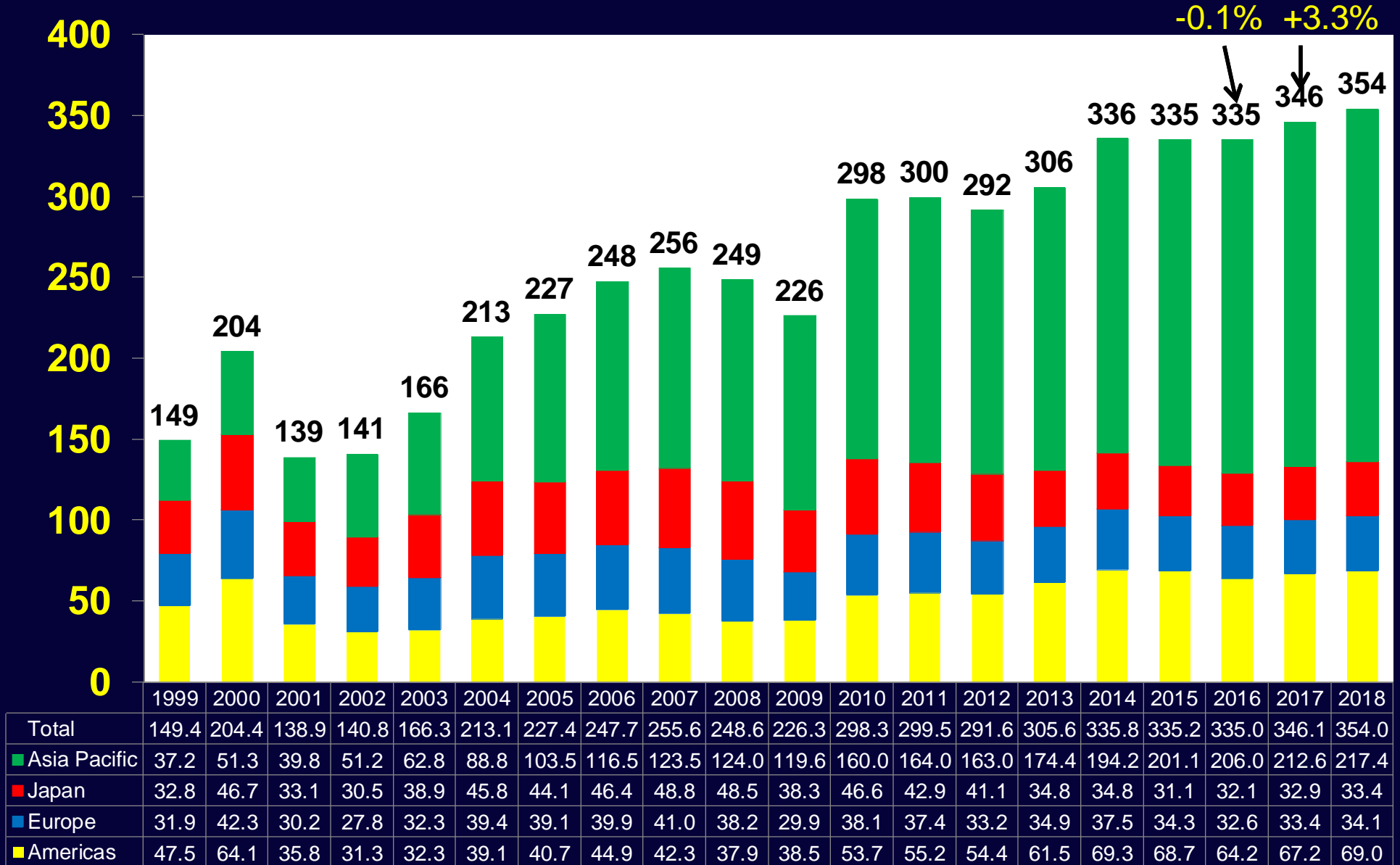


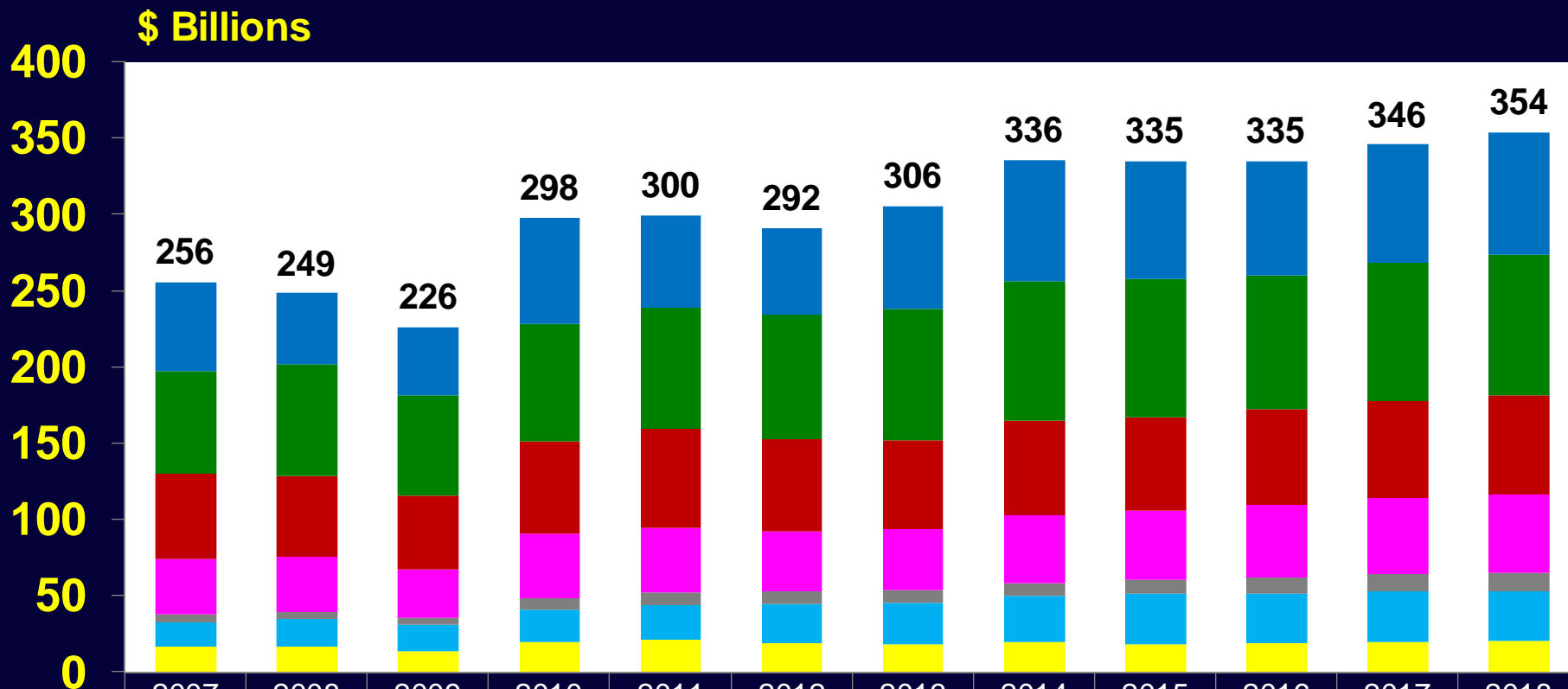
Chart 1

# Worldwide Semiconductor Market by Geography WSTS Forecast



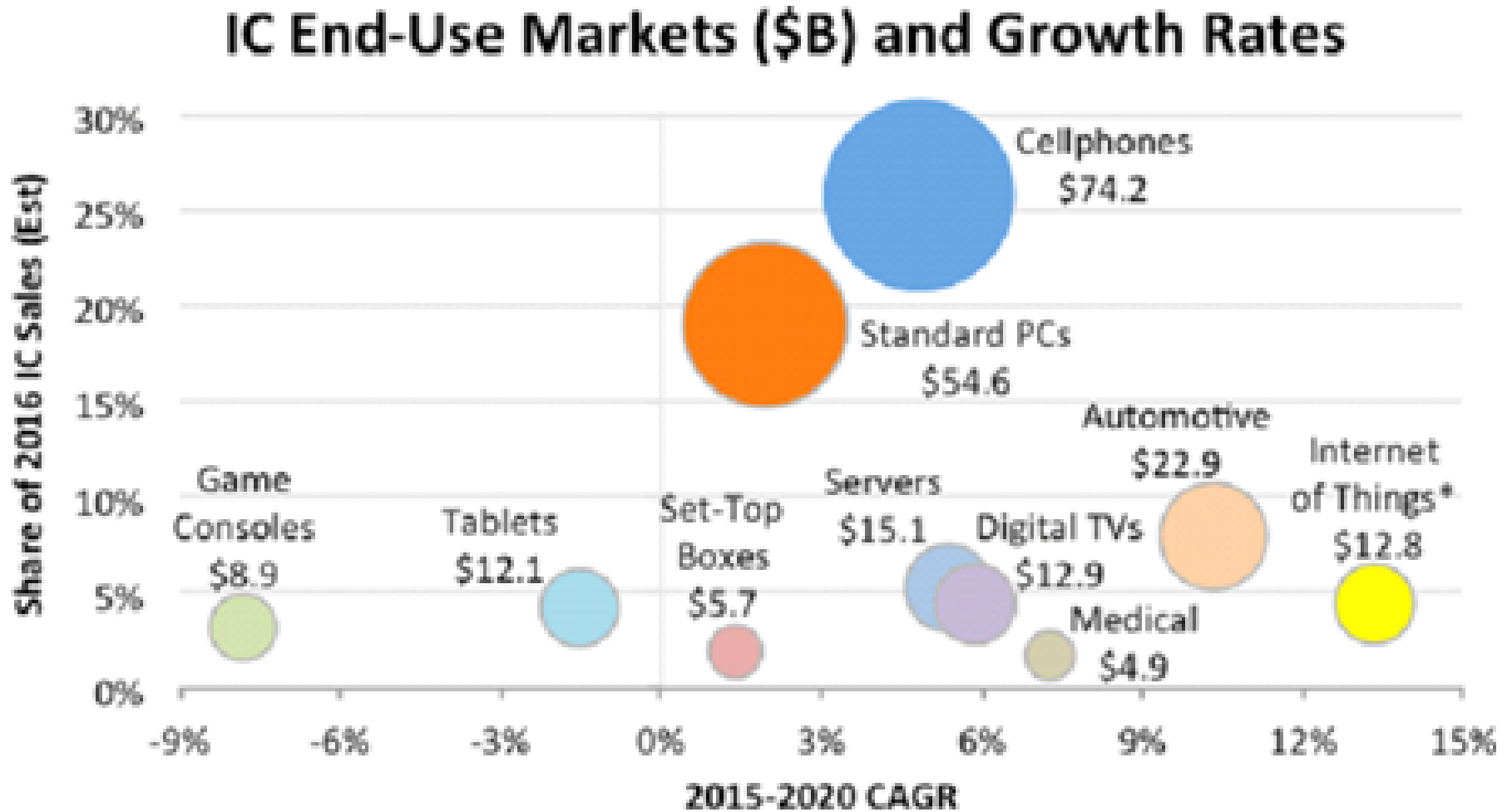
WSTS 11/16

# Chart 2 Worldwide Semiconductor Market by Type WSTS Forecast



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total	255646	248604	226314	298316	299522	291561	305582	335842	335168	334953	346101	353975
IC-Memory	57854	46348	44797	69614	60749	56995	67043	79232	77205	74301	77585	80007
IC-Logic	67292	73531	65215	77377	78782	81703	85928	91633	90753	88286	90699	92379
