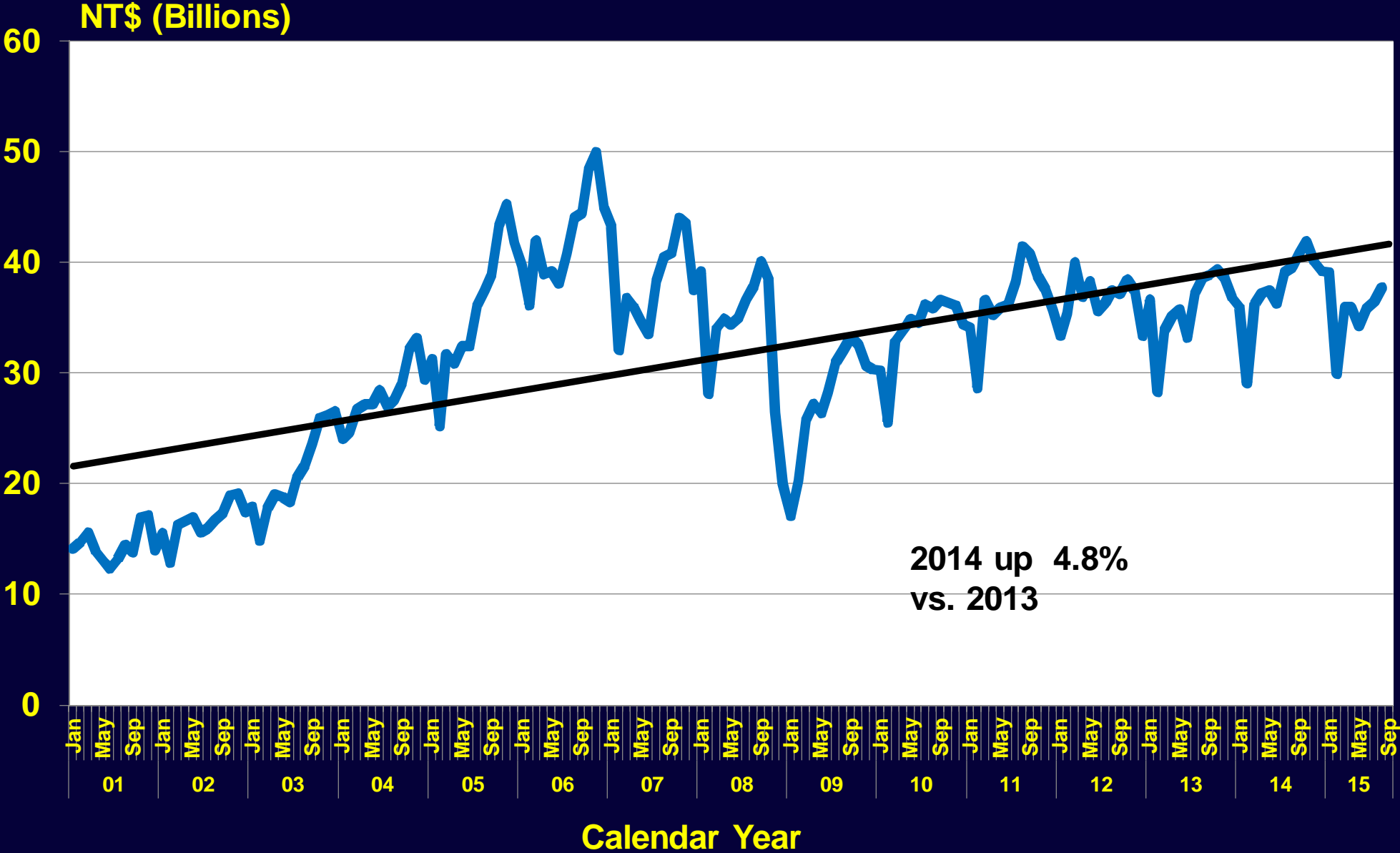


Acter, Big Sun Energy Technology, Chen Full Intl, Danen Technology, Daxon Technology, DeSolar, Delta Electronics, e\_TON Solar Tec, Invetec Group, Eversol, Gigasolar materials, Gintech, Green Energy Technology (GET), Higher Way Elec, Kenmec Mechanical, Ligitek, Motech, Neo Solar Power, Phoenixtec Power Co (PPC), Powermate, Precision Silicon, Sino-American Silicon Products (SAS), Solar Applied Materials Technology, Solartech Energy Corp, Sunrise Global Solar Energy, Sysgration, Tainenergy Tech, Tera Autotec, Tyntek, Wafer Works, Wholetech System Hitech



