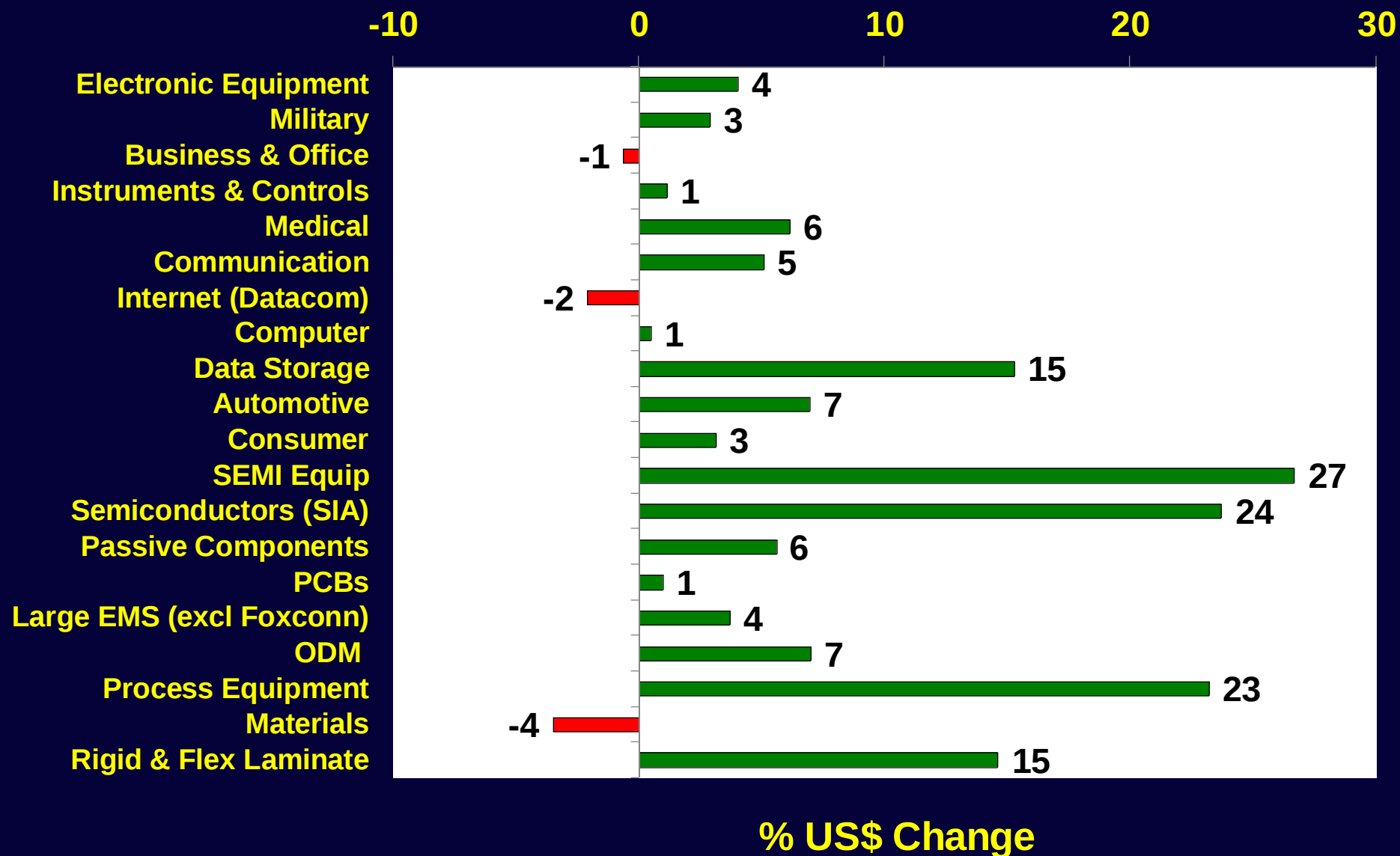


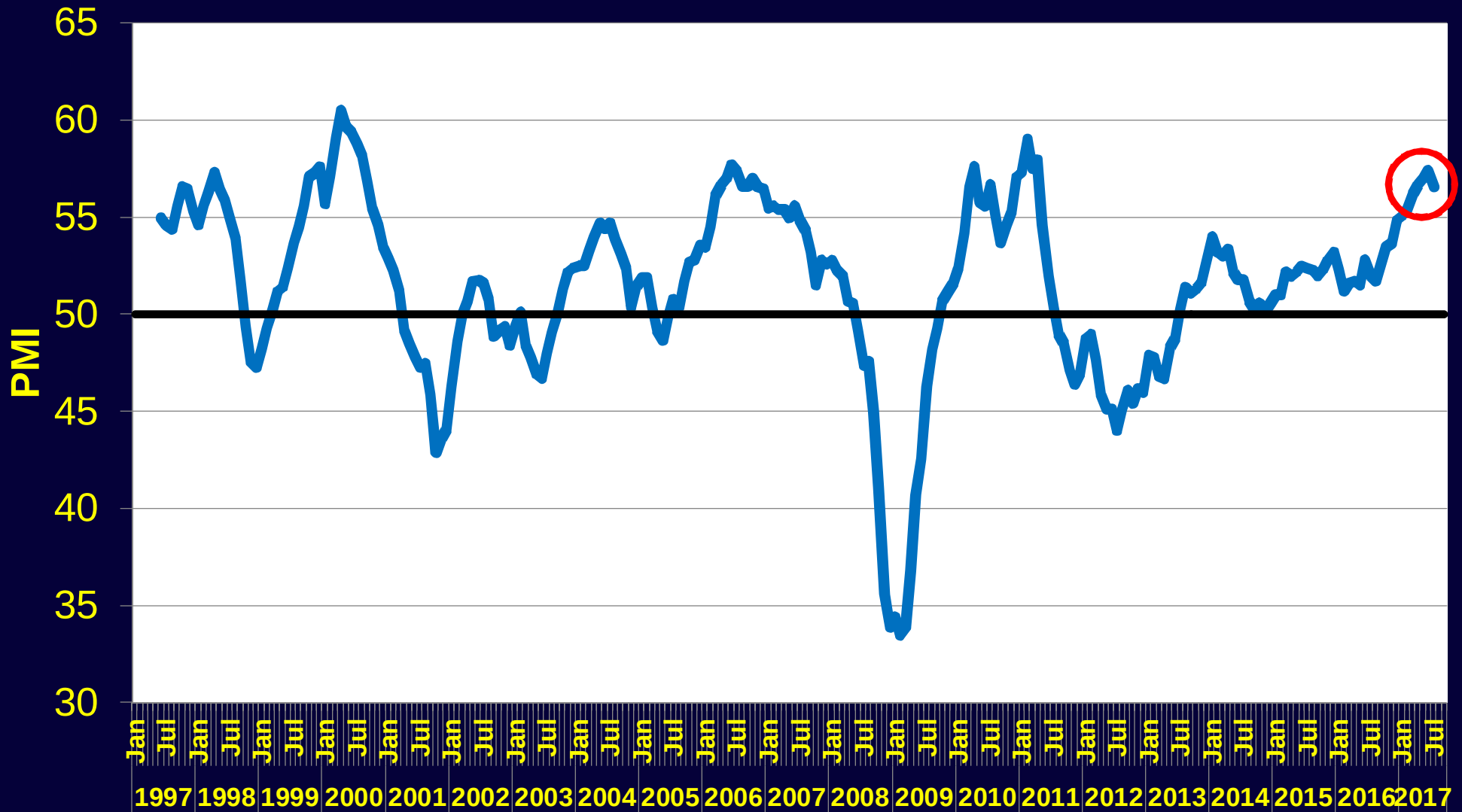
Global Electronic Supply Chain Growth 2Q'17 vs. 2Q'16 (preliminary)



US\$ equivalent at fluctuating exchange; based upon industry composites including acquisitions

