# August 2016 Manufacturing ISM® Report On Business®

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PMI® at 49.4%

DO NOT CONFUSE THIS NATIONAL REPORT with the various regional purchasing reports released across the country. The national report's information reflects the entire United States, while the regional reports contain primarily regional data from their local vicinities. Also, the information in the regional reports is not used in calculating the results of the national report. The information compiled in this report is for the month of August 2016.

PMI® at 49.4%

New Orders, Production and Employment Contracting
Inventories Contracting
Supplier Deliveries Slowing

(Tempe, Arizona) — Economic activity in the **manufacturing sector** contracted in August following five consecutive months of expansion, while the **overall economy** grew for the 87th consecutive month, say the nation's supply executives in the latest **Manufacturing ISM®** *Report On Business®*.

The report was issued today by Bradley J. Holcomb, CPSM, CPSD, chair of the Institute for Supply Management® (ISM®) Manufacturing Business Survey Committee. "The August PMI® registered 49.4 percent, a decrease of 3.2 percentage points from the July reading of 52.6 percent. The New Orders Index registered 49.1 percent, a decrease of 7.8 percentage points from the July reading of 56.9 percent. The Production Index registered 49.6 percent, 5.8 percentage points lower than the July reading of 55.4 percent. The Employment Index registered 48.3 percent, a decrease of 1.1 percentage points from the July reading of 49.4 percent. Inventories of raw materials registered 49 percent, a decrease of 0.5 percentage point from the July reading of 49.5 percent. The Prices Index registered 53 percent, a decrease of 2 percentage points from the July reading of 55 percent, indicating higher raw materials prices for the sixth consecutive month. Manufacturing contracted in August for the first time since February of this year, as only six of our 18 industries reported an increase in new orders in

August (down from 12 in July), and only eight of our 18 industries reported an increase in production in August (down from nine in July)."

Of the 18 manufacturing industries, six are reporting growth in August in the following order: Printing & Related Support Activities; Nonmetallic Mineral Products; Computer & Electronic Products; Miscellaneous Manufacturing; Food, Beverage & Tobacco Products; and Chemical Products. The 11 industries reporting contraction in August — listed in order — are: Electrical Equipment, Appliances & Components; Apparel, Leather & Allied Products; Plastics & Rubber Products; Furniture & Related Products; Transportation Equipment; Machinery; Textile Mills; Paper Products; Petroleum & Coal Products; Primary Metals; and Fabricated Metal Products.

### WHAT RESPONDENTS ARE SAYING ...

- "We have been getting lots of inquiries, but not a lot of sales order placements."
   (Chemical Products)
- "Business was flat this month overall." (Computer & Electronic Products)
- "Continued strong market demand for our products related to construction." (Nonmetallic Mineral Products)
- "Commercial construction continues to be strong, and therefore our business is very good." (Fabricated Metal Products)
- "New product distribution is increasing." (Food, Beverage & Tobacco Products)
- "This past month, sales increased over the trend from the first half of the year. There seems to be a general, albeit slight, loosening of capital purse strings." (Machinery)
- "Medical device is still strong." (Miscellaneous Manufacturing)
- "Business conditions are generally flat." (Transportation Equipment)
- "Hard to find production associates. Unemployment in the area is around 4 percent. Can't get enough employees [which] leads to lots of overtime." (Plastics & Rubber Products)
- "Oil prices continue to seek a 'footing'; rig count slowly increasing." (Petroleum & Coal Products)