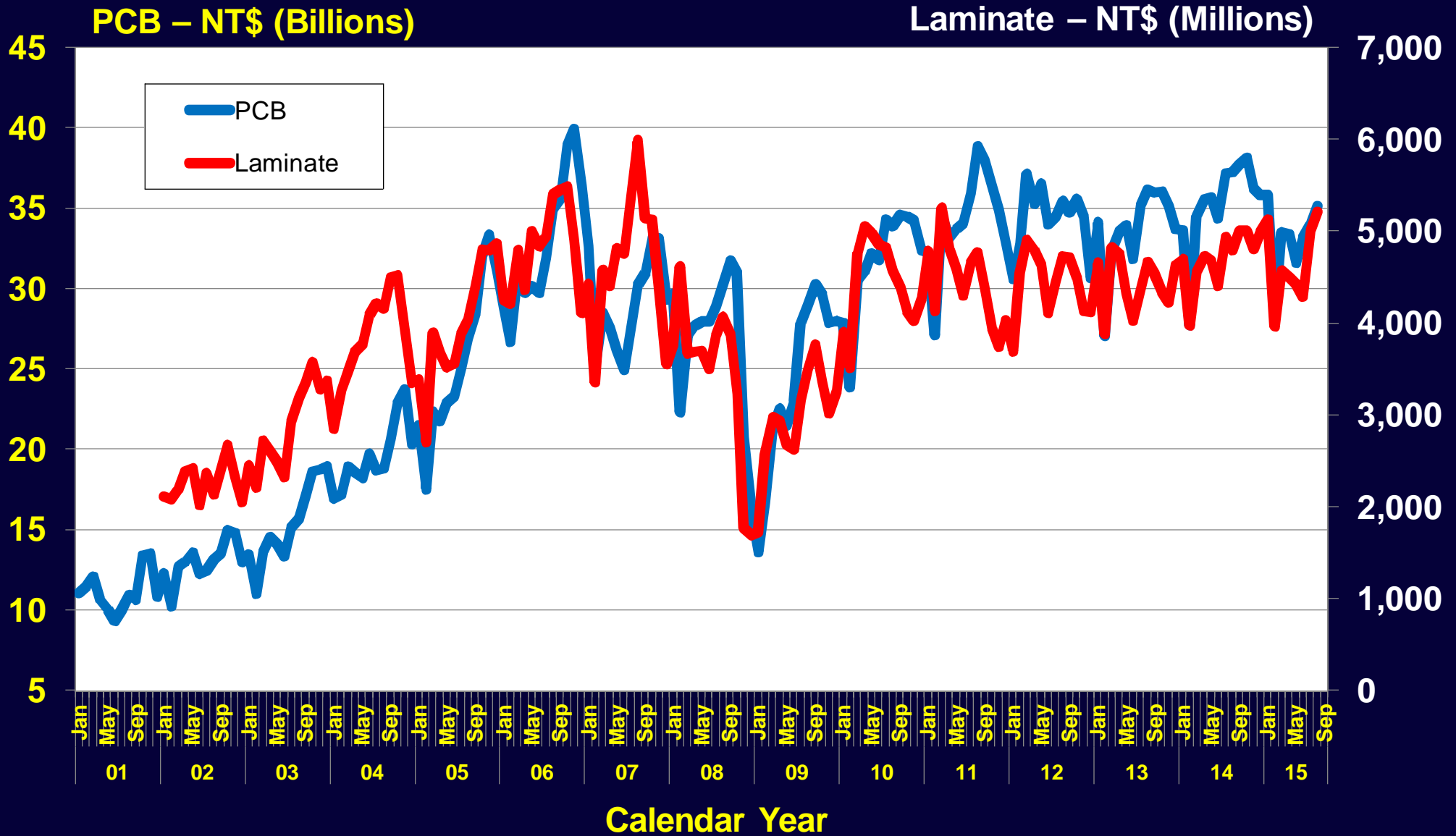
# Taiwan Rigid & Flex PCB Shipments

## Broad Composite of 46 Taiwan-listed Manufacturers



# Taiwan Shipments

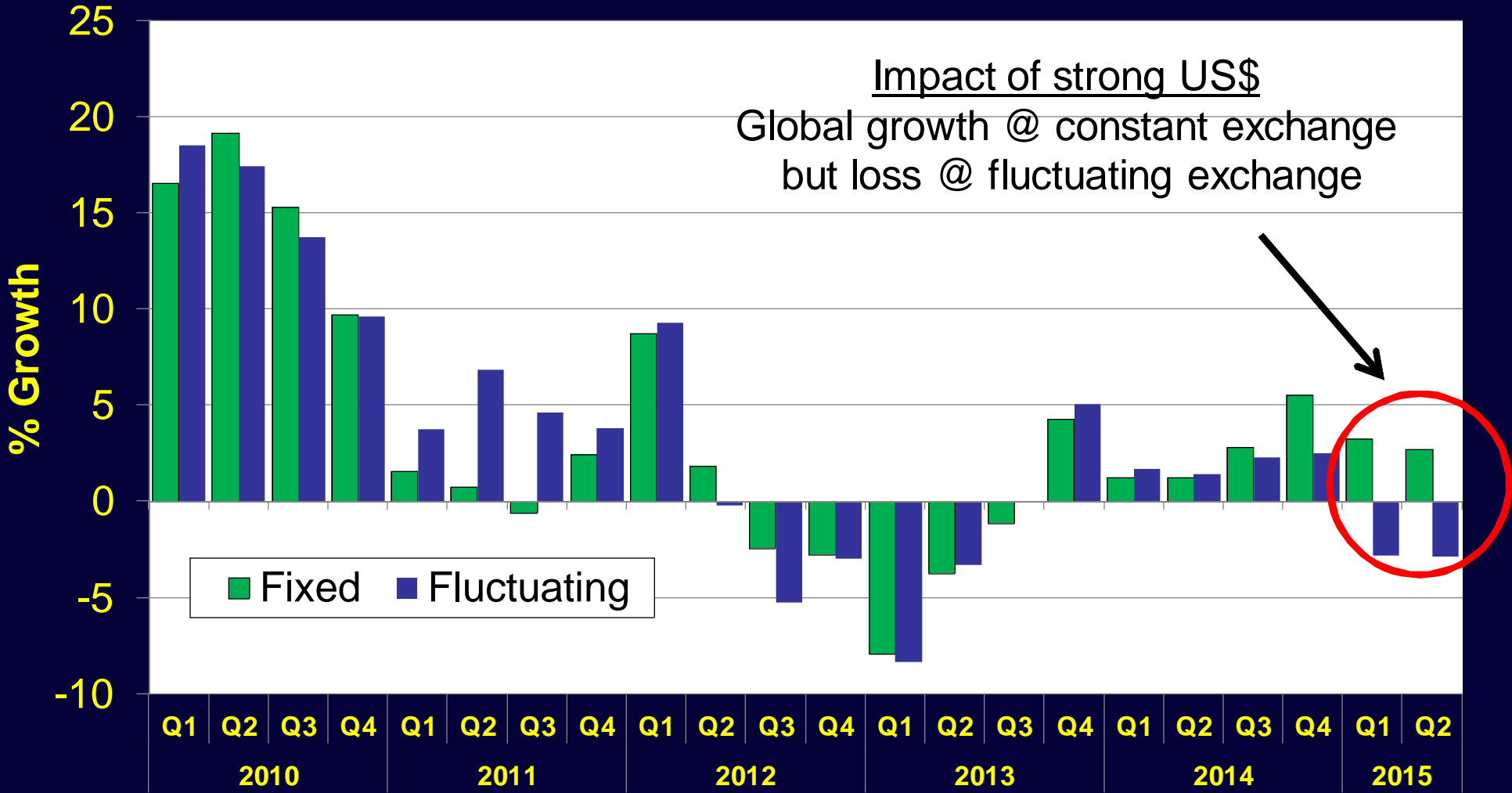
## 42 Rigid PCB & 8 Laminate Manufacturers



Company Financial Releases

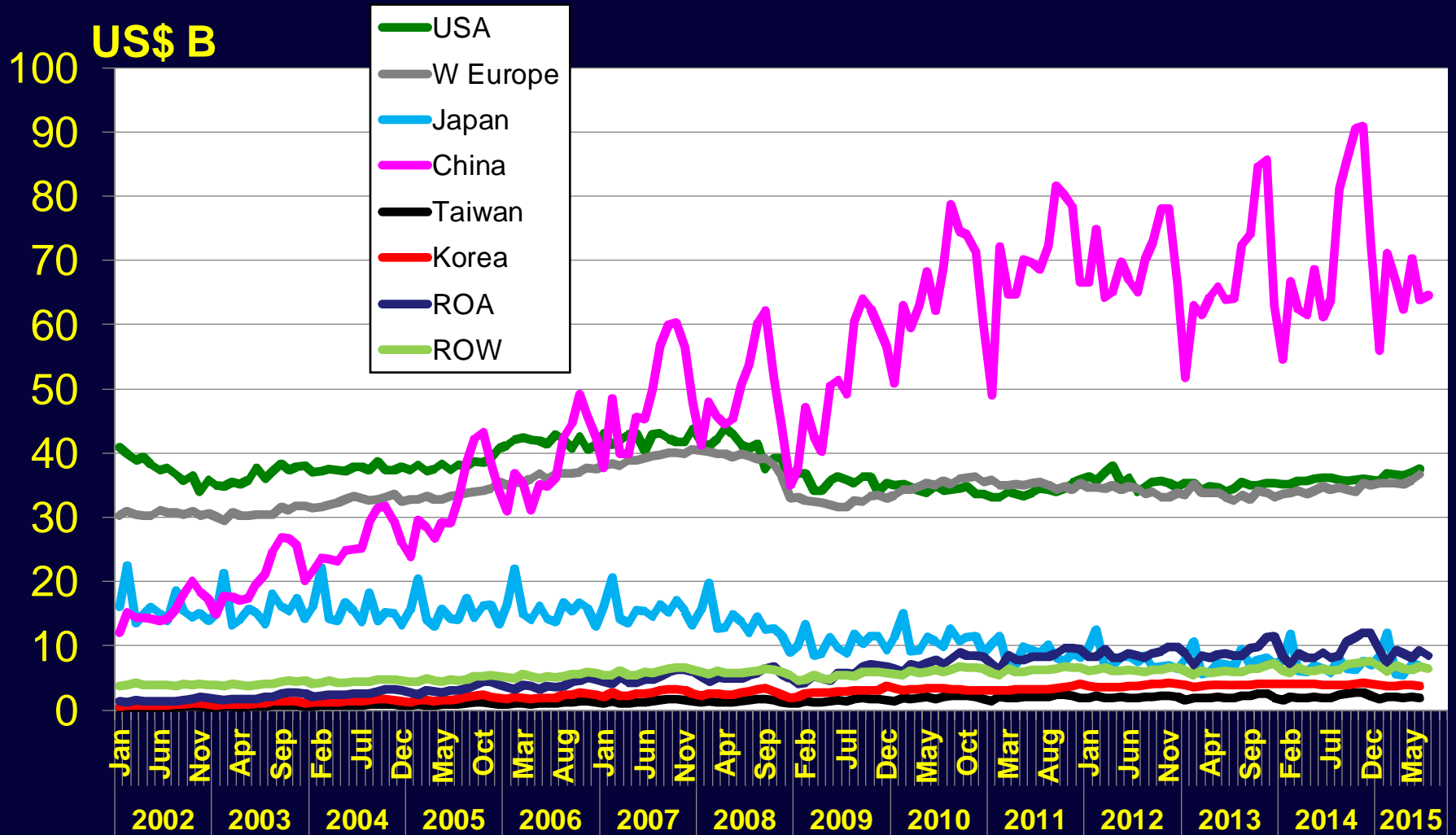
# Exchange Rate Impact on US\$ Denominated Consolidated World Electronic Equipment Sales