Eurozone Manufacturing "Purchasing Managers" Index

Diffusion Index, >50 = Growth



European Purchasing Managers' Indices July vs June 2017

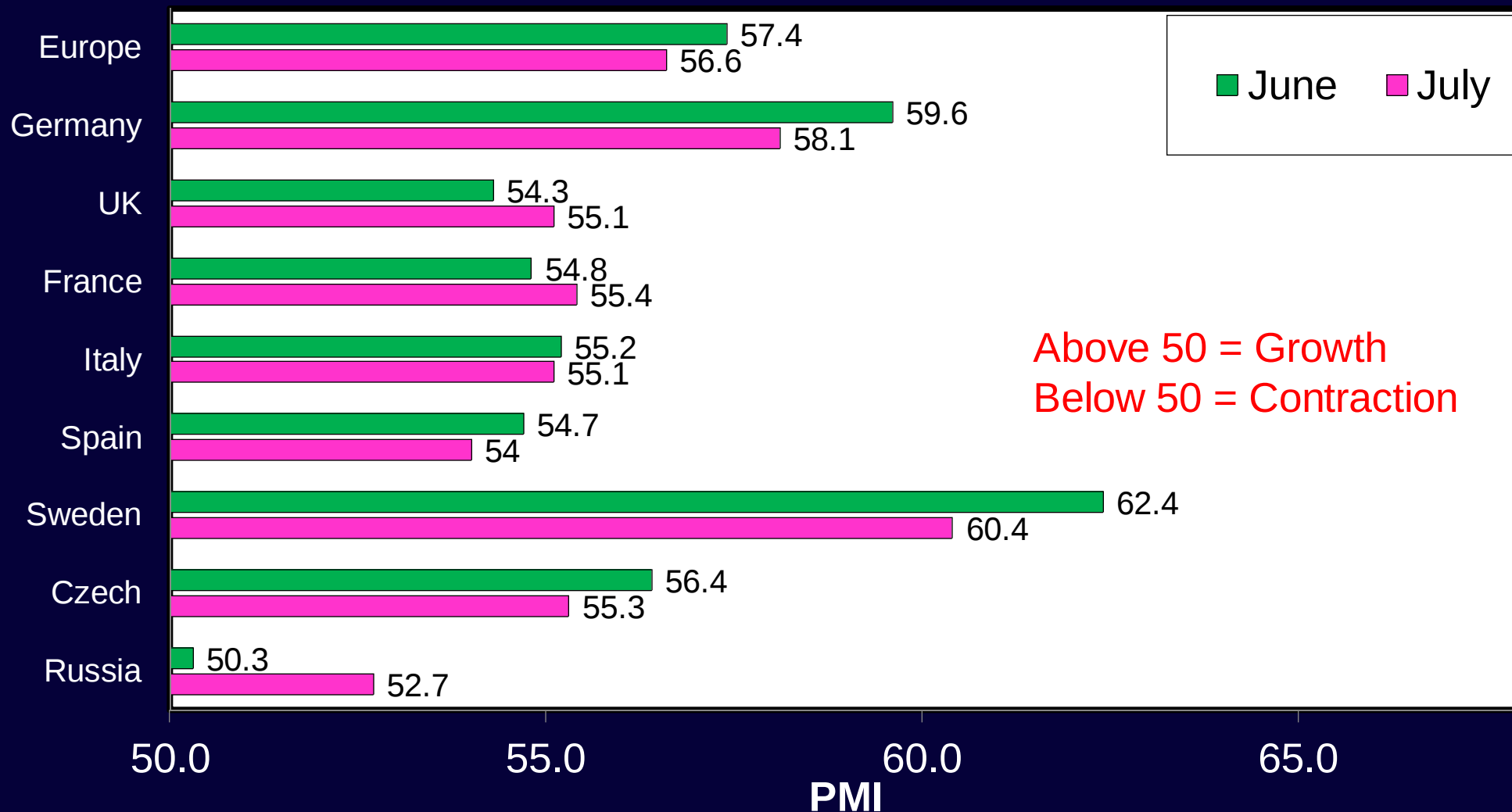


Chart 4

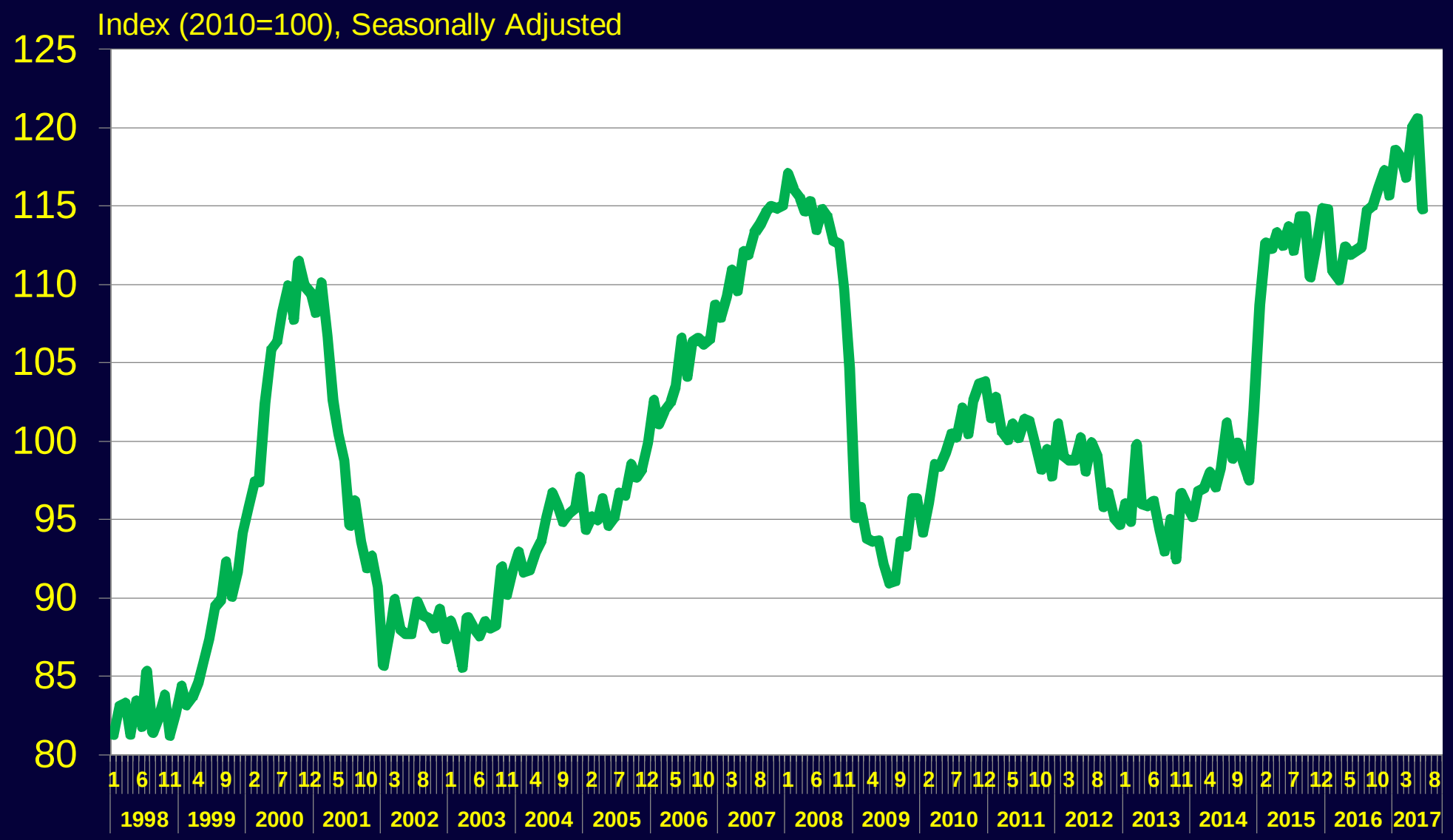
Euro vs. U.S. Dollar

US\$/Euro



Chart 5

European Computer, Electronic & Optical Products Production



Europe- EU27

Manufacture of computer, electronic & optical products

