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## April 2018 Manufacturing ISM ${ }^{\circledR}$ Report On Business ${ }^{\circledR}$

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DeliveriesInventoriesCustomers' InventoriesPricesBacklog of OrdersNew Export OrdersImportsBuying PolicyStandard LanguagePMI ${ }^{\circledR}$ at 57.3\%

New Orders, Production, and Employment Growing
Supplier Deliveries Slowing at Faster Rate; Backlog Growing
Raw Materials Inventories Growing; Customers' Inventories Too Low
Prices Increasing at Faster Rate; Exports and Imports Growing
(Tempe, Arizona) - Economic activity in the manufacturing sector expanded in April, and the overall economy grew for the 108th consecutive month, say the nation's supply executives in the latest Manufacturing ISM ${ }^{\ominus}$ Report On Business ${ }^{\circ}$.

The report was issued today by Timothy R. Fiore, CPSM, C.P.M., Chair of the Institute for Supply Management ${ }^{\oplus}$ (ISM ${ }^{\oplus}$ ) Manufacturing Business Survey Committee: "The April PMI ${ }^{\oplus}$ registered 57.3 percent, a decrease of 2 percentage points from the March reading of 59.3 percent. The New Orders Index registered 61.2 percent, a decrease of 0.7 percentage point from the March reading of 61.9 percent. The Production Index registered 57.2 percent, a 3.8 percentage point decrease compared to the March reading of 61 percent. The Employment Index registered 54.2 percent, a decrease of 3.1 percentage points from the March reading of 57.3 percent. The Supplier Deliveries Index registered 61.1 percent, a 0.5 percentage point increase from the March reading of 60.6 percent. The Inventories Index registered 52.9 percent, a decrease of 2.6 percentage points from the March reading of 55.5 percent.

The Prices Index registered 79.3 percent in April, a 1.2 percentage point increase from the March reading of 78.1 percent, indicating higher raw materials prices for the 26th consecutive month. Comments from the panel reflect continued expanding business strength. Demand remains strong, with the New Orders Index at 60 or above for the 12th straight month, and the Customers' Inventories Index remaining at low levels. The Backlog of Orders Index continued expanding, with its highest reading since May 2004, when it registered 63 percent. Consumption, described as production and employment, continues to expand, but has been restrained by labor and skill shortages. Inputs, expressed as supplier deliveries, inventories and imports, declined overall, due primarily to inventory reductions likely led by supplier performance restrictions. Lead time extensions, steel and aluminum disruptions, supplier labor issues, and transportation difficulties continue. Export orders remained strong. The Prices Index is at its highest level since April 2011, when it registered 82.6 percent. In April, price increases occurred across 17 of 18 industry sectors. Demand remains robust, but the nation's employment resources and supply chains continue to struggle."

Of the 18 manufacturing industries, 17 reported growth in April, in the following order: Wood Products; Electrical Equipment, Appliances \& Components; Fabricated Metal Products; Transportation Equipment; Furniture \& Related Products; Paper Products; Machinery; Primary Metals; Nonmetallic Mineral Products; Chemical Products; Computer \& Electronic Products; Petroleum \& Coal Products; Food, Beverage \& Tobacco Products; Plastics \& Rubber Products; Printing \& Related Support Activities; Miscellaneous Manufacturing; and Apparel, Leather \& Allied Products. No industry reported a decrease in $\mathrm{PMI}^{\bullet}$ in April compared to March.