## Quarterly Revenue Growth Converted to US\$ @ Fixed 2014 vs Fluctuating Exchange



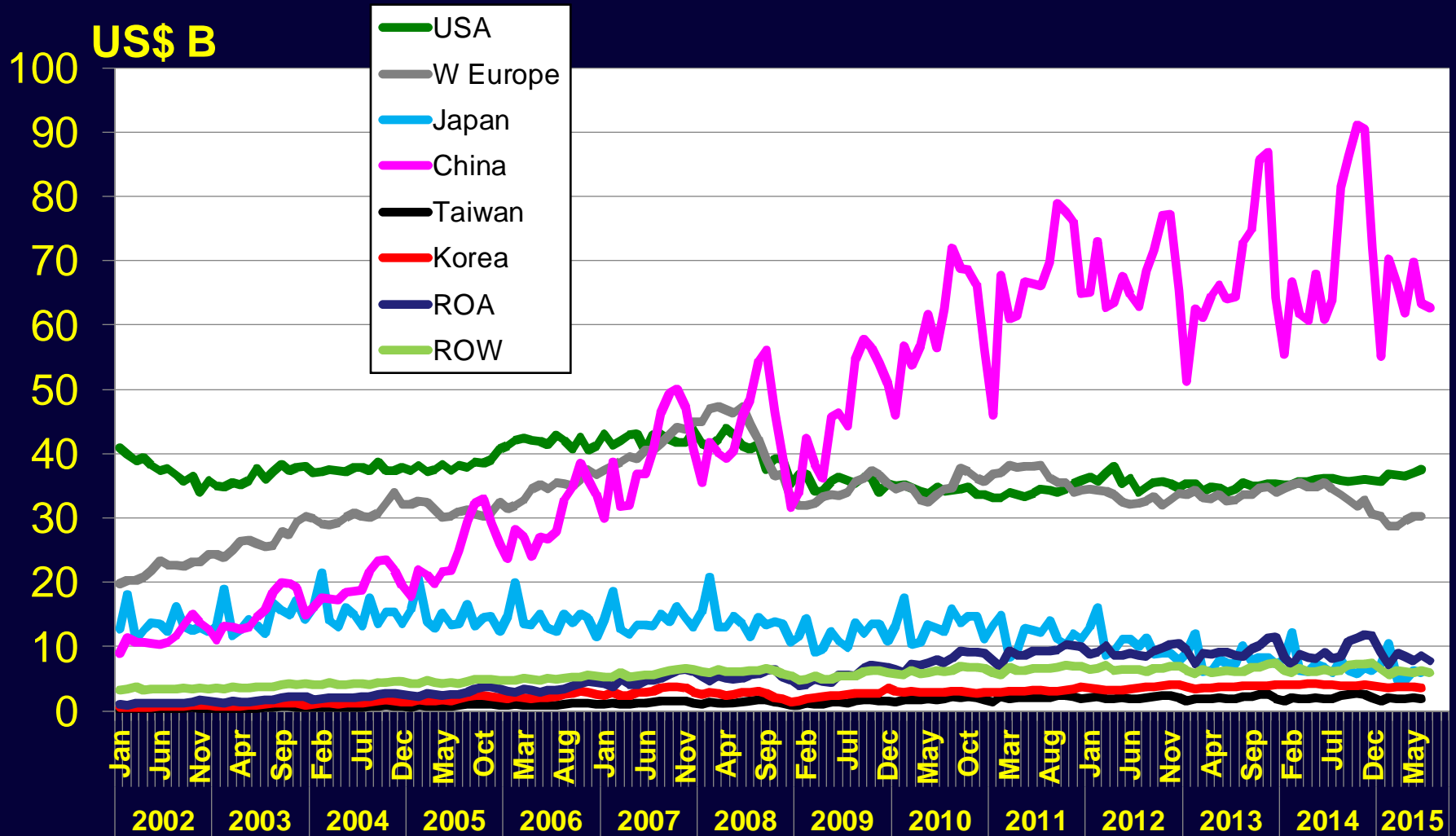
# World Electronic Equipment Monthly Shipments (Updated)