12/12 & 3/12 Rate of Change

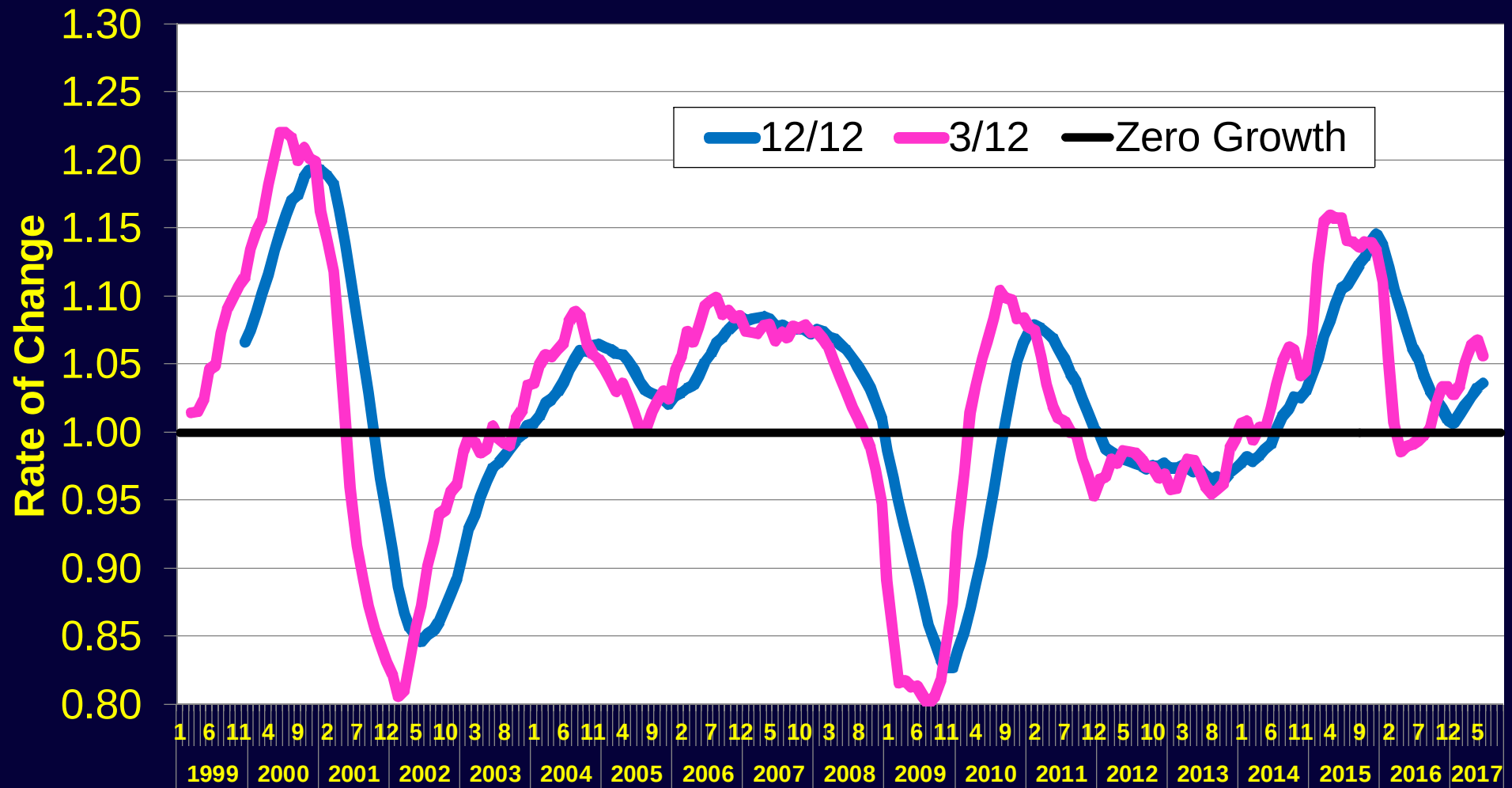


Chart 7

European Motor Vehicle Production

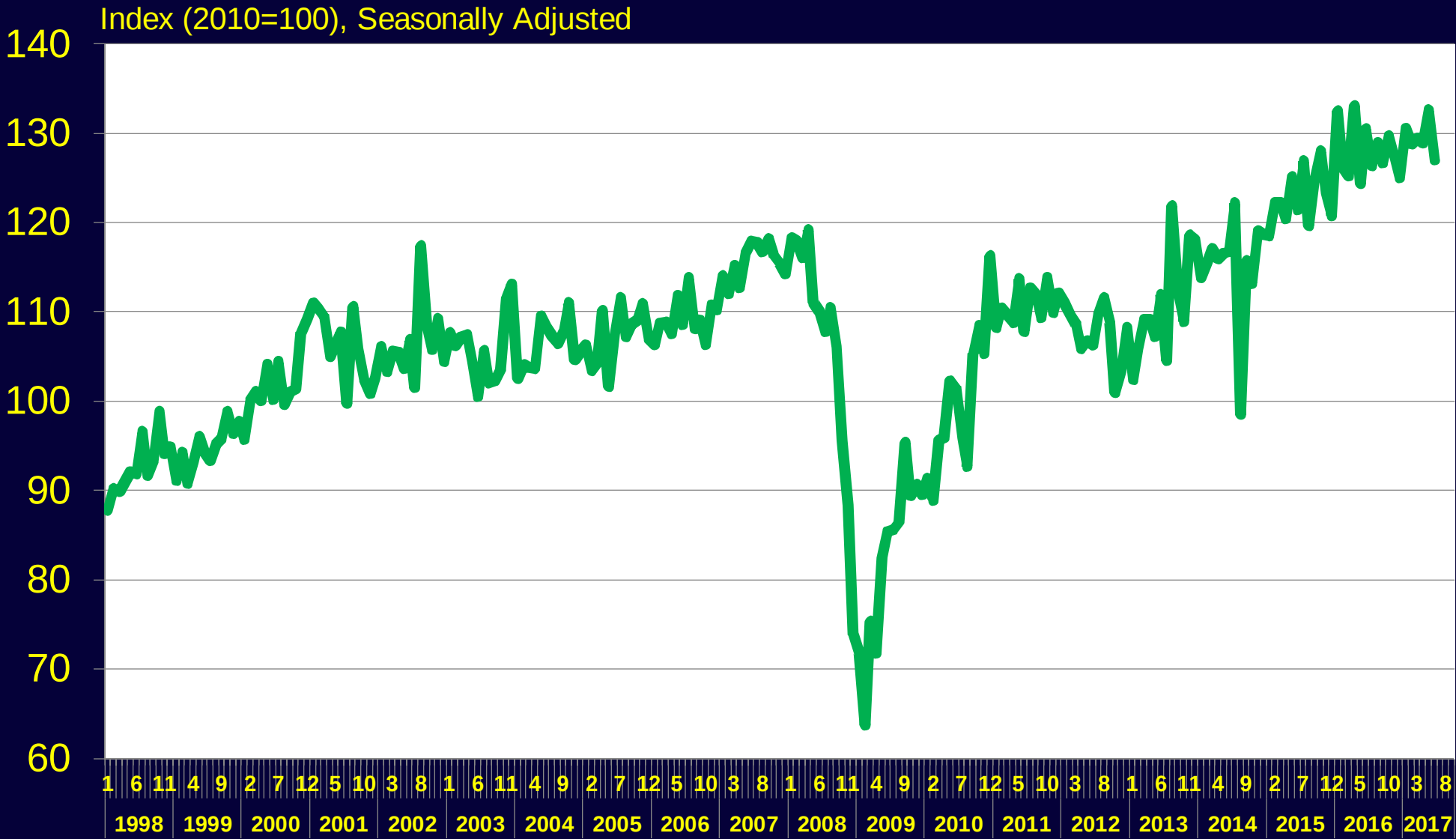


Chart 8

European Production - Aircraft, Spacecraft & Related Equipment

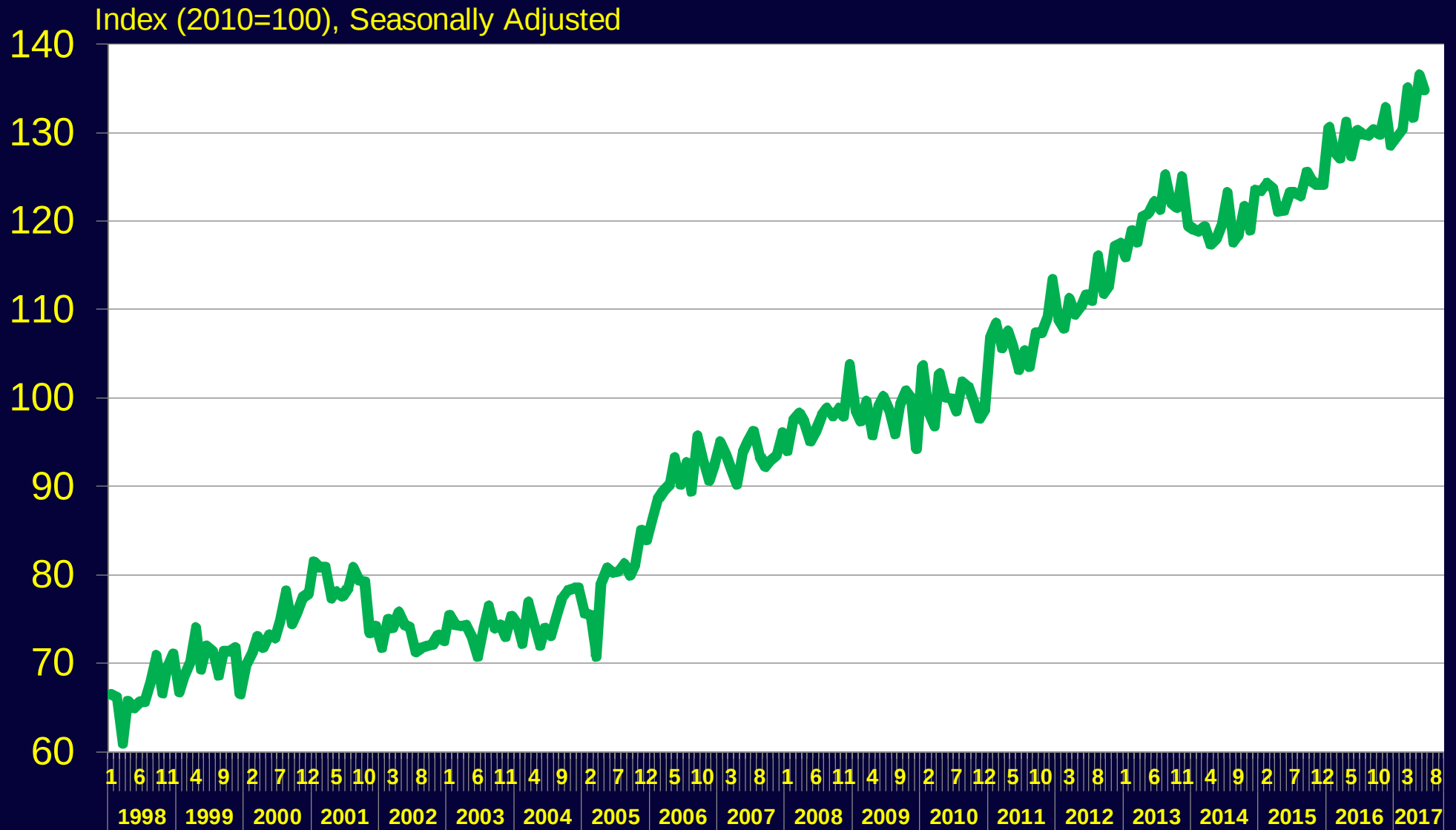


Chart 9 **European Production - Instruments & Appliances for Measuring, Testing & Navigation**

