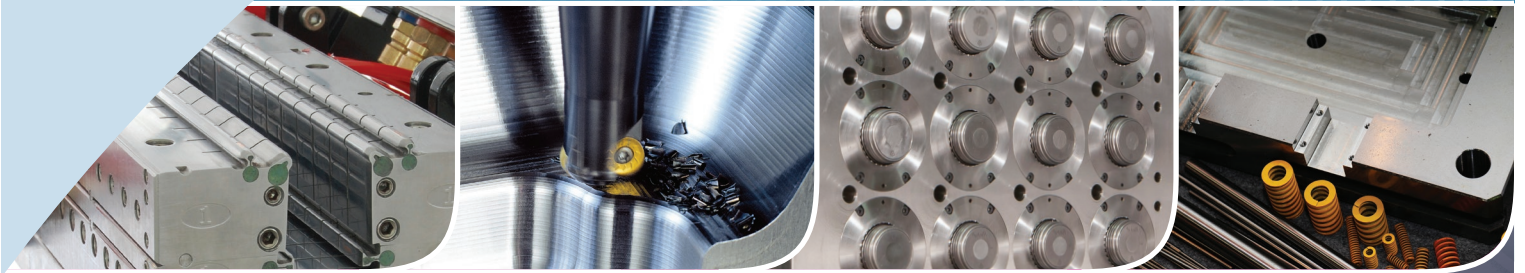




**GARDNER
RESEARCH**

2015 CAPITAL SPENDING SURVEY



PLASTICS PROCESSING Executive Summary



\$3.472 Billion

According to the 2015 Capital Spending Survey by Gardner Research, U.S. plastics processing facilities will spend \$3.472 billion on new primary and auxiliary plastics processing equipment, an increase of 14% compared to our latest estimate for 2014.

2011	\$2.302
2012	\$2.690
2013	\$2.540
2014	\$3.043
2015	\$3.472

WHY THE INCREASE?

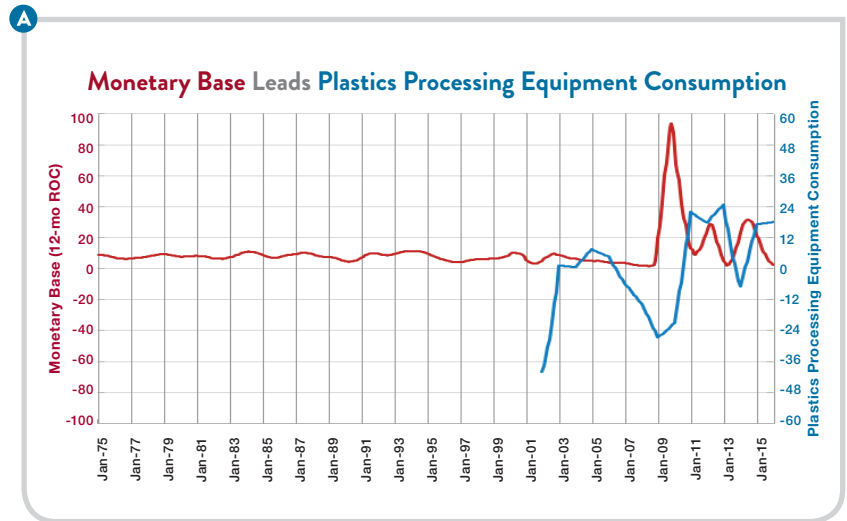
There are three factors that help to explain the forecasted increase in machine tool consumption:

1. **DRAMATIC GROWTH IN MONEY SUPPLY**
2. **HIGH AND RAPIDLY GROWING CAPACITY UTILIZATION**
3. **STRONG PLASTICS AND RUBBER PRODUCTS**