Converted @ Constant 2014 Exchange Rates



# World Electronic Equipment Monthly Shipments (Updated)

Converted @ Fluctuating Exchange Rates



# World Electronic Equipment Monthly Shipments (updated)

Converted @ Constant 2014 vs Fluctuating Exchange Rates

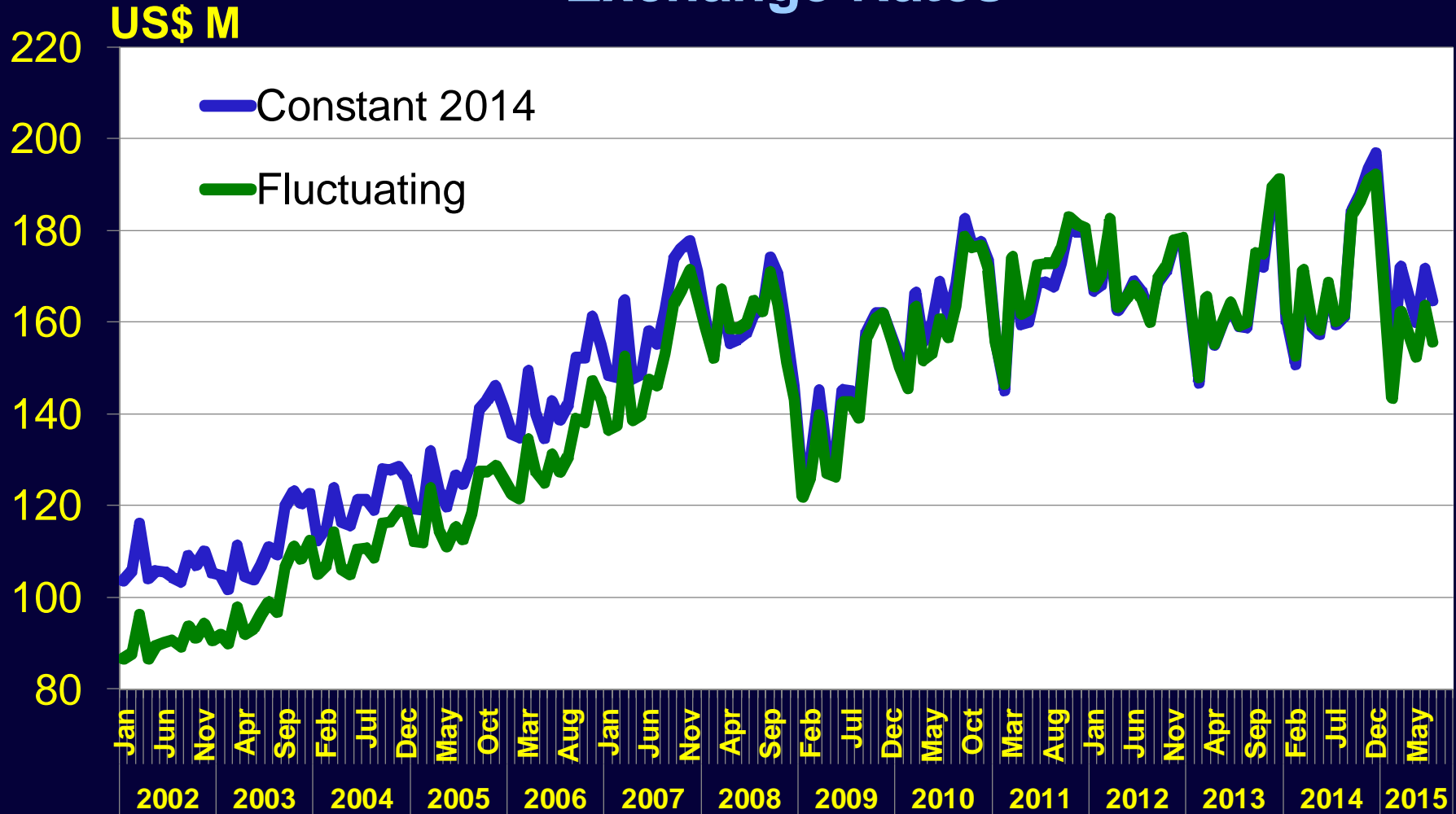
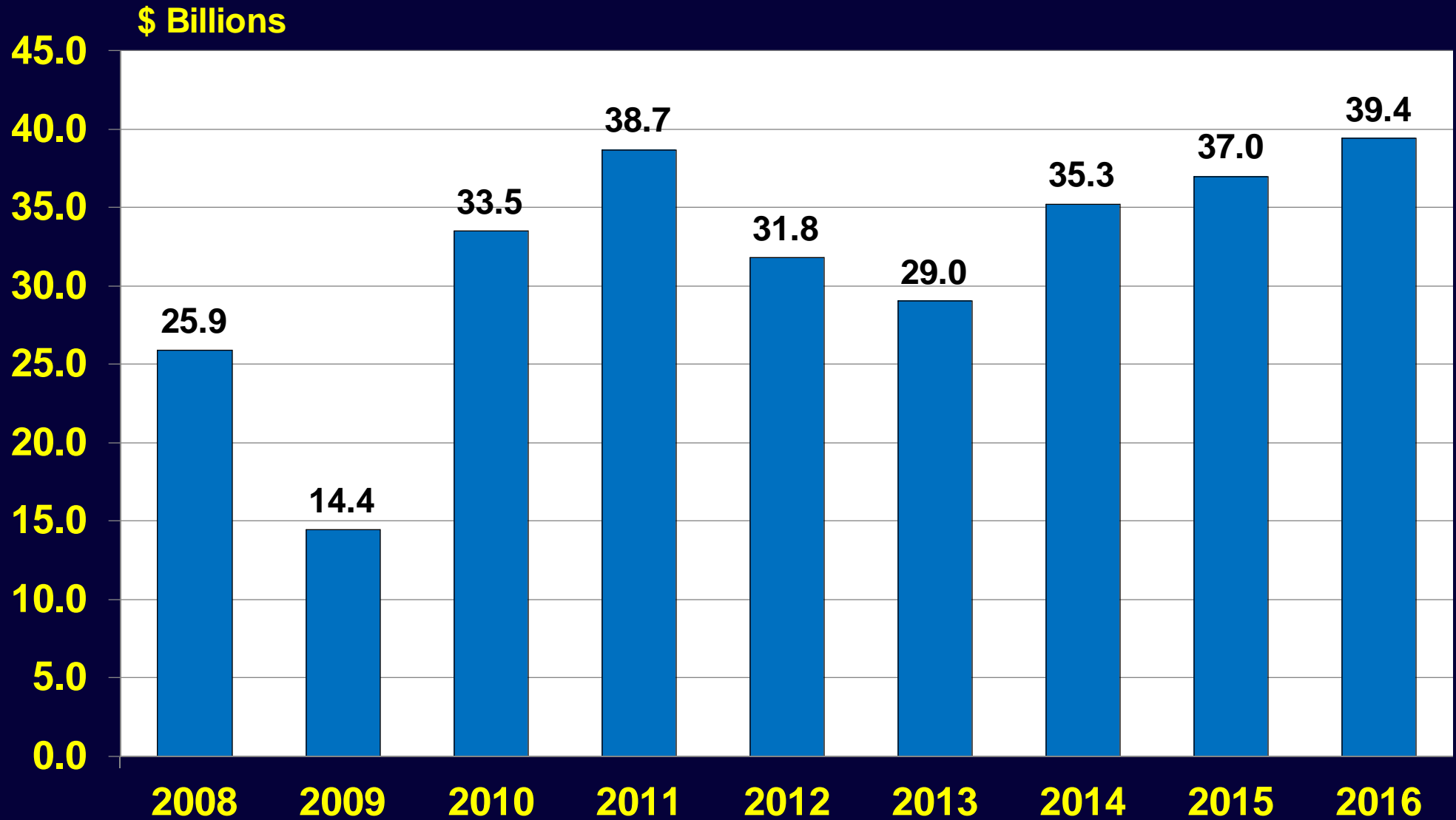