N	1ANU	FACT	URING AT	T A GLANC	Œ					
August 2016										
	Series	Series	Percentage		Rate					
	Index	Index	Point		of	Trend*				
Index	Aug	Jul	Change	Direction	Change	(Months)				
PMI®	49.4	52.6	-3.2	Contracting	From Growing	1				
New Orders	49.1	56.9	-7.8	Contracting	From Growing	1				
Production	49.6	55.4	-5.8	Contracting	From Growing	1				
Employment	48.3	49.4	-1.1	Contracting	Faster	2				
Supplier Deliveries	50.9	51.8	-0.9	Slowing	Slower	4				
Inventories	49.0	49.5	-0.5	Contracting	Faster	14				
<b>Customers' Inventories</b>	49.5	51.0	-1.5	Too Low	From Too High	1				
Prices	53.0	55.0	-2.0	Increasing	Slower	6				
Backlog of Orders	45.5	48.0	-2.5	Contracting	Faster	2				
New Export Orders	52.5	52.5	0.0	Growing	Same	6				
Imports	47.0	52.0	-5.0	Contracting	From Growing	1				
OVERALL	OVERALL ECONOMY Growing Slower 87									
Manufactu	ring S	ector		Contracting	From Growing	1				

**Manufacturing ISM®** *Report On Business®* data is seasonally adjusted for New Orders, Production, Employment and Supplier Deliveries indexes.

# COMMODITIES REPORTED UP/DOWN IN PRICE AND IN SHORT SUPPLY

Commodities Up in Price

Caustic Soda; Copper (2); Gold (2); Nickel; Plastic Resins; Propylene; Stainless Steel (5); Steel\* (8); and Titanium Dioxide.

Commodities Down in Price

Corn (2); Corrugate (2); Diesel; Scrap Steel; Steel\* (2); Steel — Cold Rolled; and Steel — Hot Rolled.

Commodities in Short Supply

None (5).

Note: The number of consecutive months the commodity is listed is indicated after each item. \*Reported as both up and down in price.

<sup>\*</sup>Number of months moving in current direction.

## **AUGUST 2016 MANUFACTURING INDEX SUMMARIES**

#### PMI®

Manufacturing contracted in August as the PMI® registered 49.4 percent, a decrease of 3.2 percentage points from the July reading of 52.6 percent, indicating contraction in manufacturing for the first time since February 2016 when the PMI registered 49.5. A reading above 50 percent indicates that the manufacturing economy is generally expanding; below 50 percent indicates that it is generally contracting.

A PMI® above 43.2 percent, over a period of time, generally indicates an expansion of the overall economy. Therefore, the August PMI® indicates growth for the 87th consecutive month in the overall economy, while indicating contraction in the manufacturing sector for the first time since February of this year. Holcomb stated, "The past relationship between the PMI® and the overall economy indicates that the average PMI® for January through August (50.9 percent) corresponds to a 2.4 percent increase in real gross domestic product (GDP) on an annualized basis. In addition, if the PMI® for August (49.4 percent) is annualized, it corresponds to a 2 percent increase in real GDP annually."

THE LAST 12 MONTHS

Month	PMI®	Month	PMI®			
Aug 2016	49.4	Feb 2016	49.5			
Jul 2016	52.6	Jan 2016	48.2			
Jun 2016	53.2	Dec 2015	48.0			
May 2016	51.3	Nov 2015	48.4			
Apr 2016	50.8	Oct 2015	49.4			
Mar 2016	51.8	Sep 2015	50.0			
Average	for 12	months –	50.2			
High - 53.2						
	Low -	- 48.0				

#### **New Orders**

ISM®'s New Orders Index registered 49.1 percent in August, which is a decrease of 7.8 percentage points when compared to the 56.9 percent reported for July, indicating contraction in new orders for first time since December 2015 when the New Orders Index registered 48.8 percent. A New Orders

Index above 52.2 percent, over time, is generally consistent with an increase in the Census Bureau's series on manufacturing orders (in constant 2000 dollars).

The six industries reporting growth in new orders in August — listed in order — are: Nonmetallic Mineral Products; Computer & Electronic Products; Food, Beverage & Tobacco Products; Miscellaneous Manufacturing; Chemical Products; and Fabricated Metal Products. The nine industries reporting a decrease in new orders during August — listed in order — are: Wood Products; Apparel, Leather & Allied Products; Electrical Equipment, Appliances & Components; Furniture & Related Products; Transportation Equipment; Plastics & Rubber Products; Machinery; Primary Metals; and Paper Products.