IC-Micro	56211	53140	48330	60633	65204	60238	58686	62072	61298	62719	63440	64754
IC-Analog	36453	35637	32001	42285	42338	39303	40117	44365	45228	47379	49703	51378
Sensors	5126	5111	4753	6903	7970	8009	8036	8502	8816	10810	11746	12341
Optoelectronics	15901	17902	17043	21702	23092	26175	27571	29868	33256	32059	32976	32513
Discrete	16809	16935	14175	19802	21387	19138	18201	20170	18612	19399	19952	20603

# IC End-Use Systems Markets (\$B) & Growth Rates

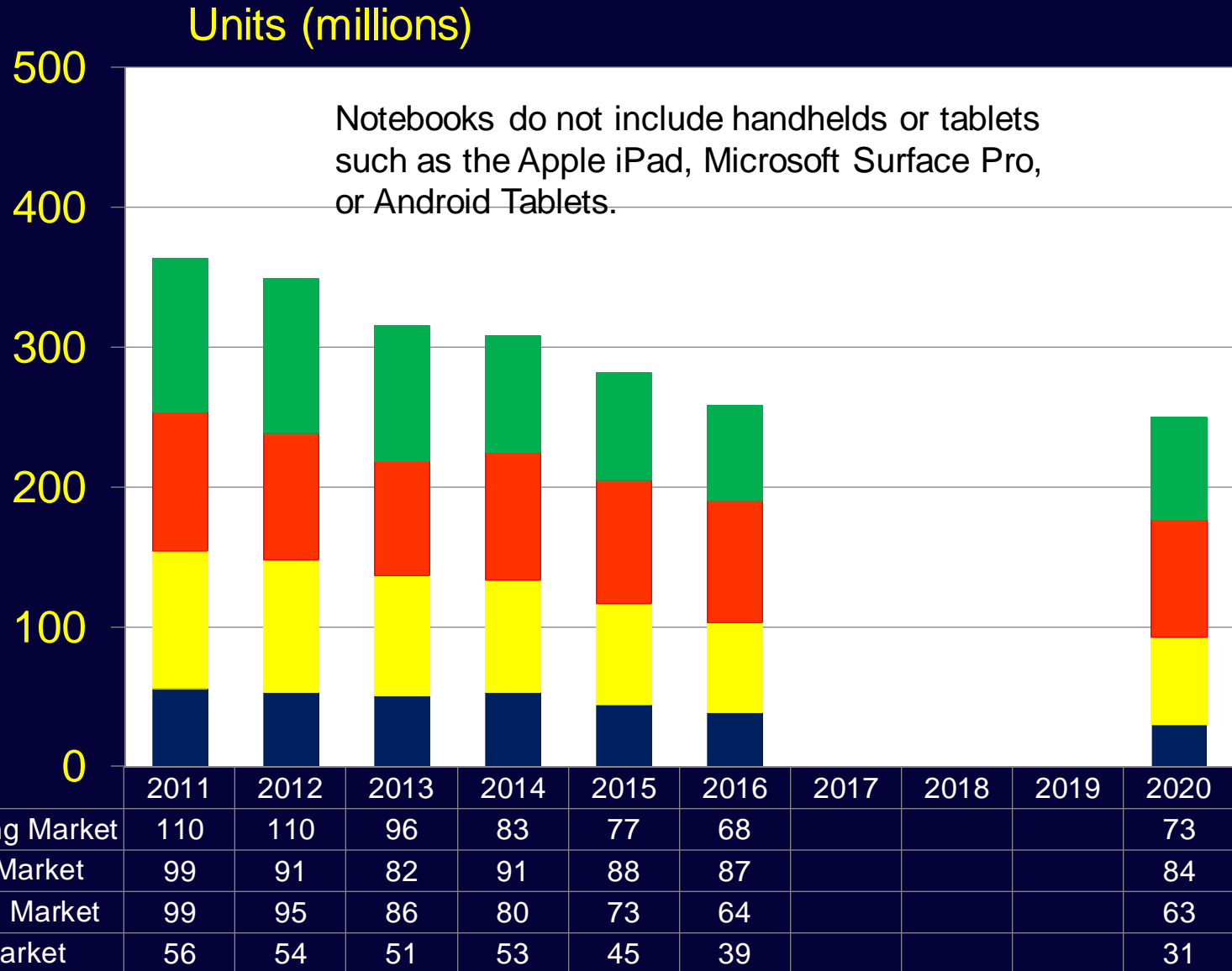


\*Covers only the Internet connection portion of systems.