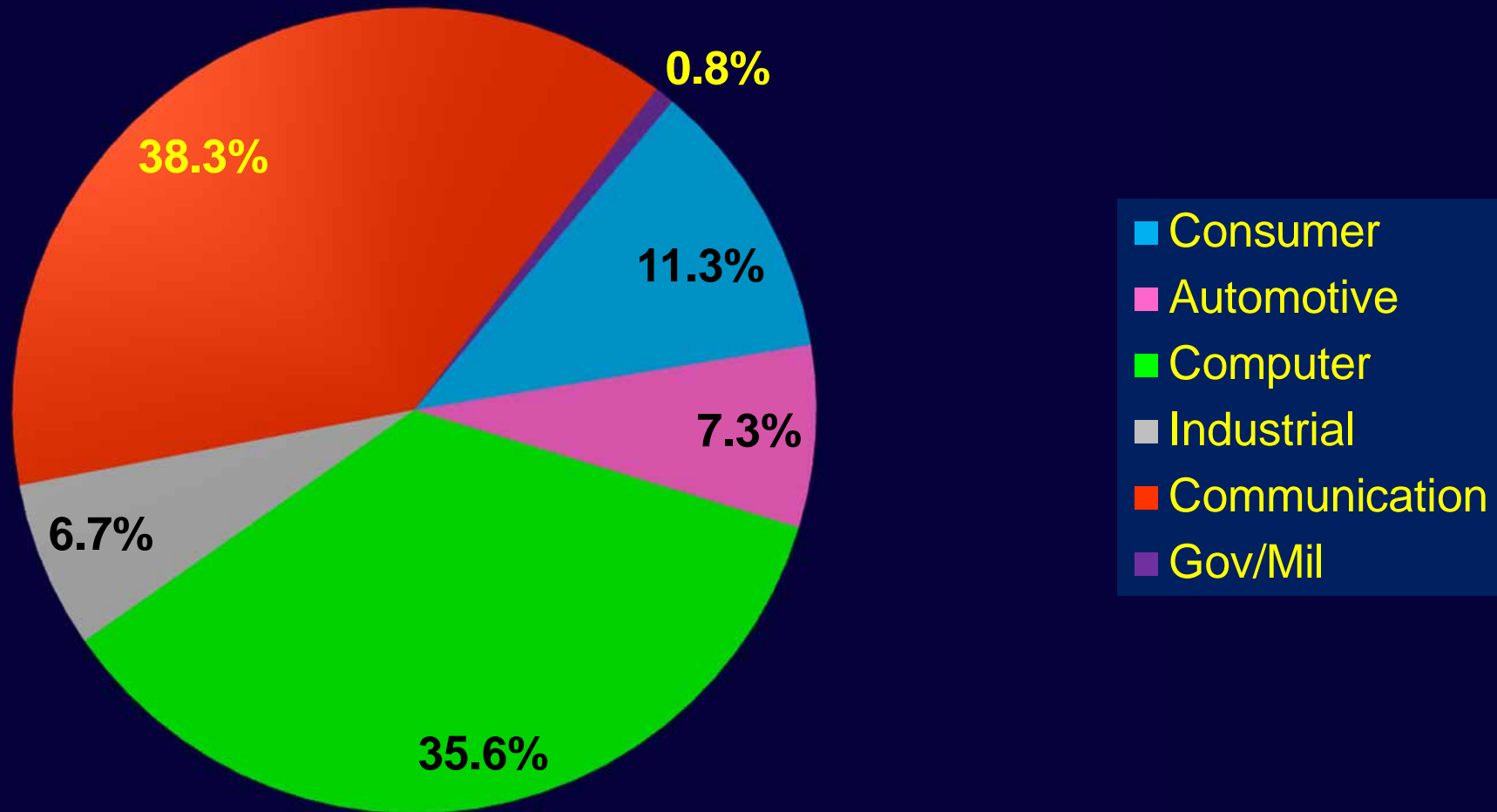
Chart 15

# World Fab Front End Equipment Capital Spending (including discretives & LED)



SEMI 9/2015 & prior reports

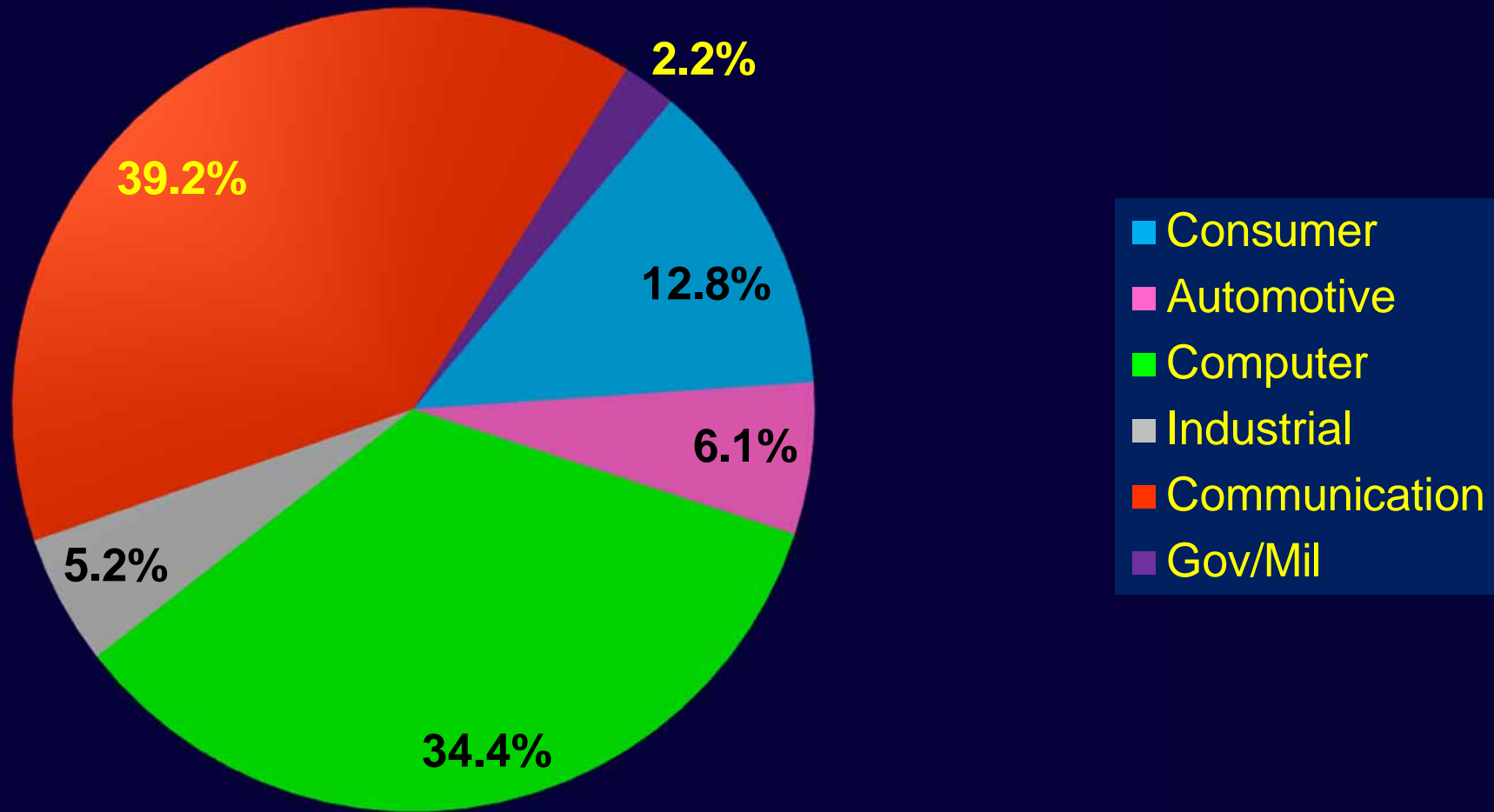