## WHAT RESPONDENTS ARE SAYING

- "We are seeing strong sales in the U.S., Europe and Asia." (Chemical Products)
- "Business is off the charts. This is causing many collateral issues: a tightening supply chain market and longer lead times. Subcontractors are trading capacity up, leading to a bidding war for the marginal capacity. Labor remains tight and getting tighter." (Transportation Equipment)
- "Shortages of trucks and drivers has impacted delivery times." (Food, Beverage \& Tobacco Products)
- "The recent steel tariffs have made it difficult to source material, and we have had to eliminate two products due to availability and cost of raw material." (Fabricated Metal Products)
- "Demand is up for products. Commodity pricing for steel and other materials increased due to the proposed tariffs. We are seeing commodity futures coming down. A lot of suppliers are asking for increases, and the team is battling those requests." (Machinery)
- "[The] 232 and 301 tariffs are very concerning. Business planning is at a standstill until they are resolved. Significant amount of manpower [on planning and the like] being expended on these issues." (Miscellaneous Manufacturing)
- "Production orders at this time are still strong and being driven partially by construction factors and customers purchasing ahead to avoid potential price increases." (Plastics \& Rubber Products)
- "The general outlook for 2018 remains positive and upbeat as we see continued signs of a growing economy and investment in housing and infrastructure." (Nonmetallic Mineral Products)
- "Business conditions have been good; order book is full and running around 98 percent capacity." (Primary Metals)
- "Backorders remain strong. New order rate exceeds shipment rate." (Computer \& Electronic Products)

Manufacturing at a Glance
April 2018

| Index | Serie <br> Apr | Serie <br> Mar | Percenta Change | Direction | Rate of Change | Trend* <br> (Months) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PMI ${ }^{\text {® }}$ | 57.3 | 59.3 | -2.0 | Growing | Slower | 20 |
| New Orders | 61.2 | 61.9 | -0.7 | Growing | Slower | 28 |
| Production | 57.2 | 61.0 | -3.8 | Growing | Slower | 20 |
| Employment | 54.2 | 57.3 | -3.1 | Growing | Slower | 19 |
| Supplier Deliveries | 61.1 | 60.6 | +0.5 | Slowing | Faster | 19 |
| Inventories | 52.9 | 55.5 | -2.6 | Growing | Slower | 4 |
| Customers' Inventories | 44.3 | 42.0 | +2.3 | Too Low | Slower | 19 |
| Prices | 79.3 | 78.1 | +1.2 | Increasing | Faster | 26 |
| Backlog of Orders | 62.0 | 59.8 | +2.2 | Growing | Faster | 15 |
| New Export Orders | 57.7 | 58.7 | -1.0 | Growing | Slower | 26 |
| Imports | 57.8 | 59.7 | -1.9 | Growing | Slower | 15 |
| OVERALL ECONOM |  |  |  | Growing | Slower | 108 |
| Manufacturing Sec |  |  |  | Growing | Slower | 20 |

Manufacturing ISM ${ }^{\oplus}$ Report On Business ${ }^{\circledR}$ data is seasonally adjusted for the New Orders, Production, Employment and Supplier Deliveries Indexes.
*Number of months moving in current direction.

Commodities reported up/down in price and in short supply

## Commodities Up in Price

Aluminum (18); Caustic Soda (10); Copper (6); Corrugate (19); Diesel; Electrical Components; Freight (3); Pallets; Polypropylene; Steel — Hot Rolled (17); Steel - Scrap (5); Steel — Stainless; and Wood.

## Commodities Down in Price

Soybean Oil.

## Commodities in Short Supply

Capacitors (10); Electrical Components; Resistors (6); and Steel - Hot Rolled.

Note: The number of consecutive months the commodity is listed is indicated after each item.

April 2018 Manufacturing Index Summaries

## PMI ${ }^{\circ}$

Manufacturing expanded in April as the $\mathrm{PMI}{ }^{\oplus}$ registered 57.3 percent, a decrease of 2 percentage points from the March reading of 59.3 percent. "This indicates strong growth in manufacturing for the 20th consecutive month, led by continued expansion in new orders, production activity, employment and inventories, with suppliers continuing to struggle delivering to demand," says Fiore. 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 April PMI indicates growth for the 108th consecutive month in the overall economy and the 20th straight month of growth in the manufacturing sector. "The past relationship between the $\mathrm{PMI}^{\circledR}$ and the overall economy indicates that the $\mathrm{PMI}{ }^{\star}$ for April ( 57.3 percent) corresponds to a 4.3 percent increase in real gross domestic product (GDP) on an annualized basis."