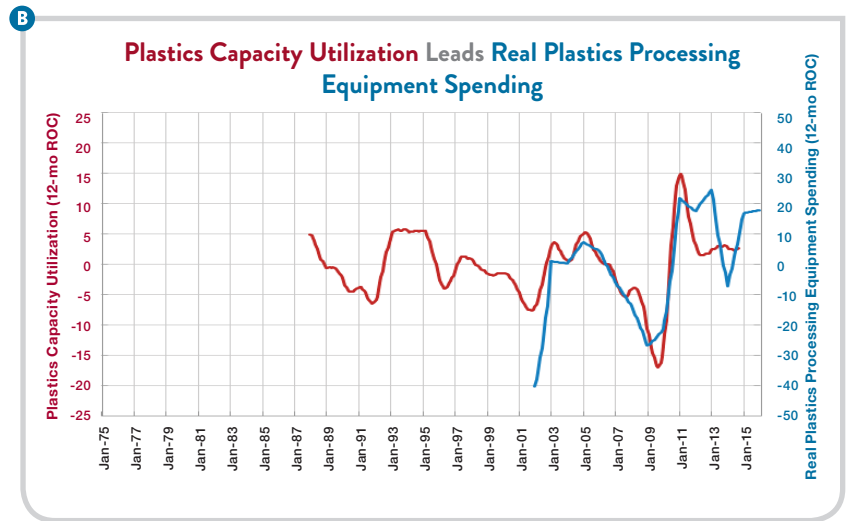
1. MONEY SUPPLY

Since 2009, the growth rate in the money supply has peaked above 25% three separate times. From February 2013 to June 2014, the money supply grew at an accelerating rate. Changes in the U.S. monetary base typically lead changes in plastics processing equipment spending by 24 months. Therefore, the trend in the money supply is indicating that plastics processing equipment consumption should be quite strong in 2015. The Federal Reserve has pulled back on the amount of quantitative easing it is doing, which will result in significantly slower growth in the money supply in 2015 and likely lead to slower growth in capital spending in 2016. SEE CHART A



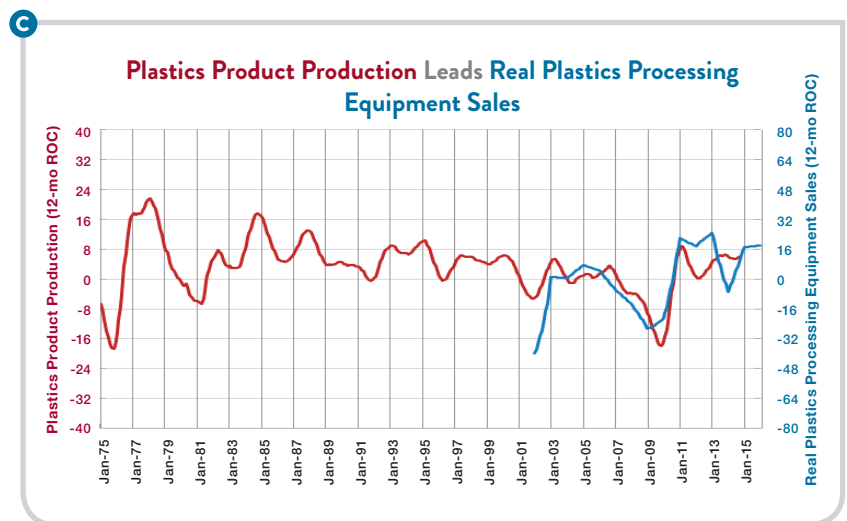
2. CAPACITY UTILIZATION

Plastics and rubber products capacity utilization is probably the most important leading indicator for plastics processing equipment consumption. As of August 2014, capacity utilization was 78.5%. Capacity utilization is poised to climb even higher based on the correlation between the Gardner Business Index plastics backlog index and capacity utilization. SEE CHART B



3. PLASTICS AND RUBBER PRODUCTS PRODUCTION

The plastics and rubber products industrial production index reached its highest level in the mid-2000s. The rate of growth in the index has been accelerating in 2014. Production tends to lead capital equipment spending by 15 months. SEE CHART C



Top Industries

Spending by Industry	2011	2014	2015
Custom Processors	817.1	1,052.6	1,381.5
Plastics/Rubber Products	253.0	143.6	287.2
Electronics/Computers/Telecommunications	60.1	132.0	256.9
Petrochemical Processors	283.0	191.0	208.1
Metalcutting Job Shops	18.1	178.2	183.6
Medical	92.4	89.4	169.6
Machinery/Equipment Manufacturing	40.5	214.9	168.5
Automotive	275.7	418.9	137.8
Pumps/Valves/Plumbing Products	31.0	12.0	131.6
Non-Manufacturing	0.0	103.5	128.8
Other Manufacturing	31.4	98.0	92.1
Forming/Fabricating (non-auto)	27.4	71.2	87.4
Primary Metals	40.5	8.7	47.7
Wood/Paper Products	171.6	16.9	46.9
Aerospace	11.6	60.2	31.1
Industrial Motors/Hydraulic/Mechanical Components	3.0	27.7	24.0





Growth Areas

REGION

SPENDING BY REGION	2009	2014	2015
North Central - East	718.1	901.6	895.0
North Central - West	606.6	829.1	857.8
Northeast	399.2	556.6	652.9
Southeast	215.5	285.7	596.8
West	246.2	202.2	363.0
South Central	116.2	267.7	106.9
ALL	2,301.8	3,042.9	3,472.4

East North Central

IN, KY, MI, OH, TN

West North Central

IA, IL, KS, MN, MO, ND, NE, SD, WI

Northeast

CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT, WV

Southeast

AL, DC, FL, GA, MS, NC, SC, VA

South Central

AR, LA, NM, OK, TX

West

AK, AZ, CA, CO, HI, ID, NV, OR, UT, WA, WY

PLANT SIZE

SPENDING BY PLANT SIZE	2009	2014	2015
250+	800.4	621.4	1,171.9
100-249	907.3	1,222.3	1,112.2
50-99	339.8	445.3	449.8
1-19	102.5	313.1	389.6
20-49	151.8	440.8	348.9
ALL	2,301.8	3,042.9	3,472.4