Source: IC Insights

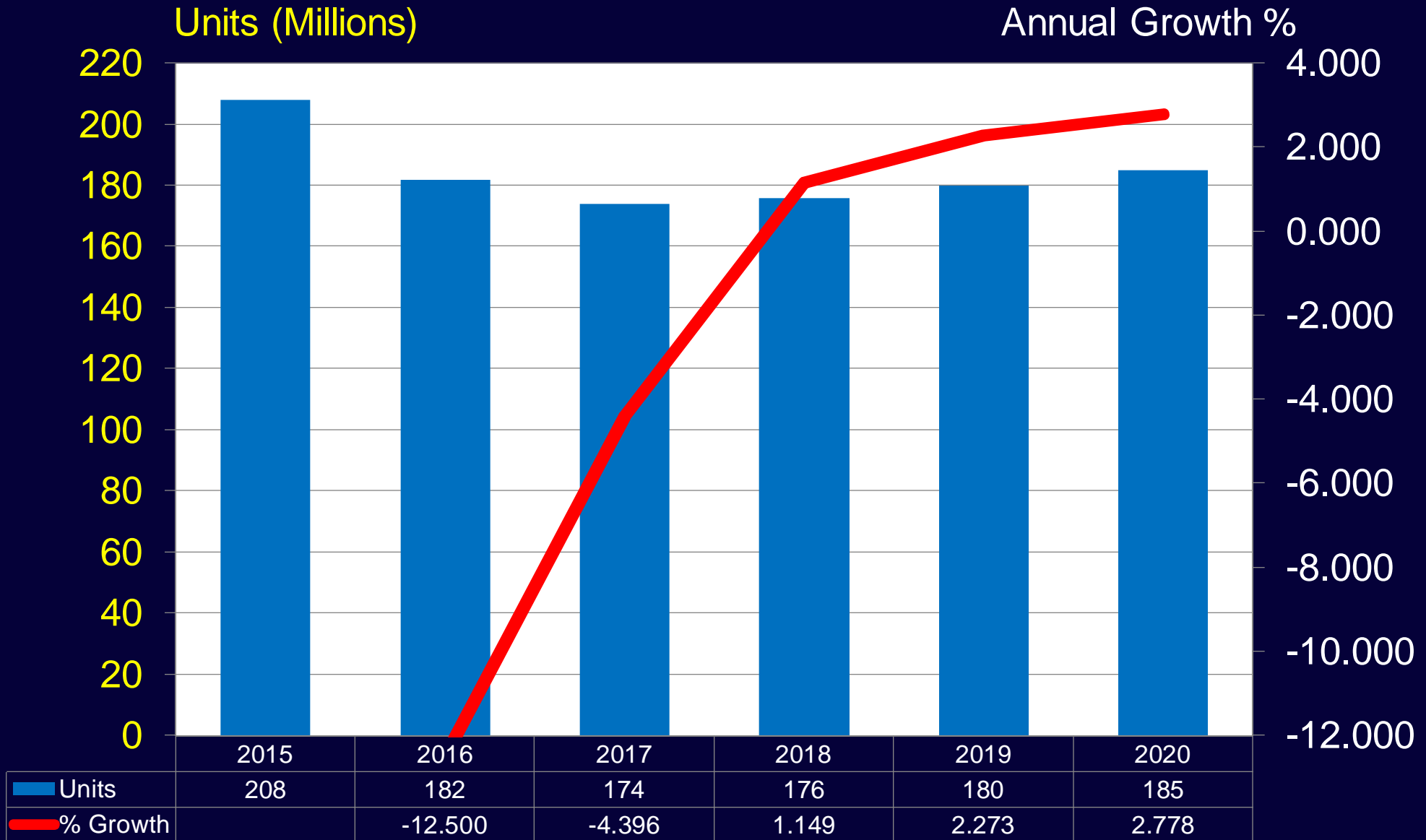
Chart 4

# World Computer Shipments Desktops & Portables (mature & emerging markets)



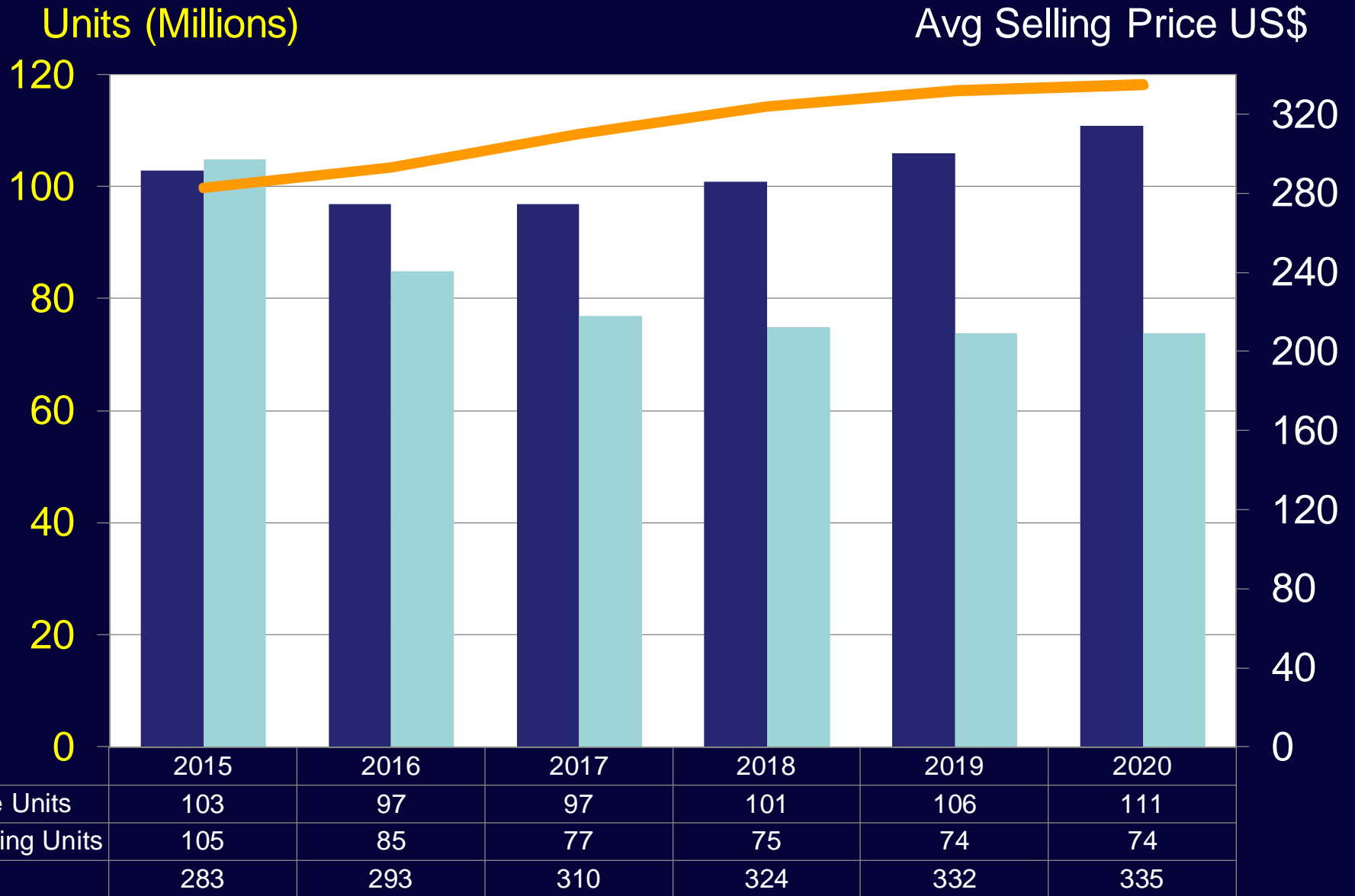