# World IC Usage by System – 2015F



**Total: \$295.0 Billion**

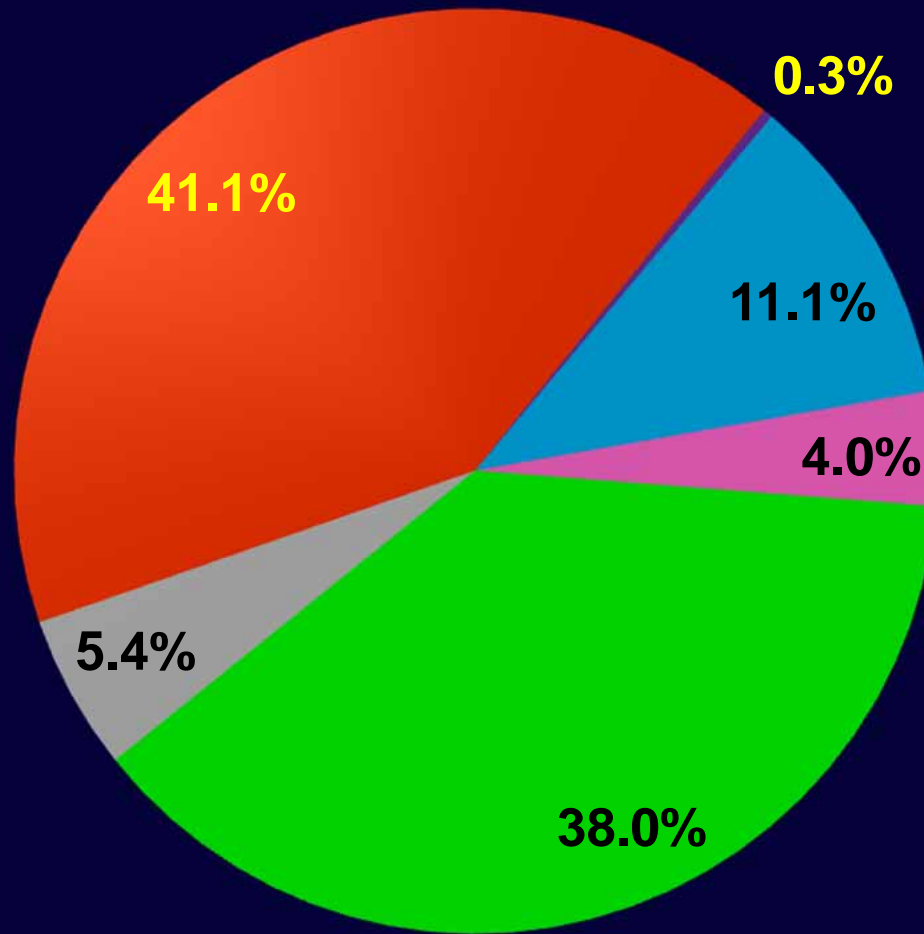


# Americas IC Usage by System – 2015F



**Total: \$67.7 Billion**

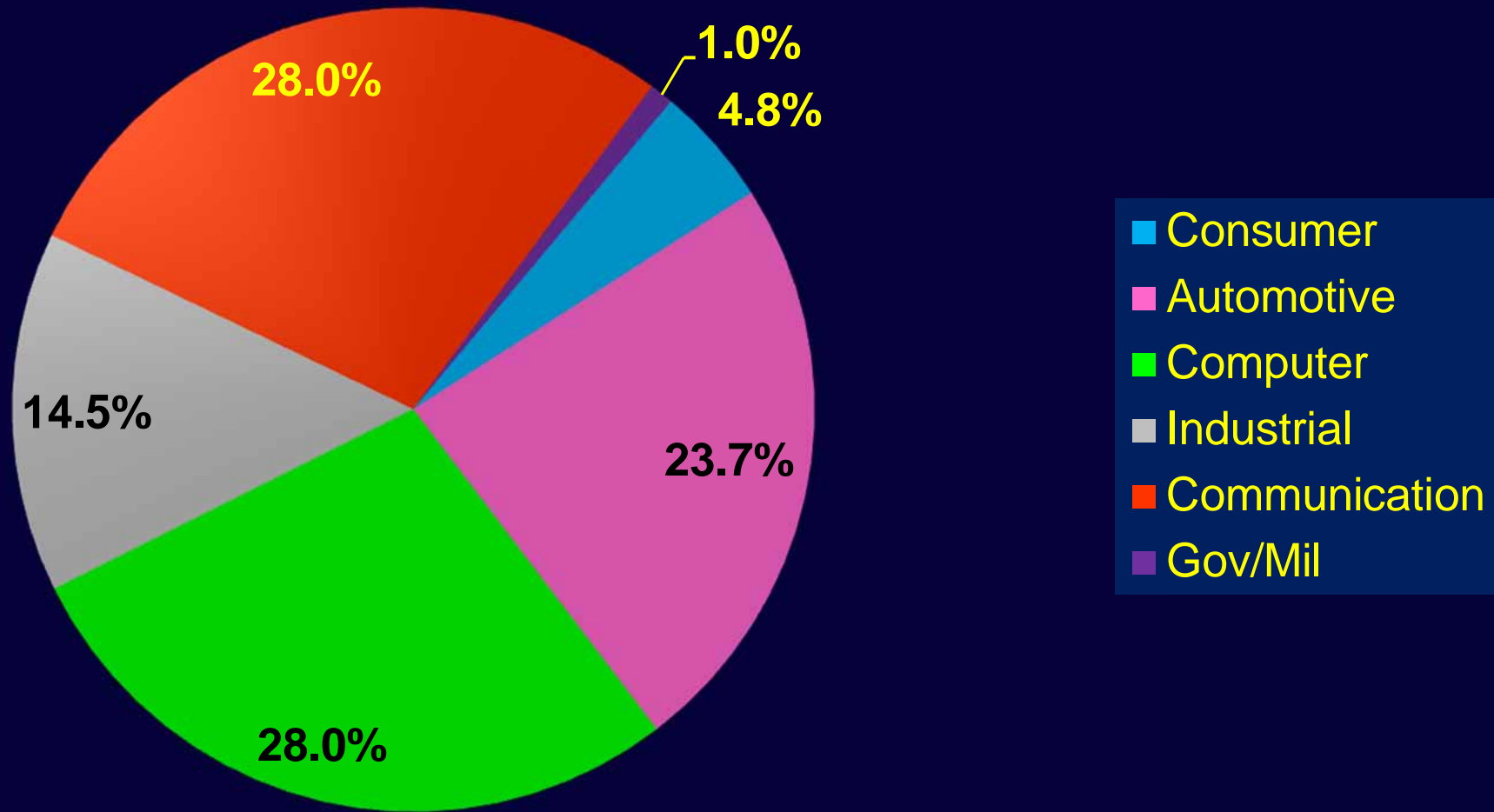
# Asia Pacific IC Usage by System – 2015F