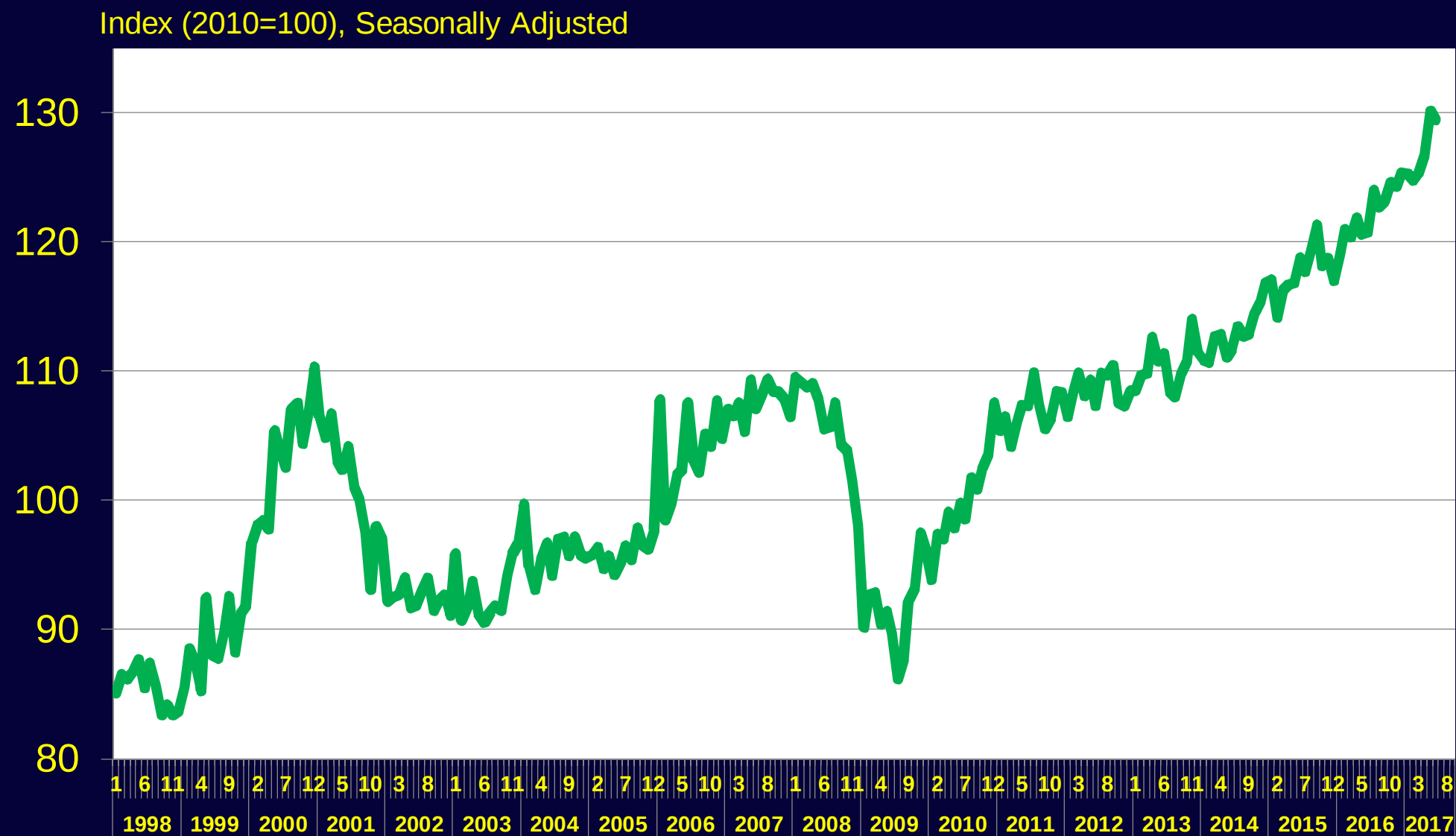


Chart 10

European Production - Irradiation, Electromedical & Electrotherapeutic Equipment

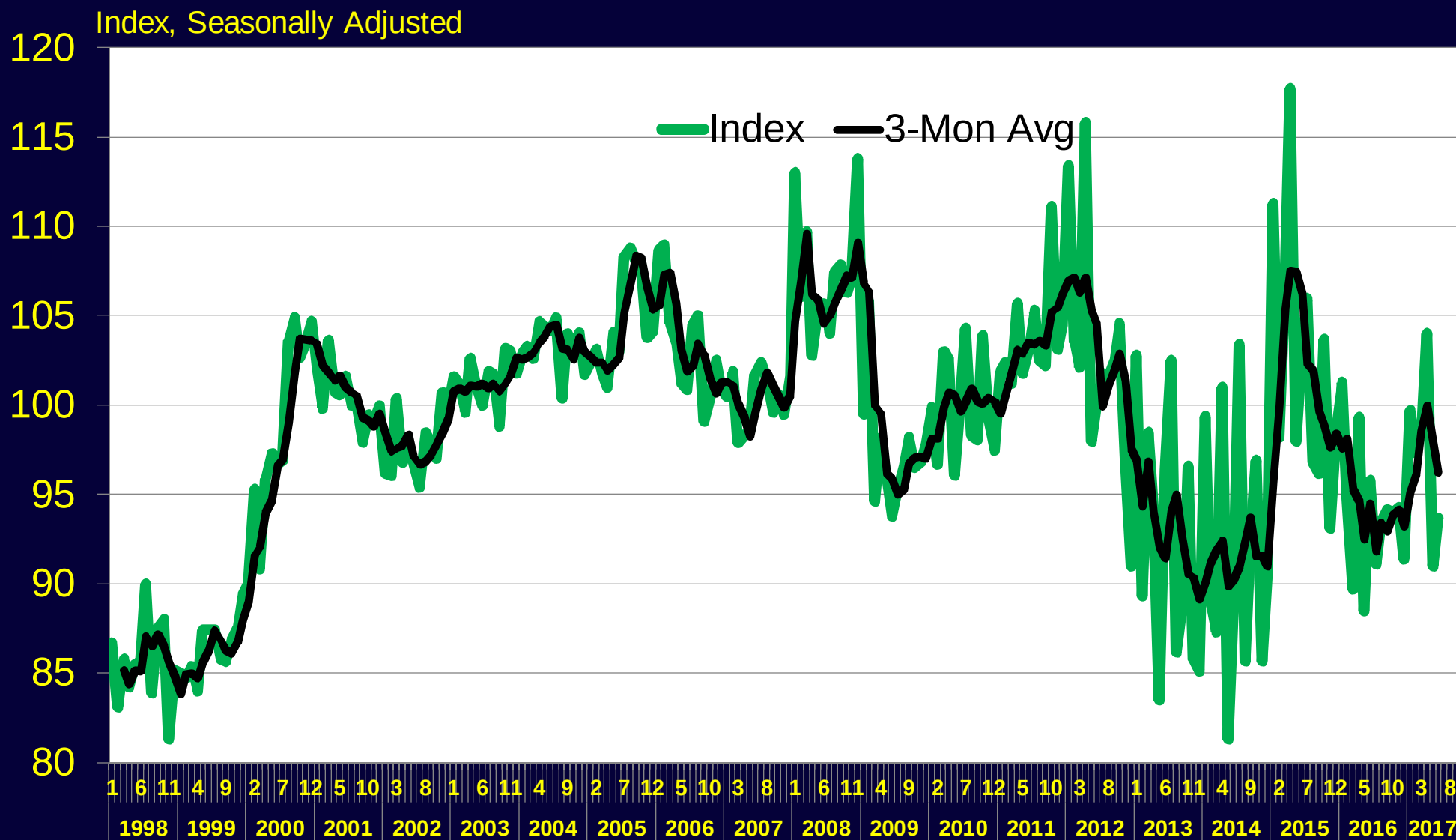
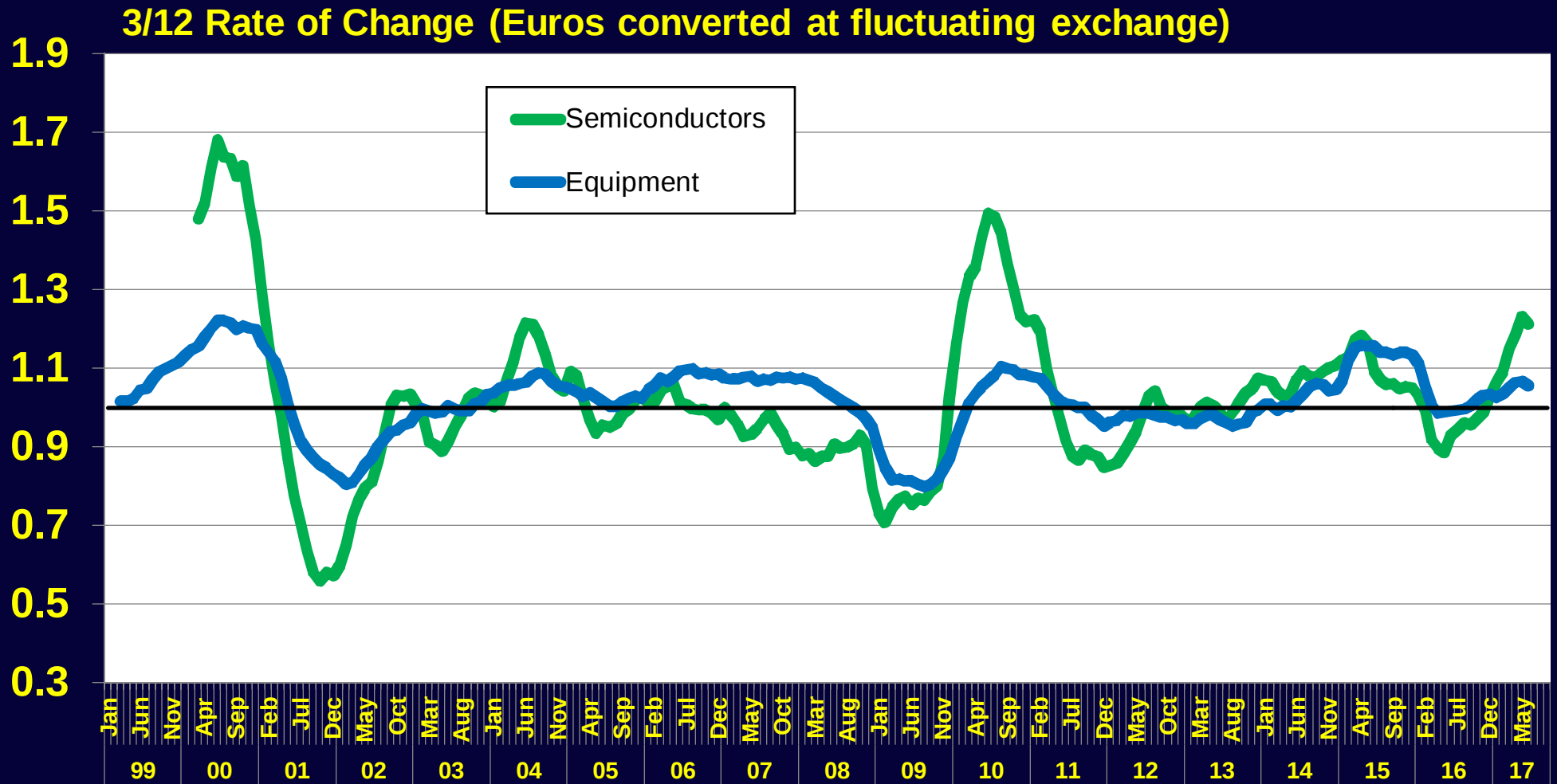


Chart 11