Spending by Equipment Types

Primary Processing Equipment Spending (\$Millions)	2011	2014	2015
TOTAL	1,155.3	1,507.0	1,767.3
Injection Molding, Horizontal	649.1	888.7	1,018.9
Injection Molding, Horizontal, Electric	301.8	298.8	395.1
Injection Molding, Horizontal, Hybrid	75.4	309.8	278.6
Injection Molding, Horizontal, Hydraulic	271.9	280.1	345.2
Injection Molding, Vertical	59.4	120.3	263.4
Injection Molding, Vertical, Electric	22.1	15.6	73.1
Injection Molding, Vertical, Hybrid	3.0	64.8	78.7
Injection Molding, Vertical, Hydraulic	34.3	39.9	111.6
Extrusion	177.2	166.1	233.8
Extrusion, Cast/Blown Film	40.1	16.7	106.1
Extrusion, Pipe/Profile/Tube	66.2	56.2	68.2
Extrusion, Sheet	70.9	93.2	59.5
Blow Molding	74.2	84.9	89.2
Compounding	94.8	151.2	87.7
Additive	0.0	56.7	76.7
Additive, Direct Deposition	0.0	15.0	56.4
Additive, Laser/Electron Beam	0.0	11.0	9.7
Additive, Laser Sintering	0.0	17.3	3.2
Additive, Stereolithography	0.0	13.4	7.4
Thermoforming	100.6	95.8	74.3
Auxiliary Processing Equipment Spending (\$Millions)	2011	2014	2015
TOTAL	1,146.5	1,479.2	1,628.4
Additive Feeders	21.2	26.2	36.4
Blenders, Gravimetric and Volumetric	53.9	75.9	114.6
Chillers and Cooling Towers	74.8	108.7	100.3
Parts Conveyors	29.8	44.2	49.4
Extrusion Dies	38.7	33.3	71.1
Dryers	89.3	64.8	87.1
Extrusion Downstream Equipment	41.0	38.7	66.7
Gear Pumps	15.1	11.8	6.3
Granulators	39.3	37.6	42.1
Other Auxiliary Equipment	271.5	149.9	142.2
Resin Handling Equipment	76.1	144.6	91.5
Resin Testing Equipment	11.8	57.5	12.9
Robots	211.9	338.4	391.0
Screen Changers	7.7	9.9	16.6
Screws/Barrels	60.8	88.0	229.2
Shredders	15.9	40.1	22.7
Machine/Mold Temperature Controls	33.1	42.4	51.0
Welding/Assembly	54.6	167.2	97.3
Mold Spending (\$Millions)	2011	2014	2015
TOTAL	540.7	1,384.7	1,576.0
Molds, Complete	453.6	1,035.0	1,262.2
Molds, Complete, Cold Runner	218.7	410.2	466.5
Molds, Complete, Hot Runner	234.9	624.8	795.7
Molds, Other Supplies and Services	66.7	72.4	117.7
Molds, Materials	0.0	76.4	63.9
Molds, Bases	0.0	76.1	57.1
Molds, Components	0.0	99.5	48.0
Molds, Hot Runners	20.4	25.3	27.1

Tools for Manufacturing Forecasting and Analysis

GARDNER RESEARCH WEBSITE

Gardner Research is the preeminent source of economic information for anyone concerned with durable goods manufacturing. Here you'll find a variety of tools for forecasting and trend analysis, precisely focused for the people who sell and consume capital equipment. Besides Gardner's well known reports, this site includes interactive tools to dig deeply into the data that matter most to you and your business.

Manufacturing Forecaster

View up-to-date data on the main economic indicators that impact capital equipment spending in the major durable goods manufacturing industries in countries around the world.

Gardner Business Index

Much like the Purchasing Managers Index, the Gardner Business Index monitors the current health of major manufacturing sectors, sortable by region of the US and by plant size.

Capital Spending Survey

Industry's most comprehensive annual study detailing future spending on capital equipment, tooling, and software.

How the major industrialized countries of the world rank in terms of production, trade and consumption of machine tools.

A comprehensive benchmarking program for processors of all types and sizes.



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2015 CAPITAL SPENDING SURVEY

Methodology

Gardner Research's 2015 Capital Spending Survey for plastics processing equipment was sent to 17,000 subscribers of *Plastics Technology* and *Moldmaking Technology* magazines. Surveys were mailed in early August, and the survey period was closed in early September. Respondents were asked to answer detailed questions about their budgeted spending on primary processing equipment, auxiliary processing equipment, molds, and more. The responses are projected across the plastics processing industry based on plant size. The survey has an error factor of +/- \$1,000,000 at a 95% confidence level for the total machine tool spending projection.

Other Gardner Research

Capital Spending Survey for Tooling and Workholding
World Machine Tool Survey
Capital Spending Survey for Machine Tools
Media Usage in Manufacturing Facilities
Gardner Business Index
Top Shops Benchmarking Survey

View these and other Gardner Research reports at gardnerweb.com

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