## The Last 12 Months

Month ..... PMI ${ }^{\circ}$
Apr 2018 ..... 57.3
Mar 2018 ..... 59.3
Feb 2018 ..... 60.8
Jan 2018 ..... 59.1
Dec 2017 ..... 59.3

| Month |  | PMI ${ }^{\text { }}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Nov 2017 |  | 58.2 |  |  |  |
| Month |  | PMI ${ }^{\circ}$ |  |  |  |
| Oct 2017 |  | 58.5 |  |  |  |
| Sep 2017 |  | 60.2 |  |  |  |
| Aug 2017 |  | 59.3 |  |  |  |
| Jul 2017 |  | 56.5 |  |  |  |
| Jun 2017 |  | 56.7 |  |  |  |
| May 2017 |  | 55.5 |  |  |  |
| Average for <br> High - 60.8 <br> Low - 55.5 |  |  |  |  |  |
| New Orders |  |  |  |  |  |
| ISM ${ }^{\circ}$ 's New Orders Index registered 61.2 percent in April, which is a decrease of 0.7 percentage point when compared to the 61.9 percent reported for March, indicating growth in new orders for the 28th consecutive month. "New orders expansion continues at a strong pace - slower compared to March's reading, but still at or above 60 percent for the 12th straight month. Customer inventories remain too low, and backlog expansion maintained high levels," says Fiore. A New Orders Index above 52.4 percent, over time, is generally consistent with an increase in the Census Bureau's series on manufacturing orders (in constant 2000 dollars). |  |  |  |  |  |
| Sixteen of 18 industries reported growth in new orders in April, listed in the following order: Wood Products; Furniture \& Related Products; Plastics \& Rubber Products; Nonmetallic Mineral Products; Transportation Equipment; Primary Metals; Paper Products; Electrical Equipment, Appliances \& Components; Computer \& Electronic Products; Fabricated Metal Products; Petroleum \& Coal Products; Textile Mills; Chemical Products; Miscellaneous Manufacturing; Food, Beverage \& Tobacco Products; and Machinery. The only industry reporting a decrease in new orders in April compared to March is Apparel, Leather \& Allied Products. |  |  |  |  |  |
| New Orders | \% Higher | \% Same | \% Lower | Net | Index |
| Apr 2018 | 42.4 | 49.5 | 8.1 | +34.3 | 61.2 |


| New Orders | \% Higher | \% Same | \% Lower | Net | Index |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Mar 2018 | 43.3 | 48.0 | 8.6 | +34.7 | 61.9 |
| Feb 2018 | 40.6 | 50.9 | 8.5 | +32.1 | 64.2 |
| Jan 2018 | 35.2 | 54.3 | 10.5 | +24.7 | 65.4 |

## Production

ISM ${ }^{\circ}$ 's Production Index registered 57.2 percent in April, which is a decrease of 3.8 percentage points when compared to the 61 percent reported for March, indicating growth in production for the 20th consecutive month. "Production expansion continues; however, the index fell below 60 for the first time in 10 months. Labor constraints and supply chain disruptions continue to prevent or limit maximum production potential," says Fiore. An index above 51.5 percent, over time, is generally consistent with an increase in the Federal Reserve Board's Industrial Production figures.

The 15 industries reporting growth in production during the month of April — listed in order - are: Furniture \& Related Products; Apparel, Leather \& Allied Products; Electrical Equipment, Appliances \& Components; Transportation Equipment; Printing \& Related Support Activities; Nonmetallic Mineral Products; Fabricated Metal Products; Chemical Products; Primary Metals; Miscellaneous Manufacturing; Machinery; Computer \& Electronic Products; Food, Beverage \& Tobacco Products; Petroleum \& Coal Products; and Plastics \& Rubber Products. The only industry reporting a decrease in production in April compared to March is Paper Products.