Semiconductor Shipments to Europe vs. European Electronic Equipment Production

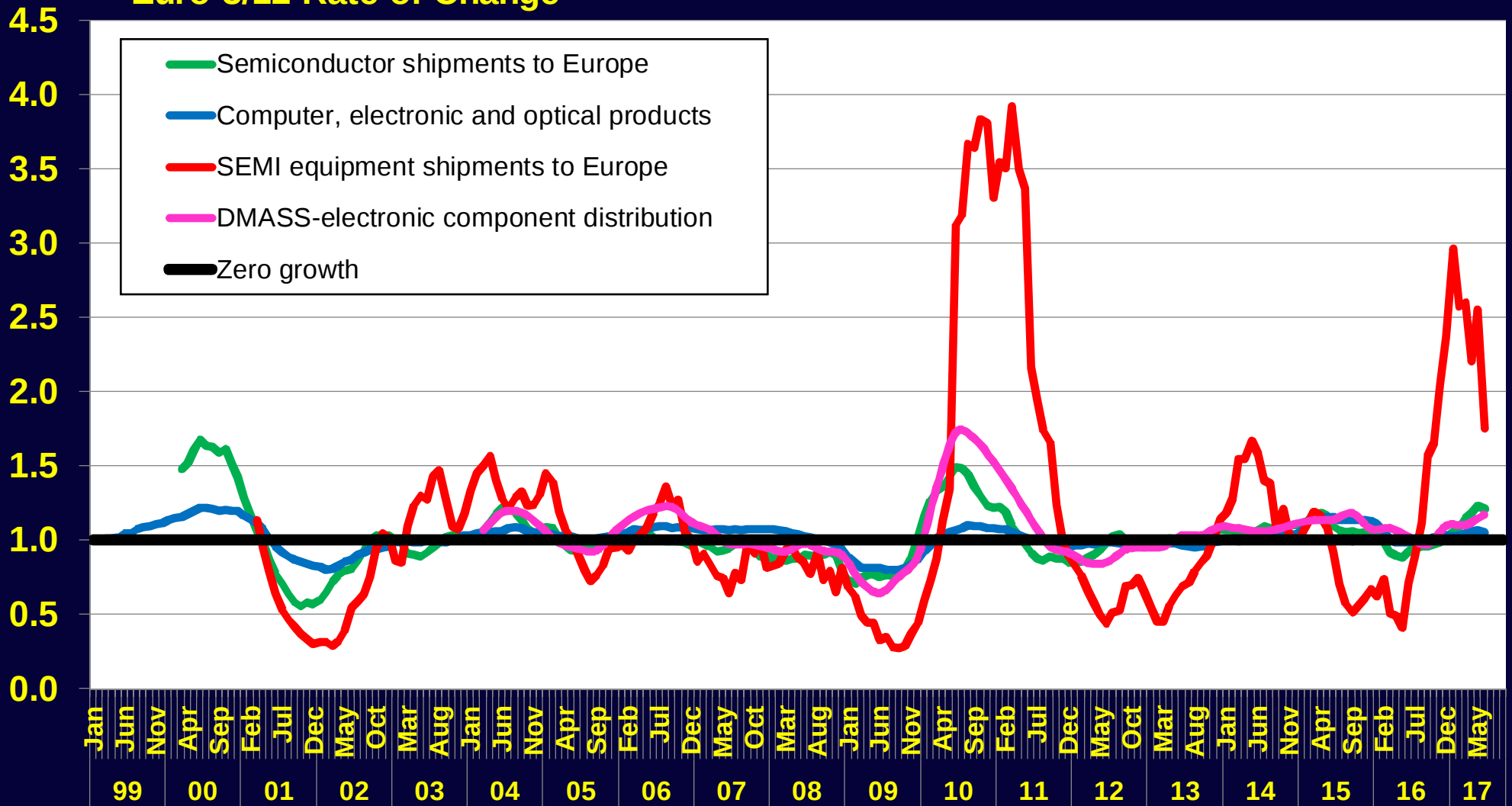


Total \$ Semiconductor Shipments from All Countries to Europe www.sia-online.org/,
Eurostat class C26, EU27, European Computer, Electronic & Optical products Production