- Consumer
- Automotive
- Computer
- Industrial
- Communication
- Gov/Mil

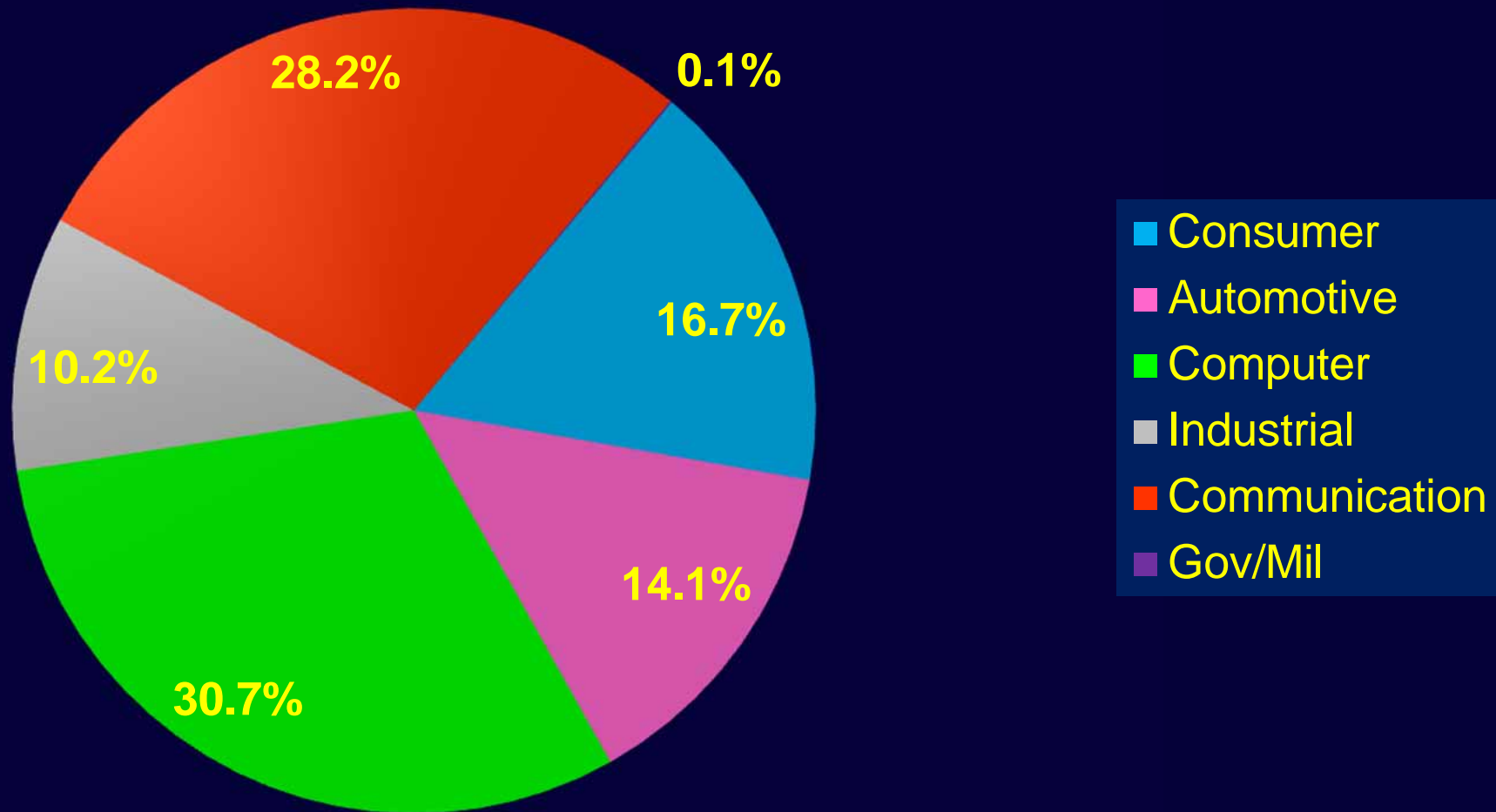
**Total: \$173.7 Billion**

# Europe IC Usage by System – 2015F



**Total: \$30.5 Billion**

# Japan IC Usage by System – 2015F



**Total: \$23.0 Billion**

# Internet of Things –Semiconductor Opportunities

**Connectivity**            **\$8.6 Billion**

Bluetooth, Cellular, Other Wireless, WiFi, Wireline,  
ZigBee

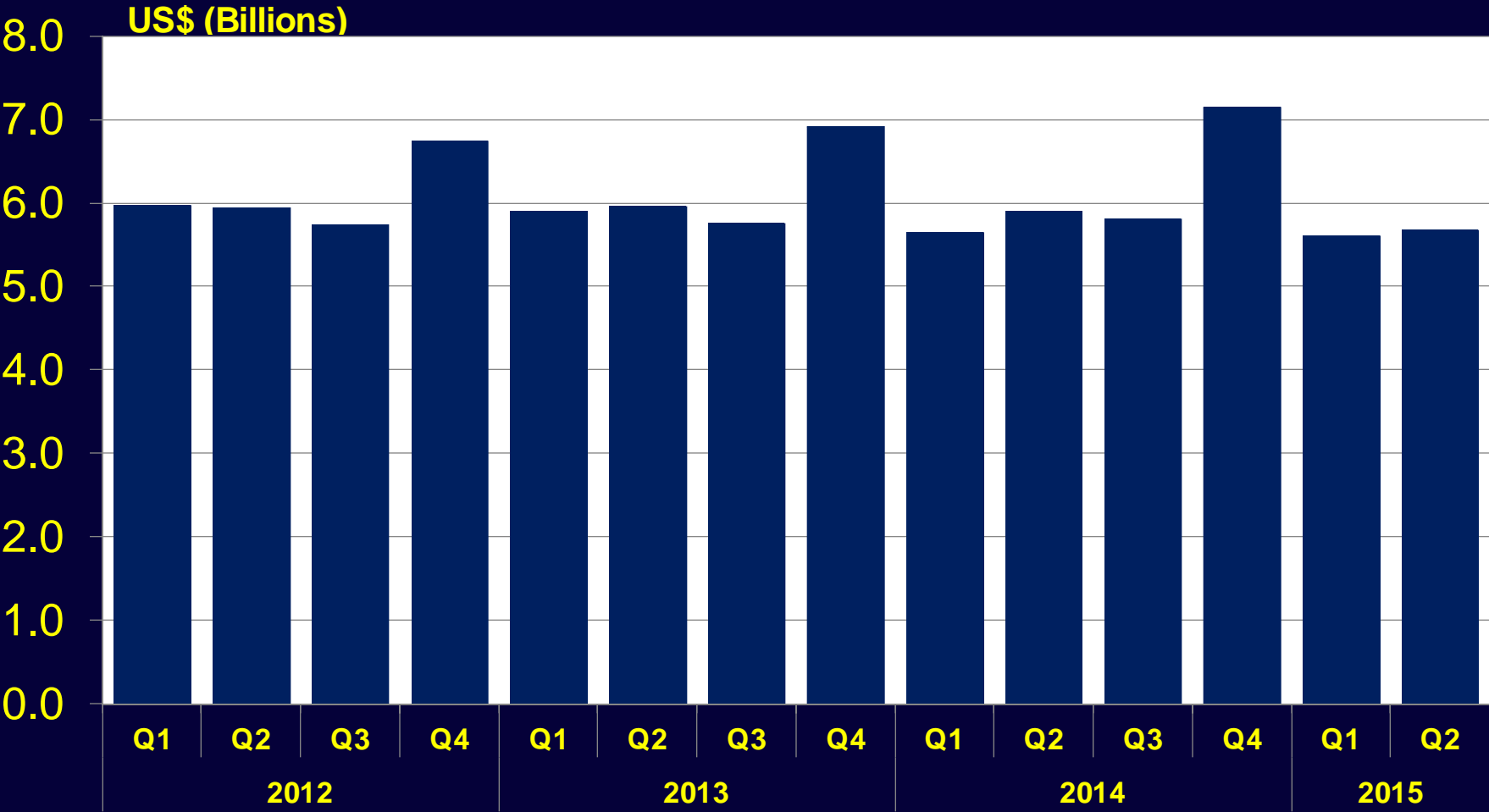
**Sensors**                **\$10 Billion**

Chemical, Humidity, Image CCD, Image CMOS,  
Inertial, Magnetic, Mass Flow, Other