| Production | \% Higher | \% Same | \% Lower | Net | Index |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Apr 2018 | 33.6 | 58.5 | 8.0 | +25.6 | 57.2 |
| Mar 2018 | 36.1 | 55.7 | 8.2 | +27.9 | 61.0 |
| Feb 2018 | 35.5 | 54.9 | 9.6 | +25.9 | 62.0 |
| Jan 2018 | 32.8 | 56.2 | 11.0 | +21.8 | 64.5 |

## Employment

ISM ${ }^{\circ}$ 's Employment Index registered 54.2 percent in April, a decrease of 3.1 percentage points when compared to the March reading of 57.3 percent. This indicates growth in employment in April for the

19th consecutive month. "Employment expansion continues at slower rates due to companies struggling to hire skilled workers. Many respondents continue to see the labor market as a constraint to their production and their suppliers' production," says Fiore. An Employment Index above 50.8 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 12 reporting employment growth in April — listed in order are: Paper Products; Miscellaneous Manufacturing; Fabricated Metal Products; Machinery; Nonmetallic Mineral Products; Petroleum \& Coal Products; Food, Beverage \& Tobacco Products; Computer \& Electronic Products; Transportation Equipment; Chemical Products; Primary Metals; and Electrical Equipment, Appliances \& Components. The three industries reporting a decrease in employment in April compared to March are: Textile Mills; Printing \& Related Support Activities; and Furniture \& Related Products.

| Employment | \% Higher | \% Same | \% Lower | Net | Index |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Apr 2018 | 23.1 | 66.8 | 10.2 | +12.9 | 54.2 |
| Mar 2018 | 22.9 | 66.3 | 10.8 | +12.2 | 57.3 |
| Feb 2018 | 28.4 | 61.8 | 9.8 | +18.7 | 59.7 |
| Jan 2018 | 17.6 | 70.6 | 11.8 | +5.8 | 54.2 |

## Supplier Deliveries

The delivery performance of suppliers to manufacturing organizations was slower in April, as the Supplier Deliveries Index registered 61.1 percent. This is 0.5 percentage point higher than the 60.6 percent reported for March. "This is the 19th straight month of slowing supplier deliveries, a continuing constraint to production growth. Lead-time extensions in many areas, supplier labor shortages, and transportation delays and uncertainty in the steel and aluminum markets will continue to restrict production output for the foreseeable future," says Fiore. A reading below 50 percent indicates faster deliveries, while a reading above 50 percent indicates slower deliveries.

The 16 industries reporting slower supplier deliveries in April — listed in order - are: Apparel, Leather \& Allied Products; Machinery; Fabricated Metal Products; Textile Mills; Printing \& Related Support Activities; Primary Metals; Furniture \& Related Products; Paper Products; Computer \& Electronic Products; Food, Beverage \& Tobacco Products; Chemical Products; Electrical Equipment, Appliances \& Components; Transportation Equipment; Nonmetallic Mineral Products; Plastics \& Rubber Products; and Miscellaneous Manufacturing. No industries reported faster supplier deliveries in April compared to March.

| Supplier Deliveries | \% Slower | \% Same | \% Faster | Net | Index |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Apr 2018 | 25.6 | 71.3 | 3.2 | +22.4 | 61.1 |
| Mar 2018 | 28.4 | 65.9 | 5.7 | +22.7 | 60.6 |
| Feb 2018 | 26.2 | 70.4 | 3.4 | +22.8 | 61.1 |
| Jan 2018 | 23.5 | 71.3 | 5.2 | +18.3 | 59.1 |

## Inventories*

The Inventories Index registered 52.9 percent in April, which is a decrease of 2.6 percentage points when compared to the 55.5 percent reported for March, indicating raw materials inventories grew in April. "Suppliers were not able to maintain desired inventory expansion levels consistent with production demands for the second straight month. Broad supplier lead-time extensions and freight uncertainties will continue to impact inventory accounts," says Fiore. An Inventories Index greater than 43 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 eight industries reporting higher inventories in April — listed in order — are: Wood Products; Electrical Equipment, Appliances \& Components; Printing \& Related Support Activities; Paper Products; Petroleum \& Coal Products; Transportation Equipment; Chemical Products; and Food, Beverage \& Tobacco Products. The four industries reporting lower inventories in April are: Textile Mills; Furniture \& Related Products; Nonmetallic Mineral Products; and Miscellaneous Manufacturing. Six industries reported no change in raw materials inventories in April compared to March.