Chart 12

European Computer, Electronic and Optical Products, Semiconductors, & SEMI Equipment Shipments

Euro 3/12 Rate of Change



Total \$ Semiconductor Shipments from All Countries to Europe www.sia-online.org/,
Eurostat class C26 & SEMI, CCG Extrapolation of SEMI growth

Chart 13

European Loaded Electronic Board Production



Chart 14

European Electronic Components & Board Production



Chart 15

European Electronic Wiring Devices



Present Growth Rates (%)

European Electronics Industry

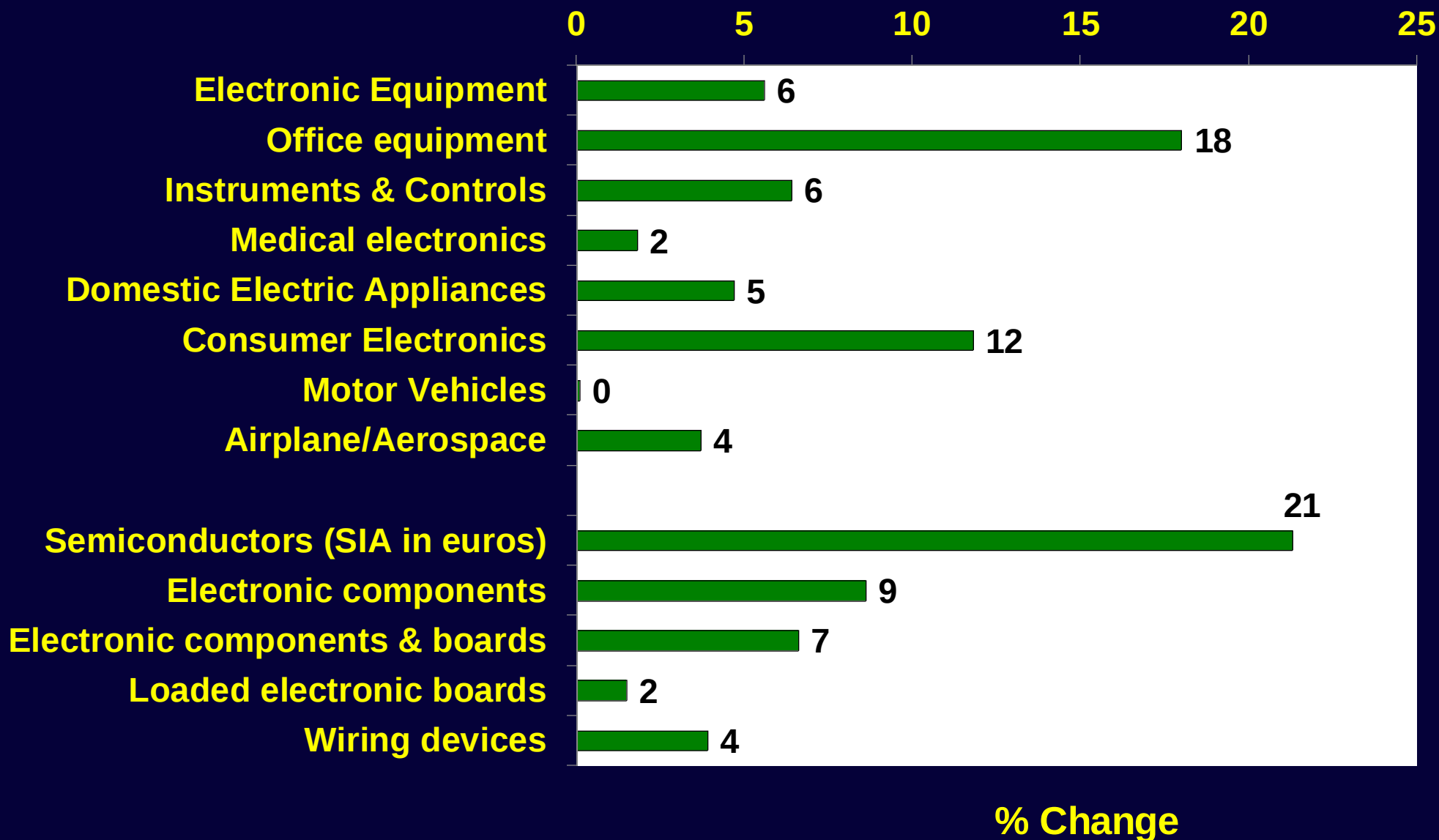
	Latest Month	Annualized Growth Rate	3-Month Growth Rate
ELECTRONIC EQUIPMENT SHIPMENTS (Index CY 2010 =100)			
Computer, Electronic & Optical Products	6/17	3.6	6.6
Components & Boards	6/17	4.3	6.6
Components	6/17	4.9	8.6
Wiring Devices	6/17	4.2	3.9
Loaded Electronic Boards	6/17	2.8	1.5
Office Equipment	6/17	7.5	18.0
Consumer Electronics	6/17	7.1	11.8
Electric Domestic Appliances	6/17	1.7	4.7
Electronic Instruments	6/17	4.9	6.4
Medical Electronics	6/17	-1.8	1.8
Motor Vehicles	6/17	1.7	0.1
Air & Space Aircraft	6/17	4.0	3.7
Semiconductor Shipments (Eur) to Europe	6/17	8.4	21.3
Industrial Production	6/17	2.1	3.0

NOTE: 3 month growth rates compare most recent 3 months to same 3 months one year earlier. Also called 3/12 growth

Sources: Eurostat & SIA

Chart 17

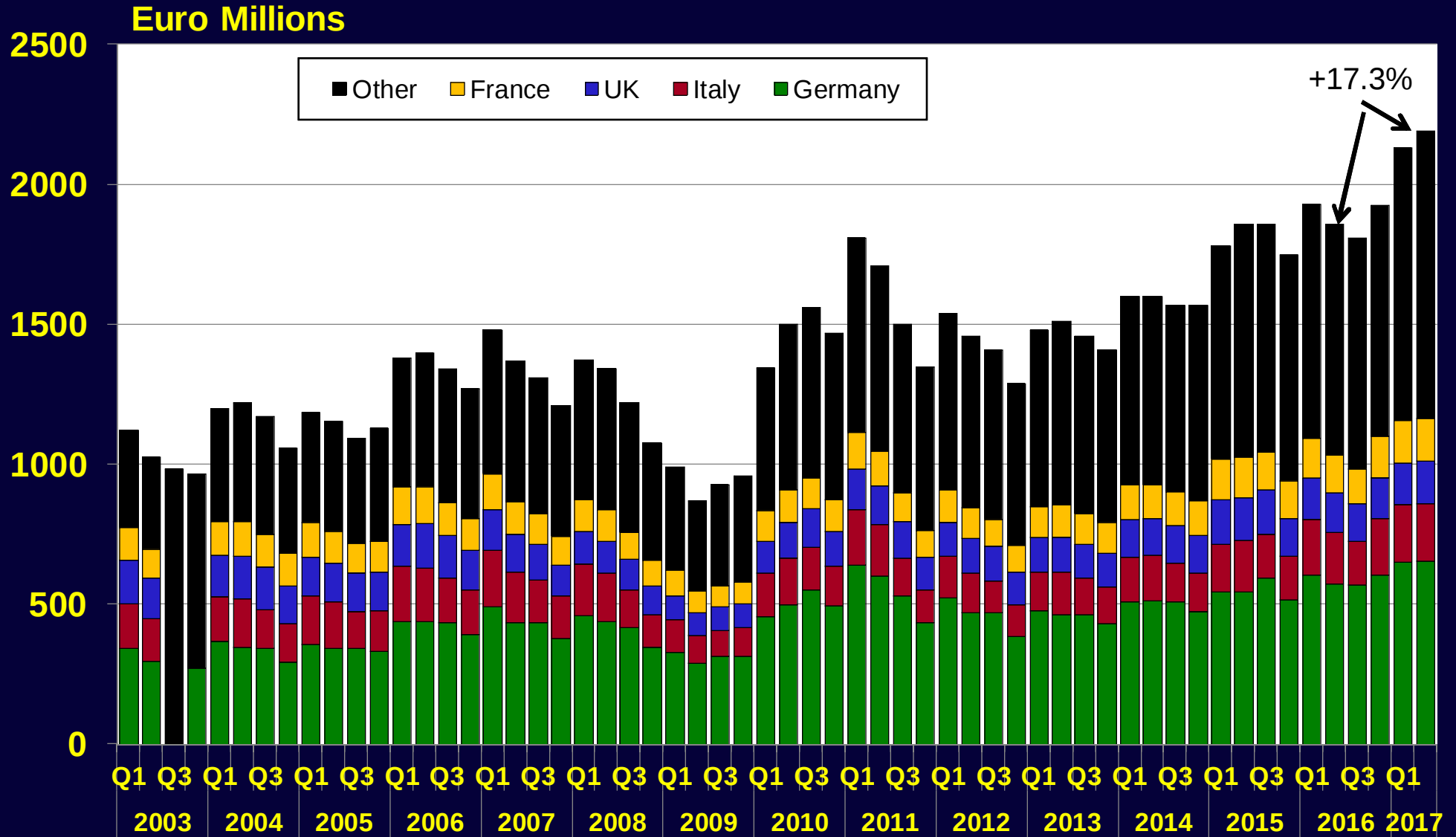
European Electronic Supply Chain Growth 2Q'17 vs 2Q'16