**Processing**            **\$28.8 Billion**

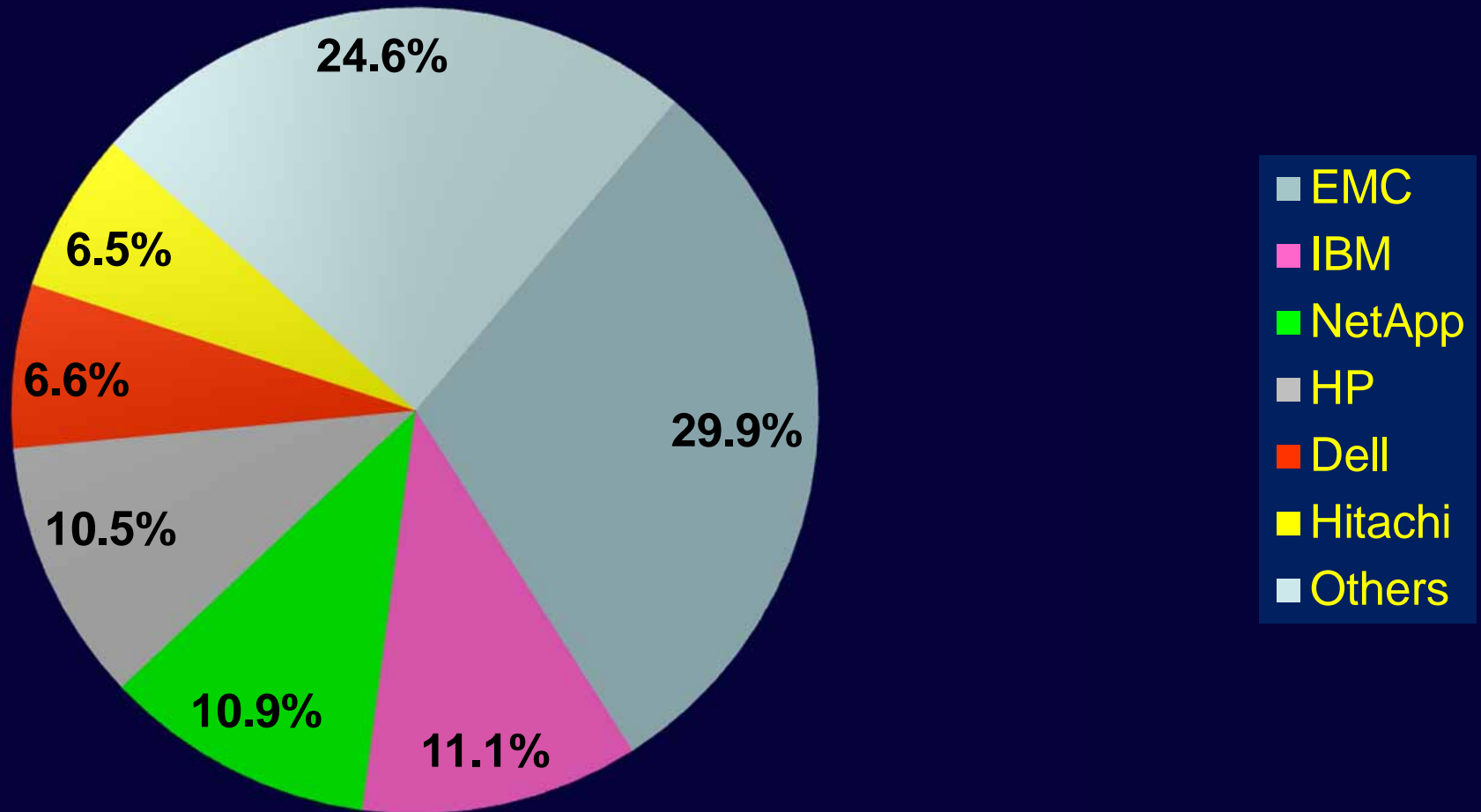
Application Processor, ASIC, ASSP, FPGA/PLD,  
Microcontroller 16-bit, 32-bit, 8-bit, Microprocessor  
Embedded

# World External Disk Storage Revenue



IDC 9/15 and prior

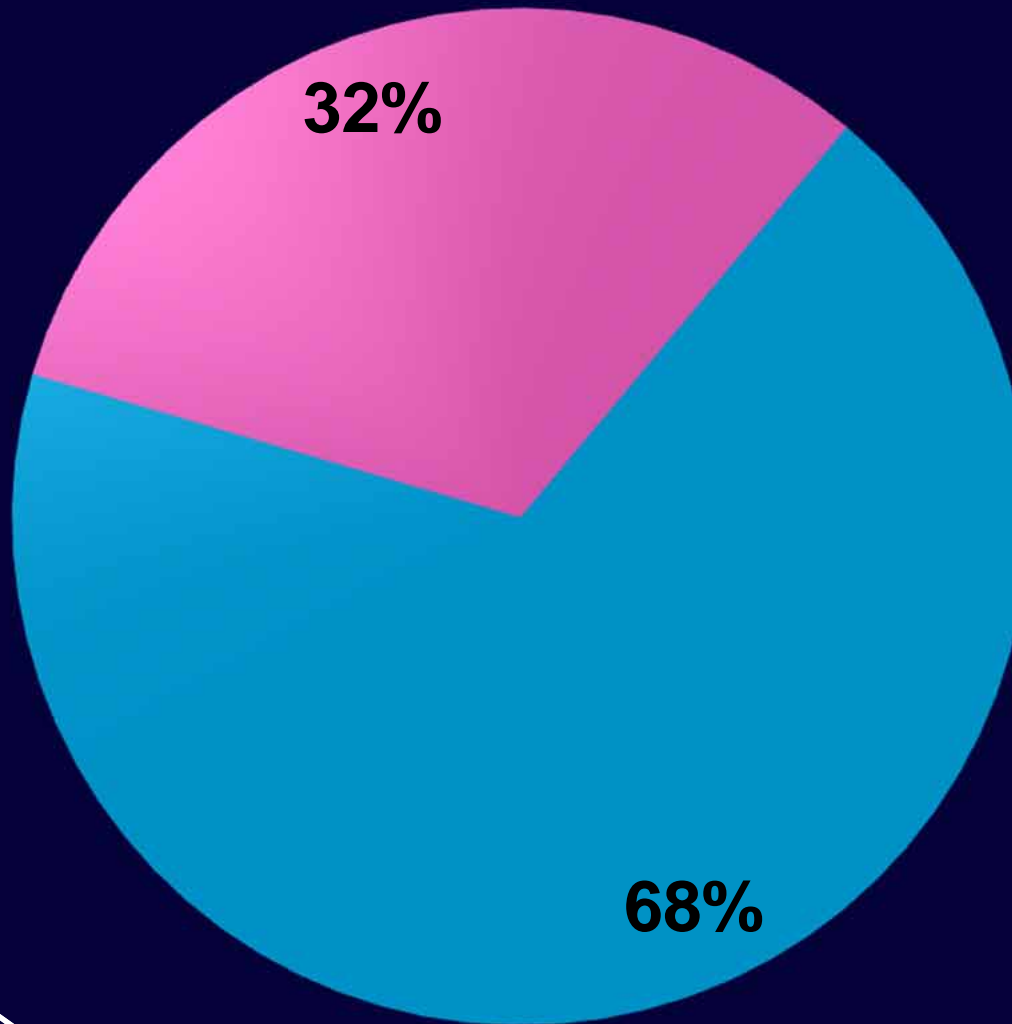
# World External Disk Storage Systems Market Revenue 2Q'15



**TOTAL: \$5,669 Million**

# Copper Clad Laminate Production

2014



## China CCL Market

Kingboard Chemical 29.3%

Shengyi Technology 14.8%

ITEQ Corporation 9.3%

Others 46.6%

(Hitachi Chemical, Rogers, Isola, Goldenmax, Chaohua Tech, Goworld, HuaZheng New Material, Nanya, Elite Material, Formosa Laboratories, etc.)

**710 MSM  
In 2013**



**760 Million Sq. Meters**