

**APRIL 19, 2016**

## **14 IC Product Categories to Exceed Total IC Market Growth in 2016**

*Cellphone App MPUs and Signal Conversion top the list; Tablet MPU growth stalls, DRAM tumbles.*

IC Insights' March *Update* to the 2016 *McClean Report* refreshed the forecasts for 33 major IC product categories through 2020. The complete list of all 33 major IC product categories ranked by the updated forecast growth rates for 2016 is shown in Figure 1. Fourteen product categories—topped by Cellphone Application Processors and Signal Conversion (analog) devices—are expected to exceed the 2% growth rate forecast for the total IC market this year. Another five product categories are expected to grow at the same 2% rate as the total IC market. The total number of IC categories forecast to register sales growth in 2016 increases to 20 products from only nine in 2015.

### **MORE INFORMATION CONTACT**

Bill McClean  
President  
Phone: +1-480-348-1133  
Email: [bill@icinsights.com](mailto:bill@icinsights.com)

Growth of Cellphone Application MPUs (10%) is forecast to remain near the top on the growth list for a fifth consecutive year. Though the rate of growth for cellphone application MPUs has cooled in recent years, IC Insights still forecasts a solid 10% growth year for this market as smartphone shipments remain an attractive end-use application for IC markets. Signal Conversion (DAC analog, etc.) devices are also expected to show a 10% increase in 2016 thanks to their implementation across a wide variety of consumer, communication, and computing devices, and in other systems to monitor and control the interface between analog and digital signals. The market for 32-bit MCUs is forecast to increase 8% with "intelligent" cars the catalyst for much of this growth. Driver information systems and many of the increasing number of semi-autonomous driving features such as self-parking, advanced cruise control, and collision-avoidance rely on 32-bit MCUs. Complex 32-bit MCUs are expected to account for over 25% of the processing power in vehicles in the next few years.

Other notable categories include the previously high-flying Tablet MPU market, which is forecast to sputter to just 2% growth in 2016 as enthusiasm fades for these systems. DRAM is expected to show a steep market decline this year and drop to become the second-largest IC product category (trailing only the standard PC, server MPU market) in 2016. After registering big gains in 2013 and 2014, the DRAM market fell 3% in 2015 and is forecast to tumble another 8% in 2016 as oversupply and waning desktop and notebook computer demand force suppliers to slash average selling prices to move product. Worldwide DRAM ASP growth was down 4% in 2015 and is on track to fall 11% in 2016.

## 2016 Forecast of IC Market Growth by Segment

Product Category	2015	2016F
Cellphone App MPUs	8%	10%
Signal Conversion	14%	10%
32-bit MCU	13%	8%
Display Drivers	10%	6%
General Purpose Logic	9%	6%
NAND Flash	2%	6%
Wired Comm—App-Specific Analog	12%	6%
Wired Comm—Spcl Purpose Logic	0%	6%
Wireless Comm—App-Specific Analog	9%	6%
Auto—App-Specific Analog	-1%	5%
Auto—Spcl Purpose Logic	-7%	5%
Power Management Analog	2%	5%
PLDs	-10%	3%
Wireless Comm—Spcl Purpose Logic	-5%	3%
Amplifiers/Comparators	-4%	2%
Computer and Peripherals—Spcl Purpose Logic	1%	2%
Industrial/Other—App-Specific Analog	-15%	2%
Std PC, Server, etc. MPUs*	-2%	2%
Tablet MPUs	-10%	2%
<b>Total IC Market</b>	<b>-1%</b>	<b>2%</b>
<i>Interface</i>	<i>-1%</i>	<i>1%</i>
<i>Computer—App-Specific Analog</i>	<i>-3%</i>	<i>-2%</i>
<i>Consumer—App-Specific Analog</i>	<i>-3%</i>	<i>-2%</i>
<i>Consumer—Special Purpose Logic</i>	<i>-10%</i>	<i>-2%</i>
<i>4-/8-bit MCU</i>	<i>-12%</i>	<i>-3%</i>
<i>DSP</i>	<i>-7%</i>	<i>-4%</i>
<i>16-bit MCU</i>	<i>-10%</i>	<i>-5%</i>
<i>EEPROM/ROM/EPROM/Other</i>	<i>-11%</i>	<i>-5%</i>
<i>Standard Cell</i>	<i>-9%</i>	<i>-6%</i>
<i>DRAM</i>	<i>-3%</i>	<i>-8%</i>
<i>Industrial/Other—Spcl Purpose Logic</i>	<i>-15%</i>	<i>-9%</i>
<i>NOR Flash</i>	<i>-23%</i>	<i>-11%</i>
<i>SRAM</i>	<i>-20%</i>	<i>-13%</i>
<i>Gate Array</i>	<i>-29%</i>	<i>-20%</i>

\*Includes embedded processors but does not include graphics processors.

Source: IC Insights

**Figure 1**

## **Report Details: *The 2016 McClean Report***

Additional details on IC product markets are included in the 2016 edition of IC Insights' flagship report, *The McClean Report—A Complete Analysis and Forecast of the Integrated Circuit Industry*. A subscription to *The McClean Report* includes **free** monthly updates from March through November (including a 250+ page *Mid-Year Report*), and **free** access to subscriber-only webinars throughout the year. An individual-user license to the 2016 edition of *The McClean Report* is priced at \$3,890 and includes an Internet access password. A multi-user worldwide corporate license is available for \$6,890.

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IC Insights, Inc., based in Scottsdale, Arizona USA, is dedicated to providing high-quality, cost-effective market research for the semiconductor industry. Founded in 1997, IC Insights offers coverage of global economic trends, the semiconductor market forecast, capital spending and fab capacity trends, product market details, and technology trends, as well as complete IC company profiles and evaluations of end-use applications driving demand for ICs.

**Web Site:** [www.icinsights.com](http://www.icinsights.com) • **Phone:** +1-480-348-1133 • **E-mail:** [info@icinsights.com](mailto:info@icinsights.com)