# World Tablet Forecast

## Slate plus Detachable

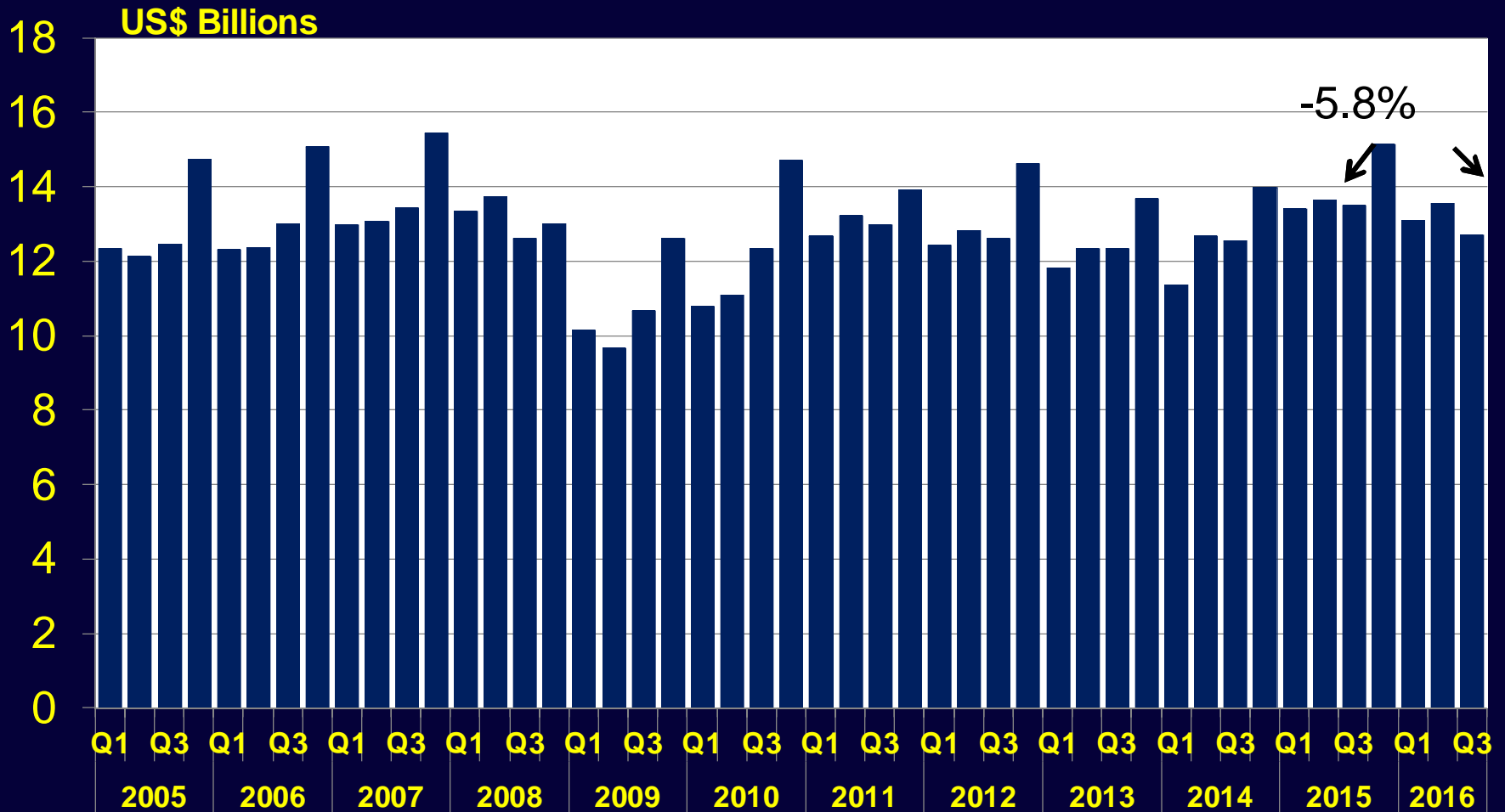


# World Tablet Forecast

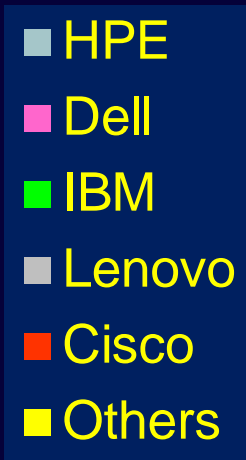
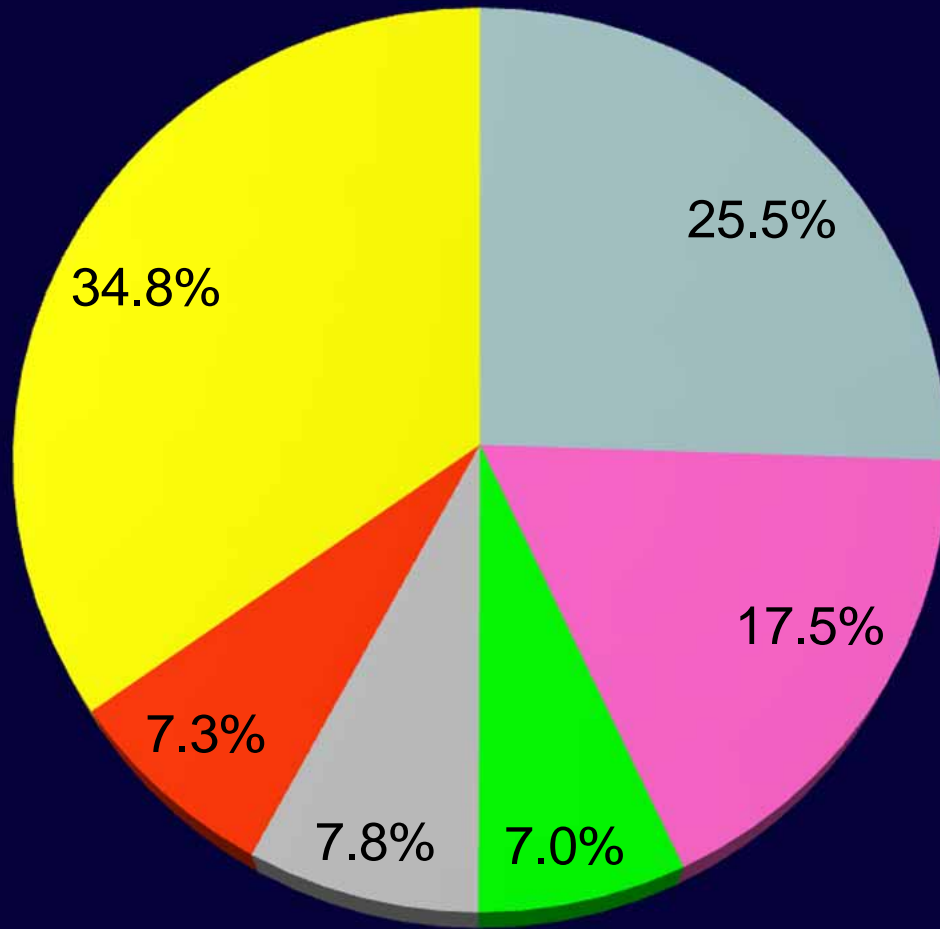
## Slate plus Detachable