New	0/0	0/0	0/0		
Orders	Better	Same	Worse	Net	Index
Aug 2016	22	52	26	-4	49.1
Jul 2016	27	58	15	+12	56.9
Jun 2016	31	51	18	+13	57.0
May 2016	32	51	17	+15	55.7

#### Production

ISM®'s Production Index registered 49.6 percent in August, which is a decrease of 5.8 percentage points when compared to the 55.4 percent reported for July, indicating contraction in production in August and its lowest reading since August 2012 when the Production Index registered 49.5. An index above 51.3 percent, over time, is generally consistent with an increase in the Federal Reserve Board's Industrial Production figures.

The eight industries reporting growth in production during the month of August — listed in order — are: Printing & Related Support Activities; Chemical Products; Primary Metals; Computer & Electronic Products; Fabricated Metal Products; Miscellaneous Manufacturing; Food, Beverage & Tobacco Products; and Nonmetallic Mineral Products. The eight industries reporting a decrease in production during August — listed in order — are: Apparel, Leather & Allied Products; Electrical Equipment, Appliances & Components; Plastics & Rubber Products; Transportation Equipment; Furniture & Related Products; Machinery; Paper Products; and Textile Mills.

	%	%	%		
Production	Better	Same	Worse	Net	Index
Aug 2016	19	59	22	-3	49.6
Jul 2016	25	58	17	+8	55.4
Jun 2016	28	55	17	+11	54.7
May 2016	29	52	19	+10	52.6

# Employment

ISM®'s Employment Index registered 48.3 percent in August, a decrease of 1.1 percentage points when compared to the July reading of 49.4 percent, indicating contraction in employment in August for the second consecutive month. An Employment Index above 50.6 percent, over time, is generally consistent with an increase in the Bureau of Labor Statistics (BLS) data on manufacturing employment.

Of the 18 manufacturing industries, the five industries reporting employment growth in August are: Printing & Related Support Activities; Paper Products; Primary Metals; Computer & Electronic Products; and Nonmetallic Mineral Products. The nine industries reporting a decrease in employment in August — listed in order — are: Apparel, Leather & Allied Products; Transportation Equipment; Plastics & Rubber Products; Furniture & Related Products; Petroleum & Coal Products; Electrical Equipment, Appliances & Components; Machinery; Chemical Products; and Textile Mills.

	0/0	0/0	0/0		
Employment	Higher	Same	Lower	Net	Index
Aug 2016	16	65	19	-3	48.3
Jul 2016	17	68	15	+2	49.4
Jun 2016	22	58	20	+2	50.4
May 2016	20	62	18	+2	49.2

## Supplier Deliveries

The delivery performance of suppliers to manufacturing organizations was slower in August as the Supplier Deliveries Index registered 50.9 percent, which is 0.9 percentage point lower than the 51.8 percent reported for July. A reading below 50 percent indicates faster deliveries, while a reading above 50 percent indicates slower deliveries.

The six industries reporting slower supplier deliveries in August — listed in order — are: Nonmetallic Mineral Products; Transportation Equipment; Miscellaneous Manufacturing; Machinery; Food, Beverage & Tobacco Products; and Chemical Products. The four industries reporting faster supplier deliveries in August are: Paper Products; Primary Metals; Plastics & Rubber Products; and Fabricated Metal Products. Eight industries reported no change in supplier deliveries in August compared to July.

Supplier	0/0	0/0	0/0		
Deliveries	Slower	Same	Faster	Net	Index
Aug 2016	8	86	6	+2	50.9
Jul 2016	10	85	5	+5	51.8
Jun 2016	12	84	4	+8	55.4
May 2016	13	82	5	+8	54.1

#### Inventories\*

The Inventories Index registered 49 percent in August, which is a decrease of 0.5 percentage point when compared to the 49.5 percent reported for July, indicating raw materials inventories are contracting in August for the 14th consecutive month. An Inventories Index greater than 42.8 percent, over time, is generally consistent with expansion in the Bureau of Economic Analysis (BEA) figures on overall manufacturing inventories (in chained 2000 dollars).