Euro denominated growth rates; Eurostat, SIA & Custer Consulting Group

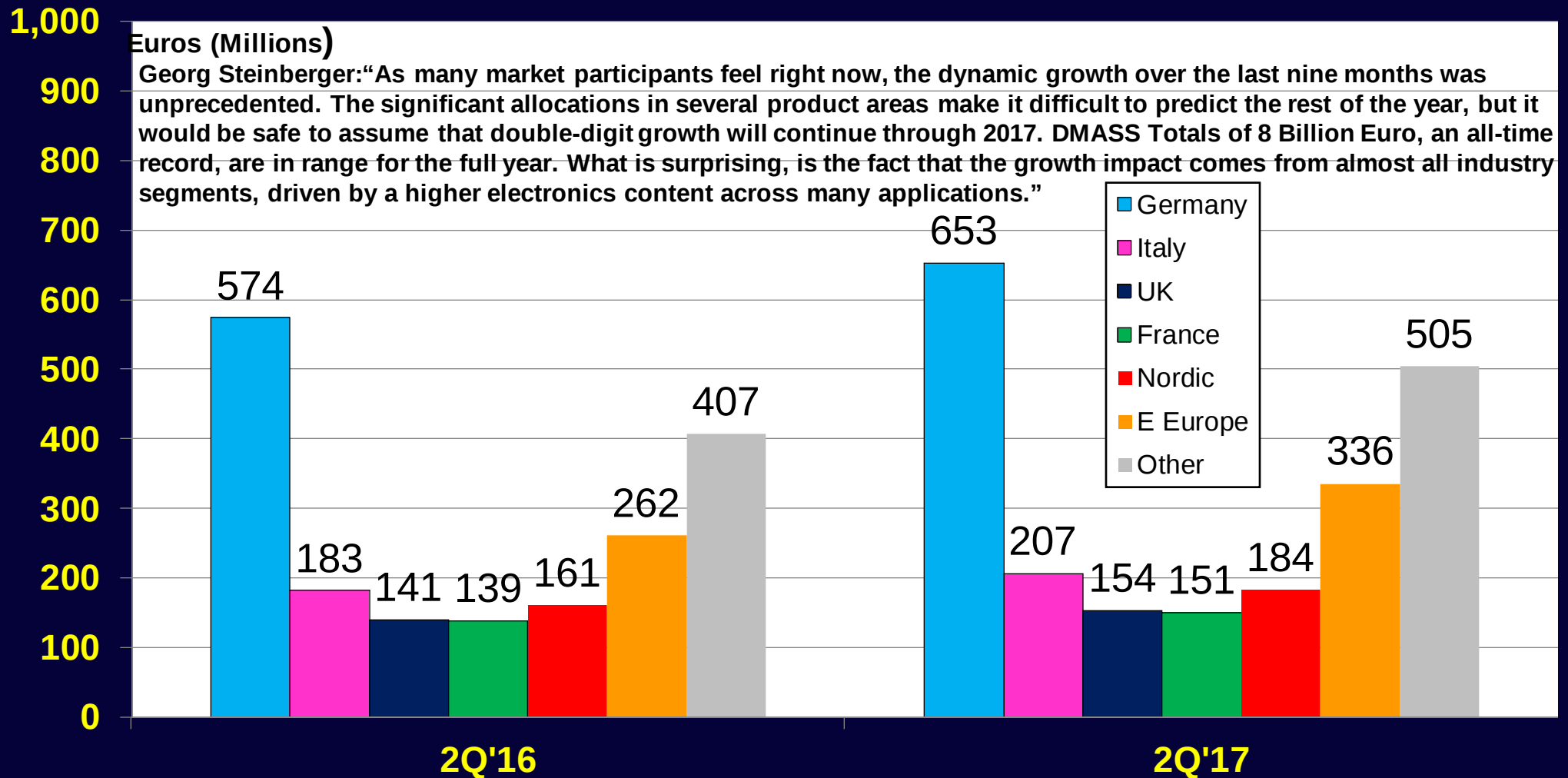
Chart 18

DMASS - European Semiconductor Distribution Industry



DMASS

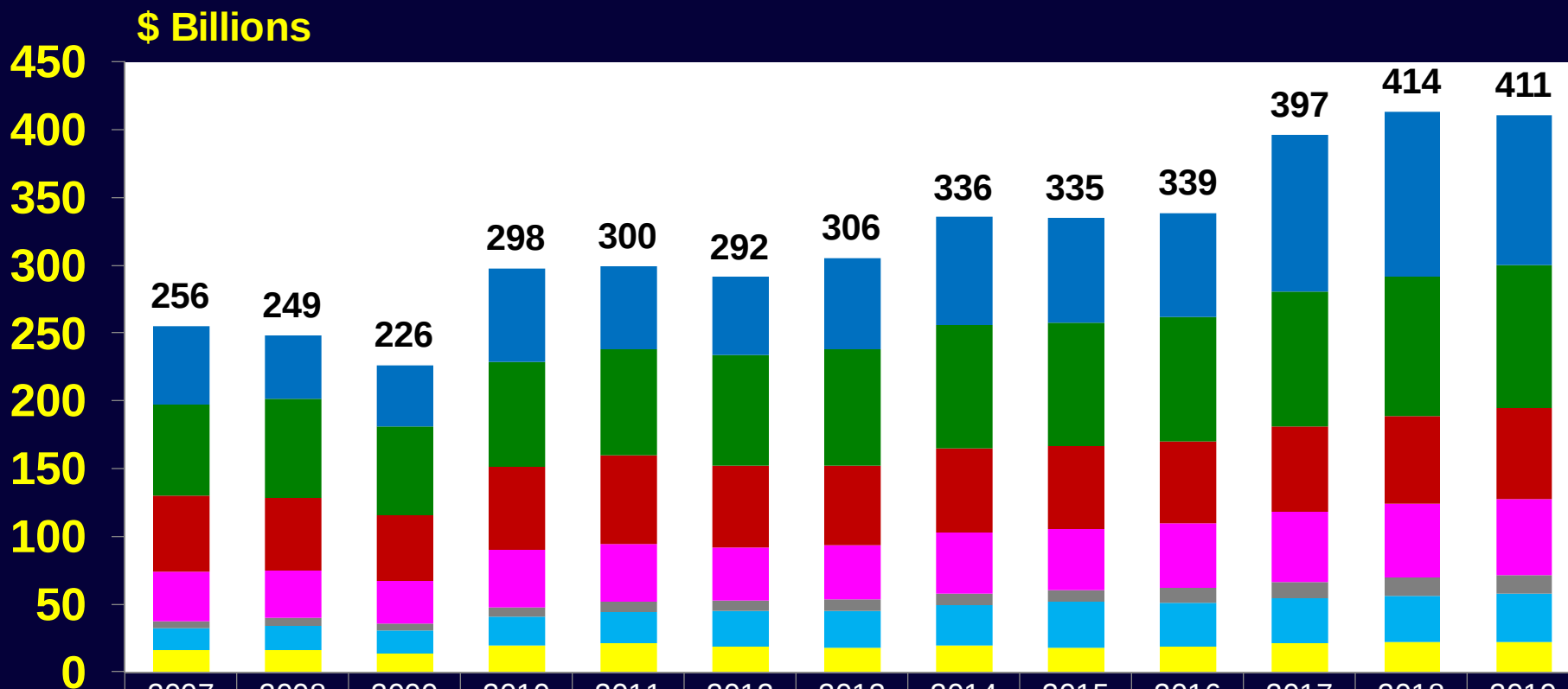
European Semiconductor Distribution Industry



"If you look at the growth in Eastern Europe, it is mainly driven by production shifts from Northern and Central Europe. Positively surprising is the resilience of the Italian high-tech market against the domestic economic problems."