# World Server Shipment Revenue



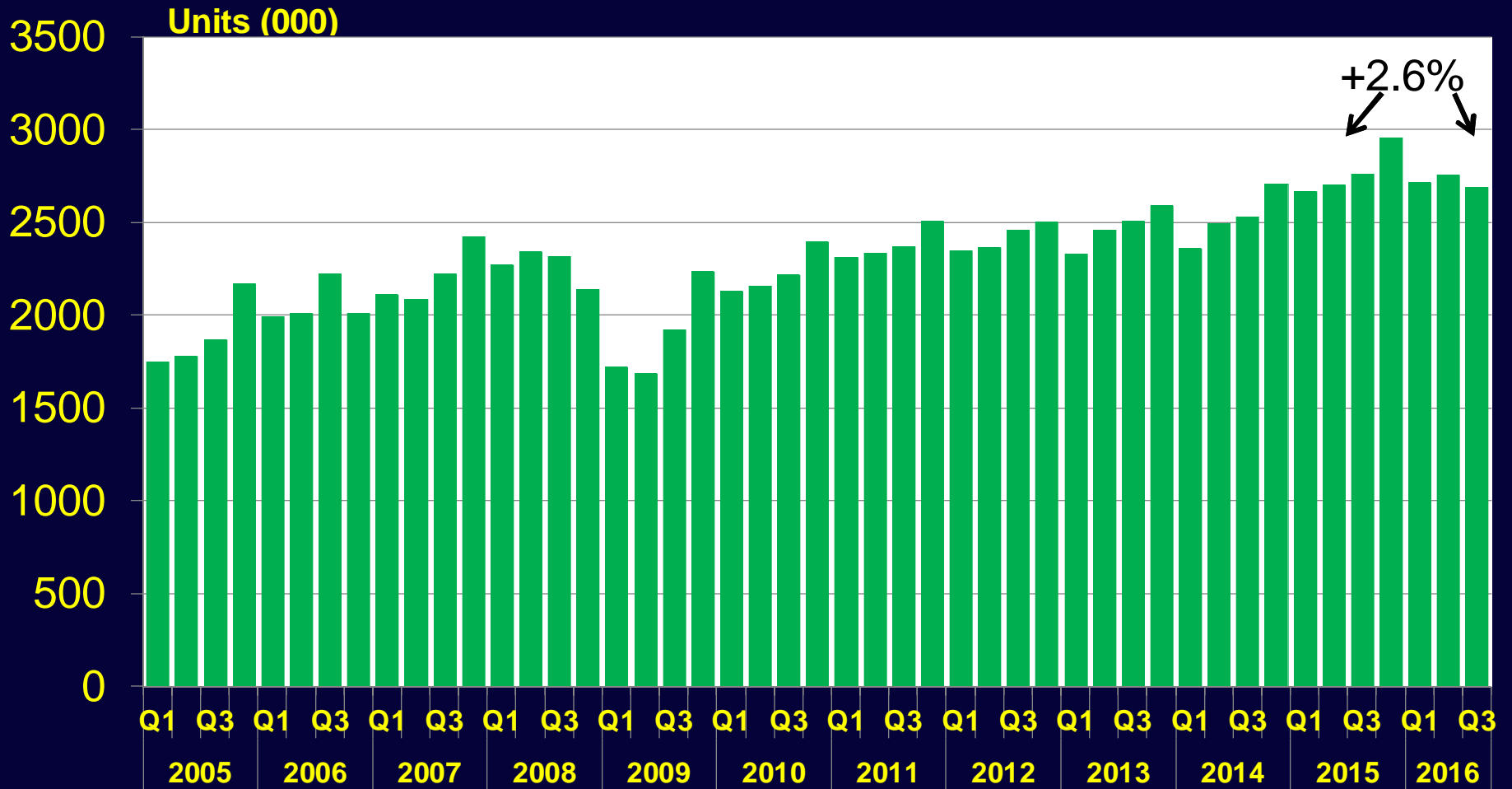
# World Server Shipments 3Q'16



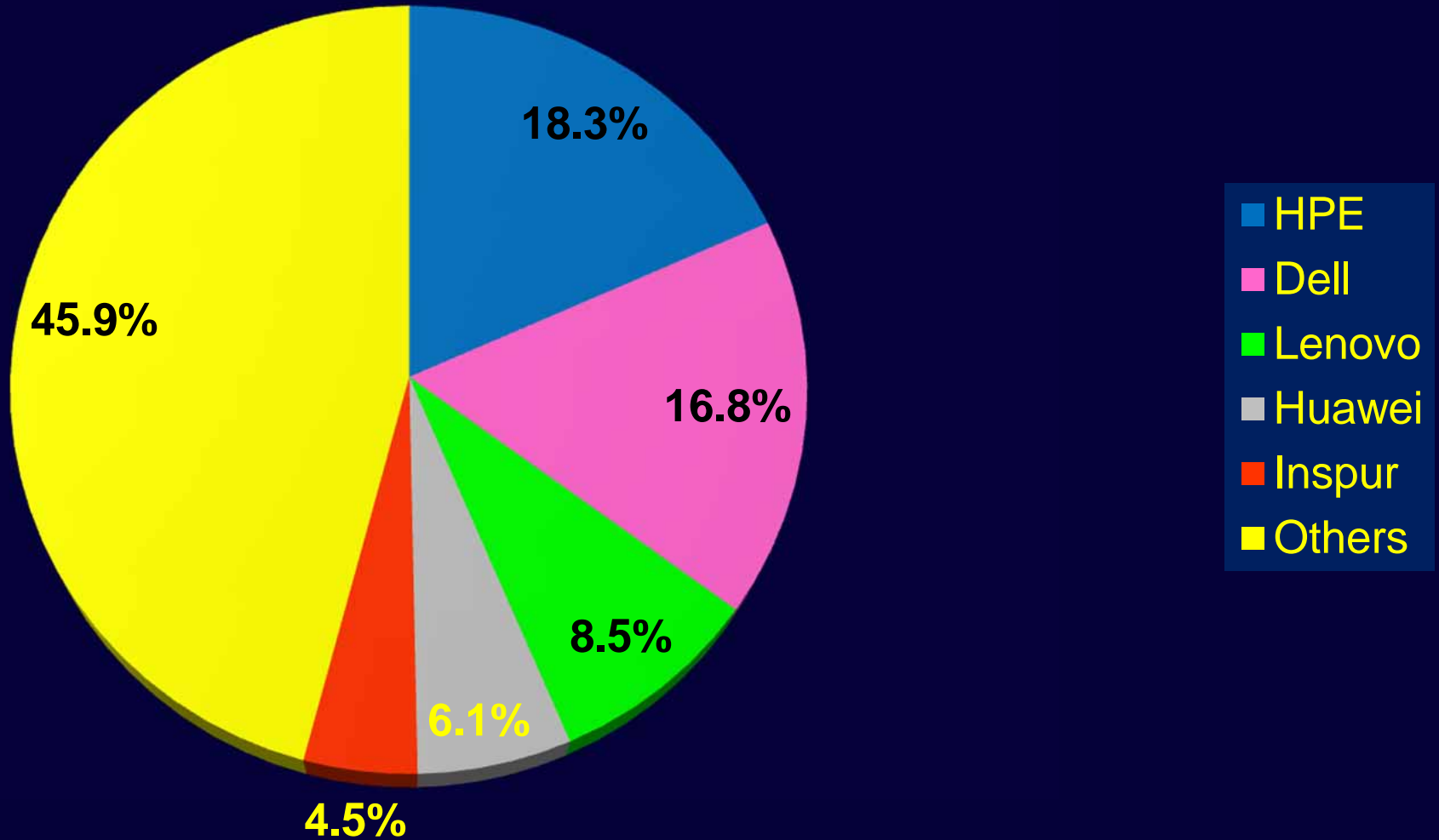
**TOTAL: \$12.7 Billion**



# World Server Shipment Units

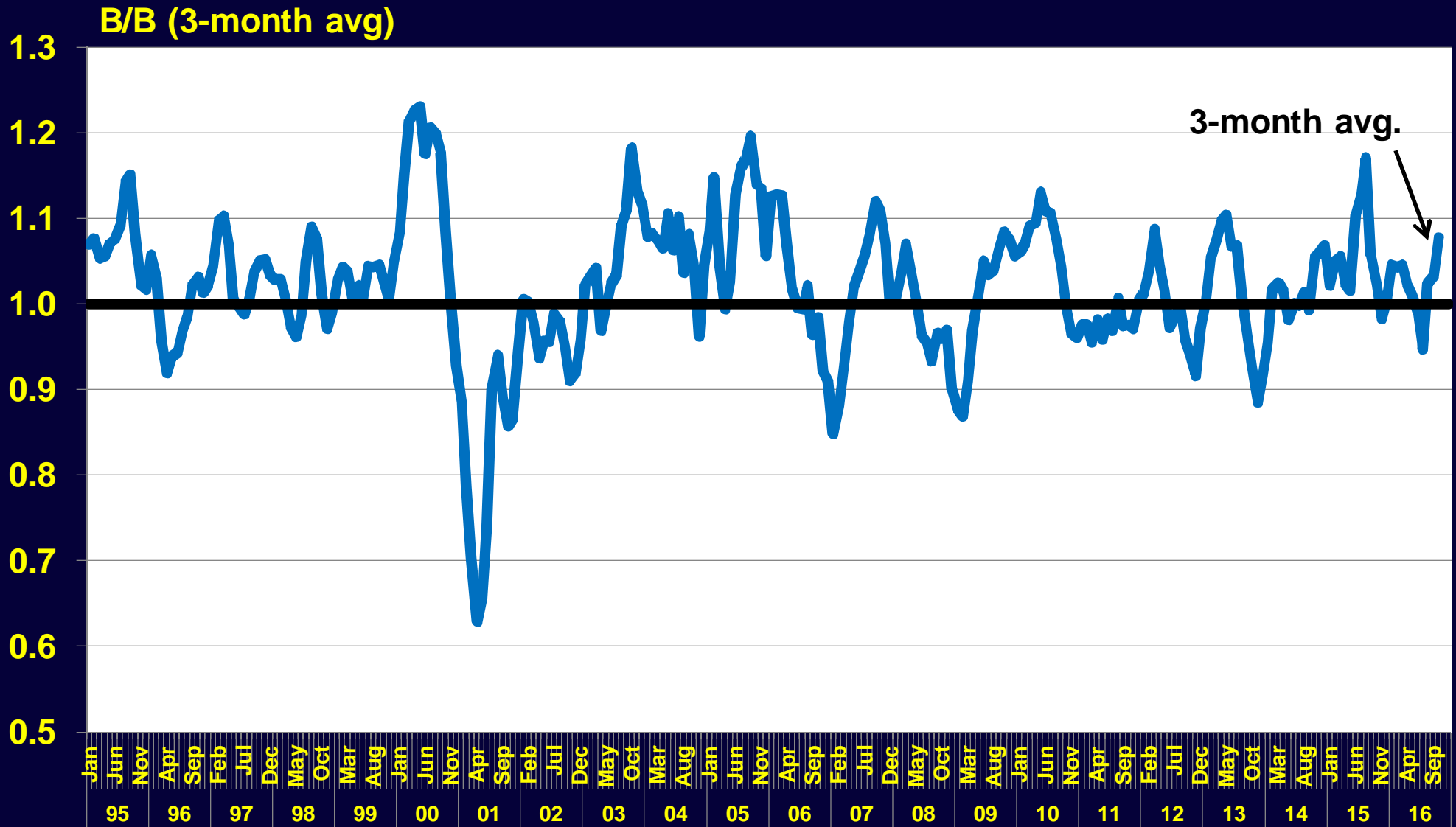