The four industries reporting higher inventories in August are: Wood Products; Apparel, Leather & Allied Products; Transportation Equipment; and Nonmetallic Mineral Products. The 11 industries reporting lower inventories in August — listed in order — are: Textile Mills; Chemical Products; Fabricated Metal Products; Primary Metals; Paper Products; Miscellaneous Manufacturing; Computer & Electronic Products; Machinery; Furniture & Related Products; Electrical Equipment, Appliances & Components; and Plastics & Rubber Products.

	%	%	%		
Inventories	Higher	Same	Lower	Net	Index
Aug 2016	18	62	20	-2	49.0
Jul 2016	19	61	20	-1	49.5
Jun 2016	19	59	22	-3	48.5
May 2016	14	62	24	-10	45.0

#### Customers' Inventories\*

ISM®'s Customers' Inventories Index registered 49.5 percent in August, which is 1.5 percentage points lower than the 51 percent reported in July, indicating that customers' inventory levels are considered too low in August following three consecutive months at 50 or above of customer inventories being considered too high.

The five manufacturing industries reporting customers' inventories as being too high during the month of August are: Petroleum & Coal Products; Furniture & Related Products; Transportation Equipment; Machinery; and Plastics & Rubber Products. The eight industries reporting customers' inventories as too low during August — listed in order — are: Textile Mills; Primary Metals; Paper Products; Miscellaneous Manufacturing; Computer & Electronic Products; Food, Beverage & Tobacco Products; Chemical Products; and Fabricated Metal Products.

Customers'	0/0	%Too	%About	%T00		
Inventories	Reporting	High	Right	Low	Net	Index
Aug 2016	54	16	67	17	-1	49.5
Jul 2016	59	13	76	11	+2	51.0
Jun 2016	57	16	70	14	+2	51.0
May 2016	60	16	68	16	0	50.0

#### Prices\*

The ISM® Prices Index registered 53 percent in August, which is a decrease of 2 percentage points when compared to the 55 percent reported for July, indicating an increase in raw materials prices for the sixth consecutive month. In August, 19 percent of respondents reported paying higher prices, 13 percent reported paying lower prices, and 68 percent of supply executives reported paying the same prices as in July. A Prices Index above 52.4 percent, over time, is generally consistent with an increase in the Bureau of Labor Statistics (BLS) Producer Price Index for Intermediate Materials.

Of the 18 manufacturing industries, the nine industries that reported paying increased prices for its raw materials in August — listed in order — are: Apparel, Leather & Allied Products; Plastics & Rubber Products; Transportation Equipment; Petroleum & Coal Products; Machinery; Computer & Electronic Products; Chemical Products; Fabricated Metal Products; and Nonmetallic Mineral Products. The three industries reporting paying lower prices during the month of August are: Electrical Equipment, Appliances & Components; Furniture & Related Products; and Food, Beverage & Tobacco Products. Six industries listed no change in prices in August compared to July.

	%	%	%		
Prices	Higher	Same	Lower	Net	Index
Aug 2016	19	68	13	+6	53.0
Jul 2016	22	66	12	+10	55.0
Jun 2016	27	67	6	+21	60.5
May 2016	34	59	7	+27	63.5

## Backlog of Orders\*

ISM®'s Backlog of Orders Index registered 45.5 percent in August, a decrease of 2.5 percentage points when compared to the July reading of 48 percent, indicating contraction in order backlogs for the second consecutive month. Of the 88 percent of respondents who reported their backlog of orders, 18 percent reported greater backlogs, 27 percent reported smaller backlogs, and 55 percent reported no change from July.

The four industries reporting growth in order backlogs in August are: Printing & Related Support Activities; Petroleum & Coal Products; Computer & Electronic Products; and Fabricated Metal

Products. The 12 industries reporting a decrease in order backlogs during August — listed in order — are: Wood Products; Electrical Equipment, Appliances & Components; Apparel, Leather & Allied Products; Furniture & Related Products; Transportation Equipment; Primary Metals; Paper Products; Machinery; Plastics & Rubber Products; Miscellaneous Manufacturing; Food, Beverage & Tobacco Products; and Chemical Products.