| Inventories | \% Higher | \% Same | \% Lower | Net | Index |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Apr 2018 | 20.4 | 65.0 | 14.6 | +5.8 | 52.9 |
| Mar 2018 | 22.1 | 66.7 | 11.1 | +11.0 | 55.5 |
| Feb 2018 | 23.8 | 66.0 | 10.3 | +13.5 | 56.7 |
| Jan 2018 | 24.4 | 55.7 | 19.9 | +4.5 | 52.3 |

## Customers' Inventories*

ISM ${ }^{\circ}$ 's Customers' Inventories Index registered 44.3 percent in April, which is 2.3 percentage points higher than the 42 percent reported for March, indicating that customers' inventory levels were still
considered too low in April. "Customers' inventory levels remain too low for the 19th consecutive month," says Fiore.

The only manufacturing industry reporting customers' inventories as too high during the month of April is Nonmetallic Mineral Products. The 12 industries reporting customers' inventories as too low during April — listed in order — are: Textile Mills; Apparel, Leather \& Allied Products; Paper Products; Primary Metals; Machinery; Transportation Equipment; Plastics \& Rubber Products; Electrical Equipment, Appliances \& Components; Fabricated Metal Products; Computer \& Electronic Products; Chemical Products; and Miscellaneous Manufacturing.

| Customers' Inventories | \% Reporting | \% Too High | \% About Right | \% Too Low | Net | Index |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Apr 2018 | 87 | 9.7 | 69.2 | 21.1 | -11.4 | 44.3 |
| Mar 2018 | 80 | 7.8 | 68.5 | 23.7 | -16.0 | 42.0 |
| Feb 2018 | 50 | 5.1 | 77.3 | 17.7 | -12.6 | 43.7 |
| Jan 2018 | 58 | 9.4 | 72.5 | 18.1 | -8.7 | 45.6 |

## Prices*

The ISM ${ }^{\oplus}$ Prices Index registered 79.3 percent in April, an increase of 1.2 percentage points from the March level of 78.1 percent, indicating an increase in raw materials prices for the 26th consecutive month. In April, 61.2 percent of respondents reported paying higher prices, 2.6 percent reported paying lower prices, and 36.2 percent of supply executives reported paying the same prices as in March. The Prices Index is at its highest level since April 2011, when it registered 82.6 percent. "The increases in prices across all industry sectors continues. The Business Survey Committee noted price increases in metals (all steels, steel components, aluminum and copper), corrugate, wood, wood products and plastics. Shortages continue in electronics components," says Fiore. 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.

Seventeen industries reported paying increased prices for raw materials in April, in the following order: Apparel, Leather \& Allied Products; Textile Mills; Furniture \& Related Products; Fabricated Metal Products; Paper Products; Electrical Equipment, Appliances \& Components; Primary Metals; Machinery; Printing \& Related Support Activities; Petroleum \& Coal Products; Nonmetallic Mineral Products; Food, Beverage \& Tobacco Products; Plastics \& Rubber Products; Computer \& Electronic Products; Miscellaneous Manufacturing; Chemical Products; and Transportation Equipment. No industry reported a decrease in prices in April compared to March.

| Prices | \% Higher | \% Same | \% Lower | Net | Index |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Apr 2018 | 61.2 | 36.2 | 2.6 | +58.6 | 79.3 |
| Mar 2018 | 57.1 | 42.1 | 0.8 | +56.2 | 78.1 |
| Feb 2018 | 51.0 | 46.4 | 2.7 | +48.3 | 74.2 |
| Jan 2018 | 46.6 | 52.1 | 1.3 | +45.3 | 72.7 |

## Backlog of Orders*

ISM ${ }^{\oplus}$ ’s Backlog of Orders Index registered 62 percent in April, which is 2.2 percentage points higher than the 59.8 reported in March, indicating growth in order backlogs for the 15th consecutive month. "Backlog expansion continued during the period, with the index reaching its highest level since May 2004, when it registered 63 percent. Strong backlog, low levels of customer inventory and continued strong new order expansion indicates that production requirements should remain robust through Q2," says Fiore.