# World Server Shipments 3Q'16



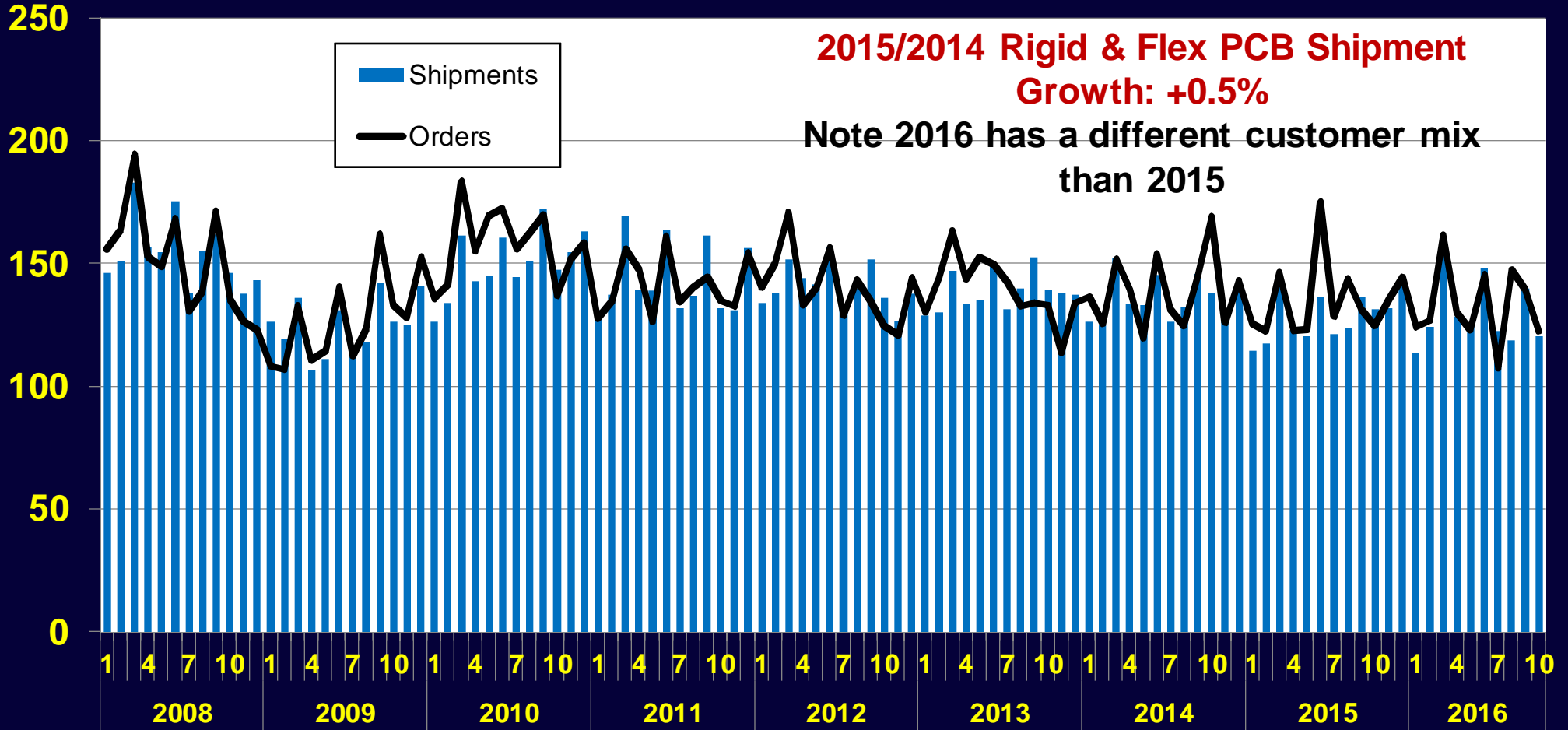
**TOTAL: 2.692 Million Units**

# Rigid & Flexible PCB Book/Bill N. America



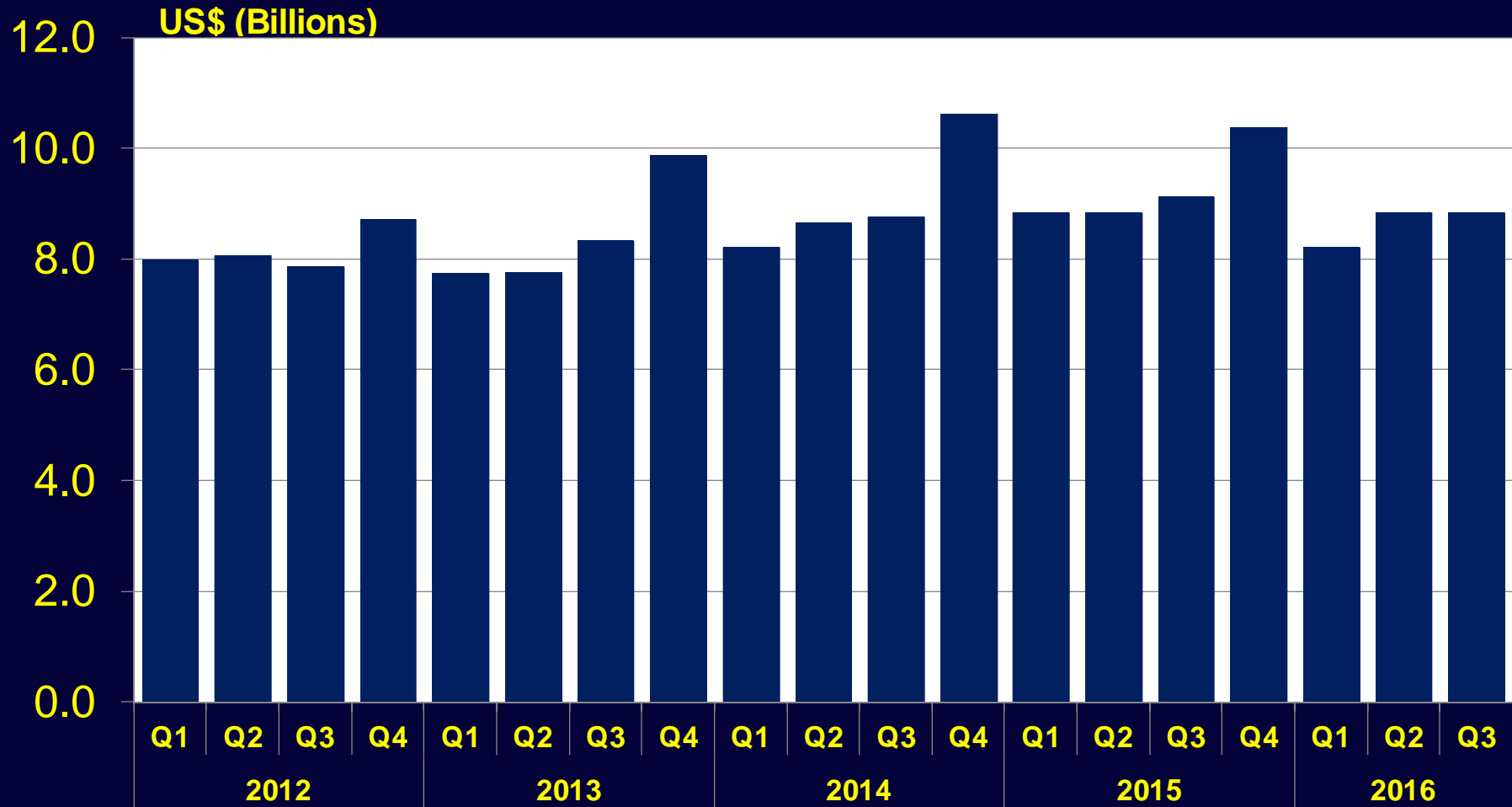
# N American Rigid & Flexible PCB Shipments & Orders