Backlog of	0/0	0/0	%	0/0		
Orders	Reporting	Greater	Same	Less	Net	Index
Aug 2016	88	18	55	27	-9	45.5
Jul 2016	86	16	64	20	-4	48.0
Jun 2016	89	24	57	19	+5	52.5
May 2016	85	17	60	23	-6	47.0

# New Export Orders\*

ISM®'s New Export Orders Index registered 52.5 percent in August, the same reading as in July, indicating growth in new export orders for the sixth consecutive month.

The eight industries reporting growth in new export orders in August — listed in order — are: Wood Products; Miscellaneous Manufacturing; Food, Beverage & Tobacco Products; Chemical Products; Computer & Electronic Products; Fabricated Metal Products; Machinery; and Paper Products. The six industries reporting a decrease in new export orders during August — listed in order — are: Apparel, Leather & Allied Products; Nonmetallic Mineral Products; Furniture & Related Products; Primary Metals; Plastics & Rubber Products; and Transportation Equipment.

New Export	%	0/0	0/0	0/0		
Orders	Reporting	Higher	Same	Lower	Net	Index
Aug 2016	78	16	73	11	+5	52.5
Jul 2016	76	14	77	9	+5	52.5
Jun 2016	79	14	79	7	+7	53.5
May 2016	75	15	75	10	+5	52.5

## Imports\*

ISM®'s Imports Index registered 47 percent in August, which is 5 percentage points below the July reading of 52 percent. This month's reading indicates contraction in imports following four consecutive months of the Imports Index registering 50 percent or above.

The four industries reporting growth in imports during the month of August are: Furniture & Related Products; Computer & Electronic Products; Food, Beverage & Tobacco Products; and Machinery. The nine industries reporting a decrease in imports during August — listed in order — are:

Nonmetallic Mineral Products; Apparel, Leather & Allied Products; Textile Mills; Primary Metals; Plastics & Rubber Products; Paper Products; Transportation Equipment; Miscellaneous Manufacturing; and Fabricated Metal Products.

	0/0	0/0	0/0	%		
Imports	Reporting	Higher	Same	Lower	Net	Index
Aug 2016	83	8	78	14	-6	47.0
Jul 2016	80	14	76	10	+4	52.0
Jun 2016	84	11	82	7	+4	52.0
May 2016	83	14	72	14	0	50.0

<sup>\*</sup> The Inventories, Customers' Inventories, Prices, Backlog of Orders, New Export Orders and Imports Indexes do not meet the accepted criteria for seasonal adjustments.

# **Buying Policy**

Average commitment lead time for Capital Expenditures decreased in August by 3 days to 129 days. Average lead time for Production Materials decreased by 4 days to 60 days. Average lead time for Maintenance, Repair and Operating (MRO) Supplies decreased by 2 days to 29 days.

Percent Reporting							
	Hand-						
Capital	to-	30	60	90	6	1	Average
Expenditures	Mouth	Days	Days	Days	Months	Year+	Days
Aug 2016	22	6	13	19	24	16	129
Jul 2016	20	8	14	18	22	18	132
Jun 2016	23	7	11	15	28	16	131
May 2016	24	8	12	15	25	16	127
	Hand-						
Production	to-	30	60	90	6	1	Average
Materials	Mouth	Days	Days	Days	Months	Year+	Days
Aug 2016	15	38	22	15	8	2	60
Jul 2016	12	37	26	15	7	3	64
Jun 2016	15	38	23	15	7	2	59
May 2016	16	35	24	15	7	3	63
	Hand-						
MRO	to-	30	60	90	6	1	Average
Supplies	Mouth	Days	Days	Days	Months	Year+	Days
Aug 2016	40	39	13	8	0	0	29
Jul 2016	38	40	15	5	2	0	31
Jun 2016	39	37	17	6	1	0	30
May 2016	41	37	14	7	1	0	30

## About This Report

The data presented herein is obtained from a survey of manufacturing supply executives based on information they have collected within their respective organizations. ISM® makes no representation, other than that stated within this release, regarding the individual company data collection procedures. The data should be compared to all other economic data sources when used in decision-making.