Worldwide Semiconductor Market by Type

WSTS Forecast



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	255646	248604	226314	298316	299522	291561	305582	335842	335168	338931	396649	413522	411093
IC-Memory	57854	46348	44797	69614	60749	56995	67043	79232	77205	76767	115561	121579	110921
IC-Logic	67292	73531	65215	77377	78782	81703	85928	91633	90753	91498	99558	102609	105088
IC-Micro	56211	53140	48330	60633	65204	60238	58686	62072	61298	60585	62829	65173	66907
IC-Analog	36453	35637	32001	42285	42338	39303	40117	44365	45228	47848	51663	54284	56129
Sensors	5126	5111	4753	6903	7970	8009	8036	8502	8816	10821	12336	13135	13899
Optoelectronics	15901	17902	17043	21702	23092	26175	27571	29868	33256	31994	33403	34574	35405
Discrete	16809	16935	14175	19802	21387	19138	18201	20170	18612	19418	21299	22168	22744

Chart 21

Worldwide Semiconductor Market by Geography

WSTS Forecast

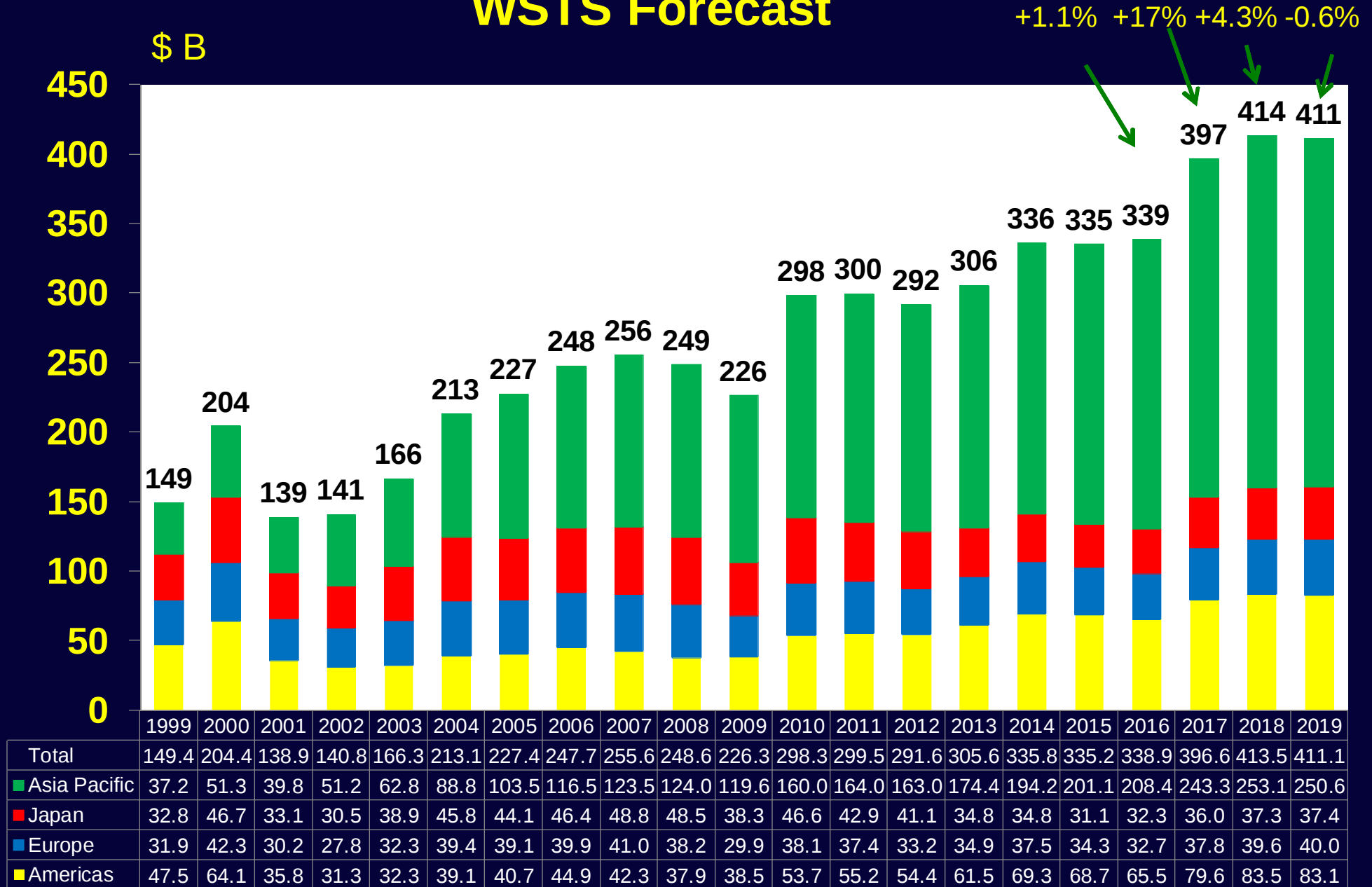
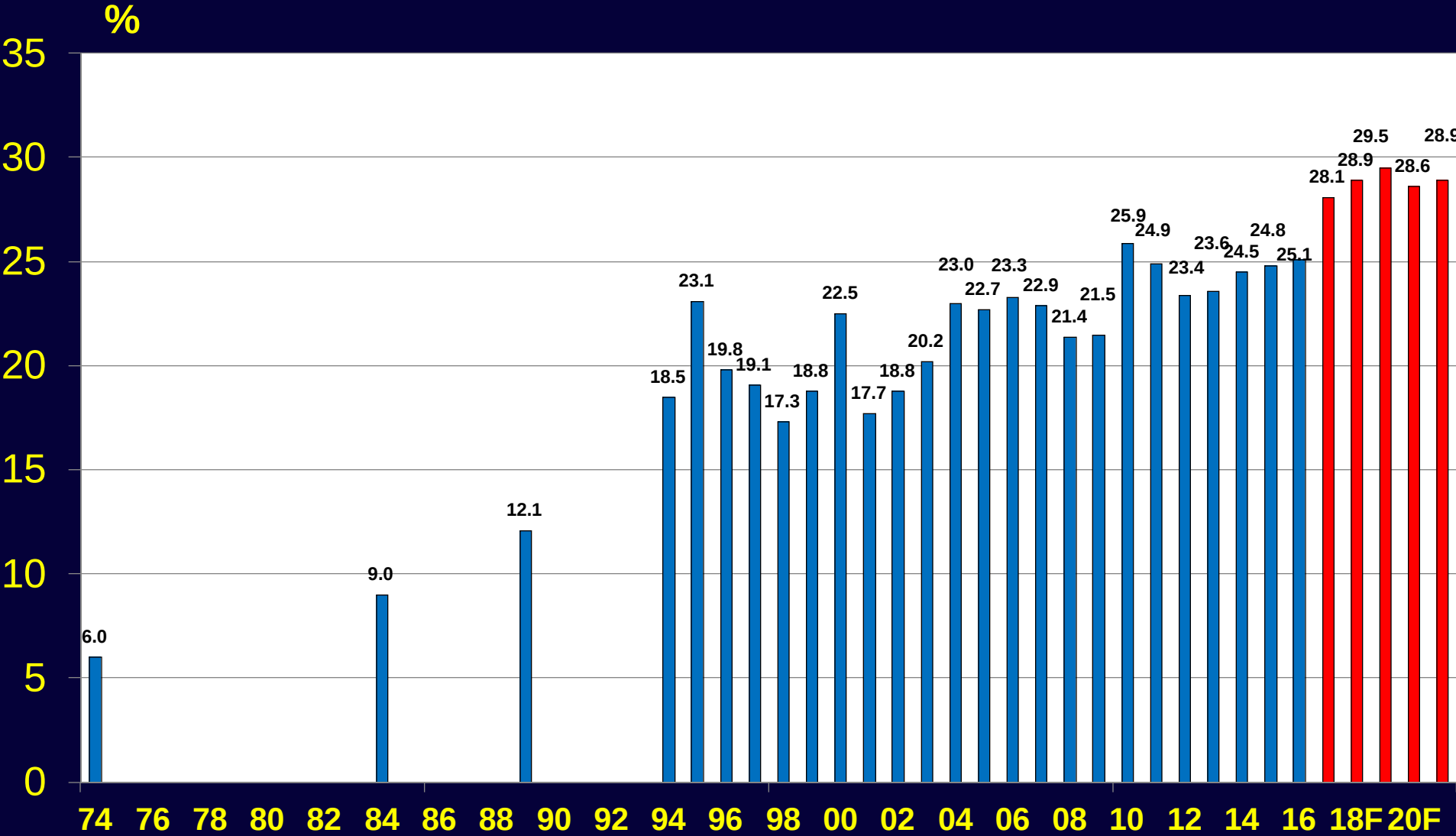


Chart 22

Semiconductor Content in Electronics Actual & Forecast



Source: ST, TI, IC Insights 8/17 & prior