\$M (statistical sample of about 50% of producers)

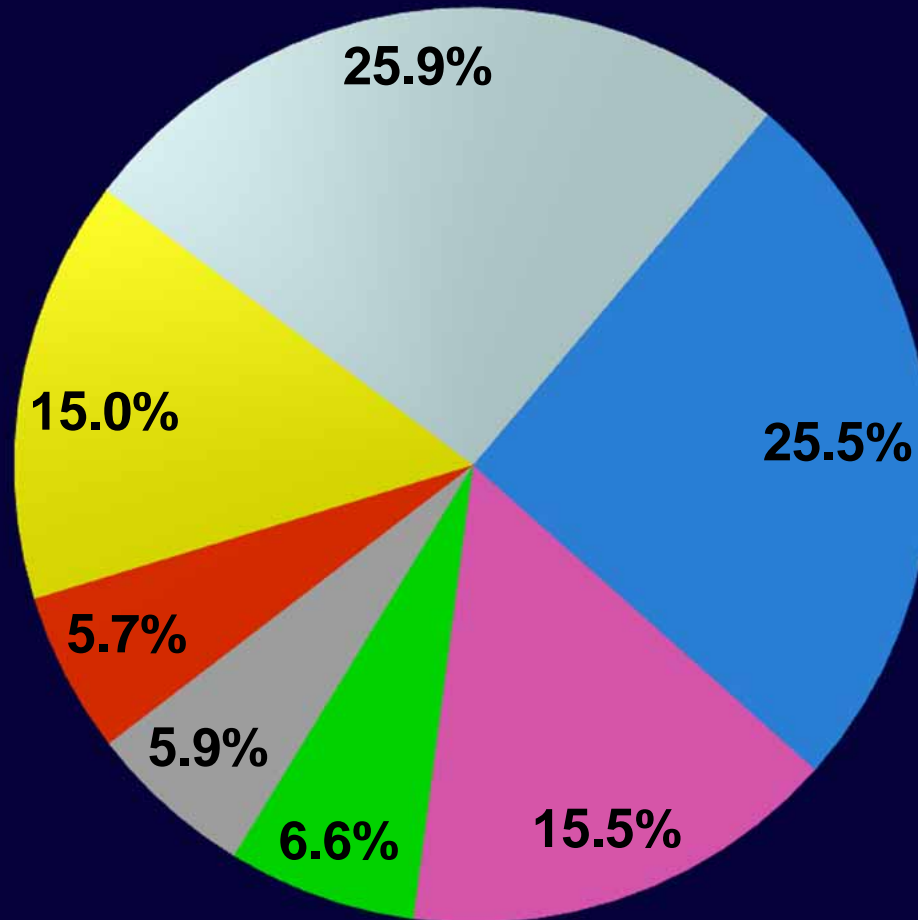


Note: IPC survey captures "market" not domestic production. About 15% of the above represents imported boards resold by N American PCB producers in survey.