## Data and Method of Presentation

The **Manufacturing ISM®** *Report On Business®* is based on data compiled from purchasing and supply executives nationwide. Membership of the Manufacturing Business Survey Committee is diversified by NAICS, based on each industry's contribution to gross domestic product (GDP). Manufacturing Business Survey Committee responses are divided into the following NAICS code categories: Food, Beverage & Tobacco Products; Textile Mills; Apparel, Leather & Allied Products;

Wood Products; Paper Products; Printing & Related Support Activities; Petroleum & Coal Products; Chemical Products; Plastics & Rubber Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliances & Components; Transportation Equipment; Furniture & Related Products; and Miscellaneous Manufacturing (products such as medical equipment and supplies, jewelry, sporting goods, toys and office supplies).

Survey responses reflect the change, if any, in the current month compared to the previous month. For each of the indicators measured (New Orders, Backlog of Orders, New Export Orders, Imports, Production, Supplier Deliveries, Inventories, Customers' Inventories, Employment and Prices), this report shows the percentage reporting each response, the net difference between the number of responses in the positive economic direction (higher, better and slower for Supplier Deliveries) and the negative economic direction (lower, worse and faster for Supplier Deliveries), and the diffusion index. Responses are raw data and are never changed. The diffusion index includes the percent of positive responses plus one-half of those responding the same (considered positive).

The resulting single index number for those meeting the criteria for seasonal adjustments (PMI®, New Orders, Production, Employment and Supplier Deliveries) is then seasonally adjusted to allow for the effects of repetitive intra-year variations resulting primarily from normal differences in weather conditions, various institutional arrangements, and differences attributable to non-moveable holidays. All seasonal adjustment factors are subject annually to relatively minor changes when conditions warrant them. The PMI® is a composite index based on the diffusion indexes of five of the indexes with equal weights: New Orders (seasonally adjusted), Production (seasonally adjusted), Employment (seasonally adjusted), Supplier Deliveries (seasonally adjusted), and Inventories.

Diffusion indexes have the properties of leading indicators and are convenient summary measures showing the prevailing direction of change and the scope of change. A PMI® reading above 50 percent indicates that the manufacturing economy is generally expanding; below 50 percent indicates that it is generally declining. A PMI® above 43.2 percent, over a period of time, indicates that the overall economy, or gross domestic product (GDP), is generally expanding; below 43.2 percent, it is generally declining. The distance from 50 percent or 43.2 percent is indicative of the strength of the expansion or decline. With some of the indicators within this report, ISM® has indicated the departure point between expansion and decline of comparable government series, as determined by regression analysis.

The Manufacturing ISM® Report On Business® survey is sent out to Manufacturing Business Survey Committee respondents the first part of each month. Respondents are asked to ONLY report on information for the current month. ISM® receives survey responses throughout most of any given month, with the majority of respondents generally waiting until late in the month to submit responses in order to give the most accurate picture of current business activity. ISM® then compiles the report for release on the first business day of the following month.

The industries reporting growth, as indicated in the **Manufacturing ISM®** *Report On Business®* monthly report, are listed in the order of most growth to least growth. For the industries reporting contraction or decreases, those are listed in the order of the highest level of contraction/decrease to the least level of contraction/decrease.

Responses to Buying Policy reflect the percent reporting the current month's lead time, the approximate weighted number of days ahead for which commitments are made for Capital Expenditures; Production Materials; and Maintenance, Repair and Operating (MRO) Supplies, expressed as hand-to-mouth (five days), 30 days, 60 days, 90 days, six months (180 days), a year or more (360 days), and the weighted average number of days. These responses are raw data, never revised, and not seasonally adjusted since there is no significant seasonal pattern.

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The full text version of the **Manufacturing ISM®** *Report On Business®* is posted on ISM®'s website at www.ismrob.org on the first business day\* of every month after 10:00 a.m. (ET).

The next **Manufacturing ISM®** *Report On Business®* featuring the September 2016 data will be released at 10:00 a.m. (ET) on Monday, October 3, 2016.

\*Unless the NYSE is closed.