# World Total Enterprise Disk Storage Revenue



# World Total Enterprise Disk Storage Systems Revenue 3Q'16

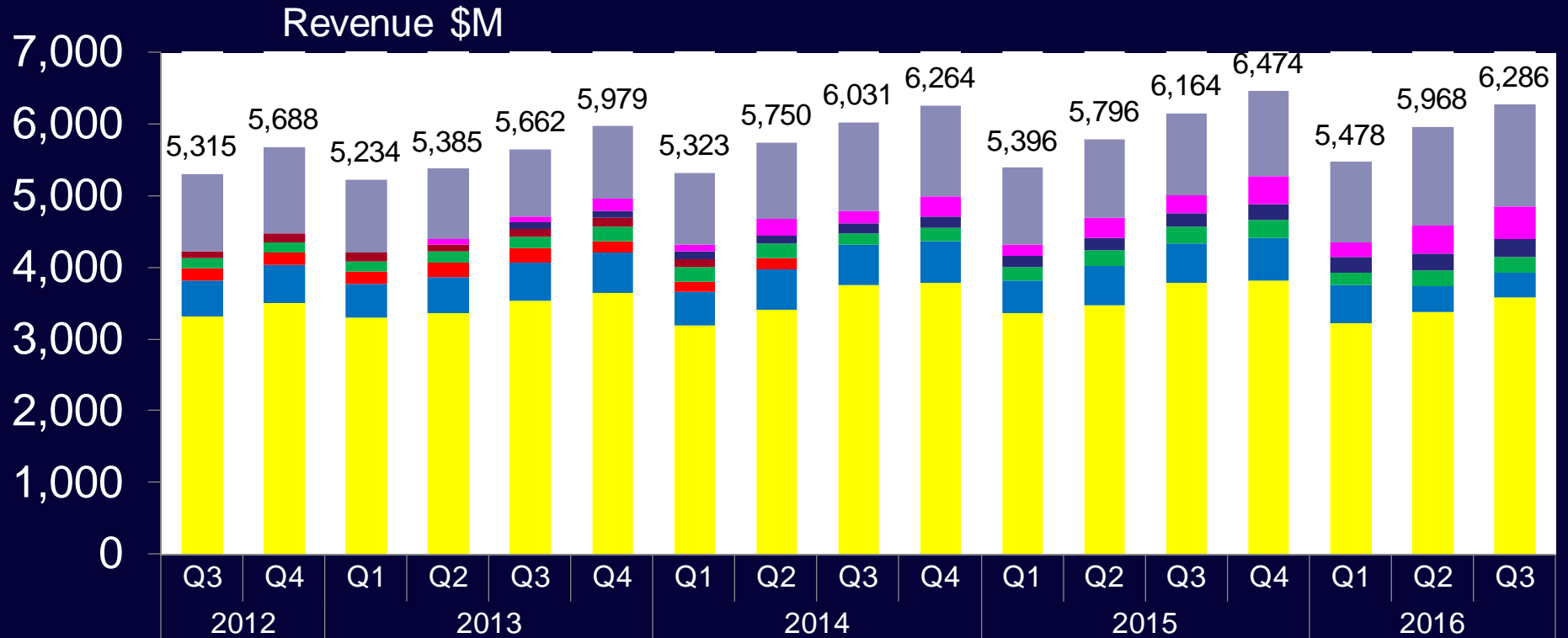


- Dell Technologies
- HPE
- NetApp
- IBM
- Hitachi
- ODM Direct
- Others

**TOTAL: \$8,833 Million**

Chart 15

# Ethernet Switch (Layer 2/3) Revenues by Vendor



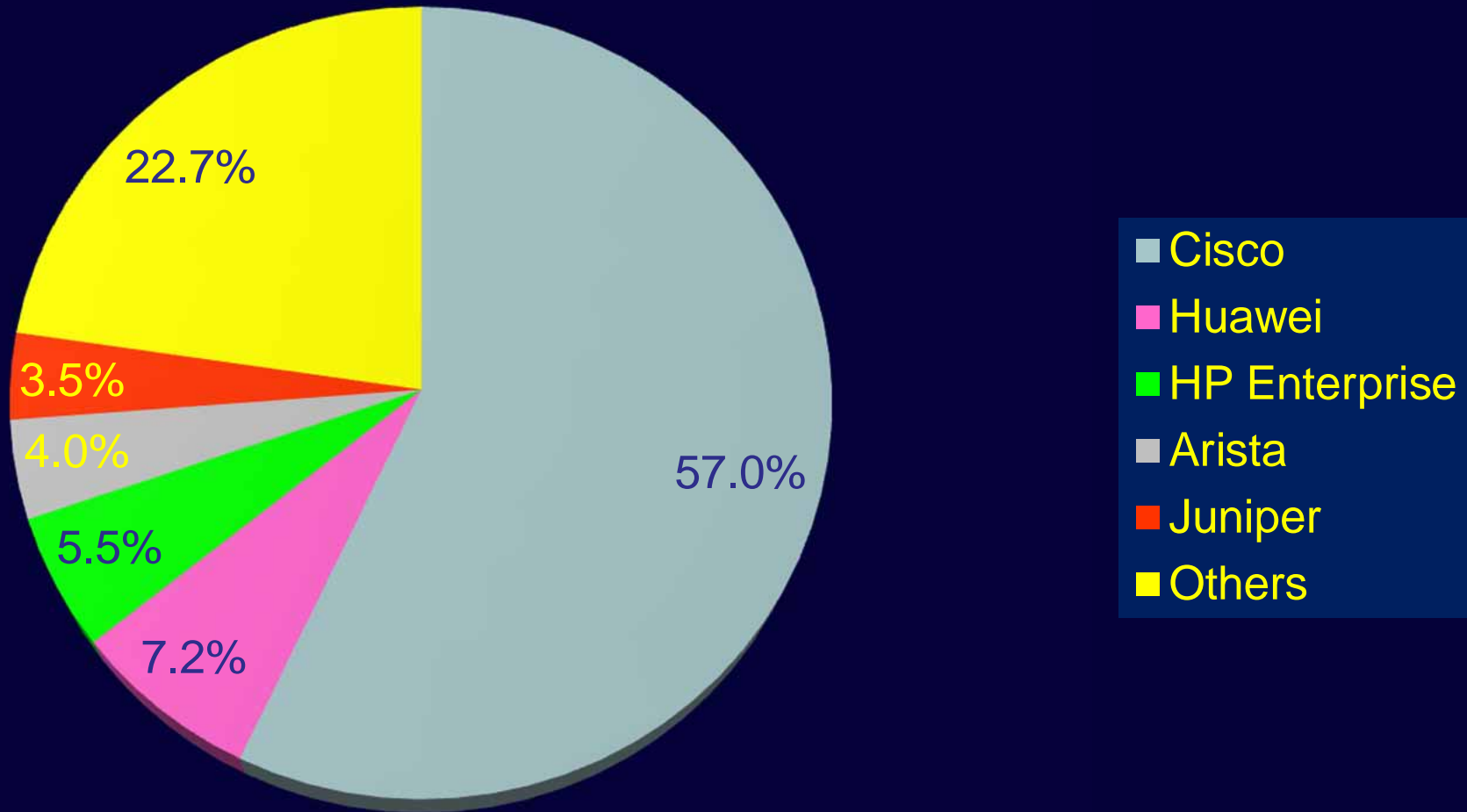
	2012		2013				2014				2015				2016		
■ Total	5315	5688	5234	5385	5662	5979	5323	5750	6031	6264	5396	5796	6164	6474	5478	5968	6286
■ Others	1081	1210	1024	983	954	1015	993	1072	1231	1260	1073	1101	1156	1198	1117	1385	1426
■ Huawei				73	79	172	108	223	173	283	159	271	237	394	212	390	453
■ Arista					87	99	101	122	140	159	160	174	193	217	212	236	254
■ Dell	97	122	124	96	111	121	113										
■ Juniper	143	144	130	161	151	201	200	203	165	185	187	216	231	244	174	207	222
■ Alcatel-Lucent	167	173	185	199	204	163	137	147									
■ HP Enterprise	498	533	460	508	532	552	481	569	559	587	450	553	555	593	532	360	345
■ Cisco	3329	3507	3310	3365	3544	3655	3191	3415	3762	3791	3366	3481	3792	3828	3231	3390	3586

IDC 12/16 & prior

# Layer 2/3 Ethernet Switch Vendors

## 3Q'16

\$



**3Q'16 World Total US\$ 6 Billion**