The 16 industries reporting growth in order backlogs in April — listed in order — are: Wood Products; Paper Products; Plastics \& Rubber Products; Textile Mills; Petroleum \& Coal Products; Apparel, Leather \& Allied Products; Electrical Equipment, Appliances \& Components; Furniture \& Related Products; Printing \& Related Support Activities; Transportation Equipment; Machinery; Computer \& Electronic Products; Chemical Products; Fabricated Metal Products; Primary Metals; and Food, Beverage \& Tobacco Products. The only industry reporting a decrease in order backlogs during April is Miscellaneous Manufacturing.

| Backlog of Orders* | \% Reporting | \% Higher | \% Same | \% Lower | Net | Index |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Apr 2018 | 88 | 32.3 | 59.3 | 8.3 | +24.0 | 62.0 |
| Mar 2018 | 87 | 32.1 | 55.4 | 12.5 | +19.7 | 59.8 |
| Feb 2018 | 88 | 31.8 | 56.0 | 12.2 | +19.6 | 59.8 |
| Jan 2018 | 89 | 27.8 | 56.8 | 15.4 | +12.5 | 56.2 |

## New Export Orders*

ISM ${ }^{\circ}$ ’s New Export Orders Index registered 57.7 percent in April, a decrease of 1 percentage point when compared to the 58.7 percent reported for March, indicating growth in new export orders for the 26th
consecutive month. "All six big industry sectors continued to expand export activity during the period," says Fiore.

The 14 industries reporting growth in new export orders in April — listed in order — are: Wood Products; Petroleum \& Coal Products; Nonmetallic Mineral Products; Furniture \& Related Products; Computer \& Electronic Products; Machinery; Paper Products; Electrical Equipment, Appliances \& Components; Transportation Equipment; Plastics \& Rubber Products; Food, Beverage \& Tobacco Products; Chemical Products; Miscellaneous Manufacturing; and Fabricated Metal Products. No industries reported a decrease in new export orders in April as compared to March.

| New Export Orders* | \% Reporting | \% Higher | \% Same | \% Lower | Net | Index |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Apr 2018 | 79 | 18.6 | 78.2 | 3.2 | +15.4 | 57.7 |
| Mar 2018 | 80 | 22.6 | 72.0 | 5.3 | +17.3 | 58.7 |
| Feb 2018 | 79 | 27.9 | 69.8 | 2.3 | +25.6 | 62.8 |
| Jan 2018 | 79 | 20.7 | 78.2 | 1.1 | +19.6 | 59.8 |

## Imports*

ISM ${ }^{\bullet \prime}$ s Imports Index registered 57.8 percent in April, a decrease of 1.9 percentage points when compared to the 59.7 percent reported for March, indicating that imports grew in April for the 15th consecutive month. "Imports continued to expand to support production demand, but at slower expansion rates," says Fiore.

The 12 industries reporting growth in imports during the month of April — listed in order - are: Apparel, Leather \& Allied Products; Furniture \& Related Products; Textile Mills; Petroleum \& Coal Products; Electrical Equipment, Appliances \& Components; Miscellaneous Manufacturing; Food, Beverage \& Tobacco Products; Transportation Equipment; Chemical Products; Machinery; Primary Metals; and Computer \& Electronic Products. The two industries that reported a decrease in imports during April compared to March are: Plastics \& Rubber Products; and Fabricated Metal Products.

| Imports | \% Reporting | \% Higher | \% Same | \% Lower | Net | Index |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Apr 2018 | 86 | 21.6 | 72.4 | 6.0 | +15.6 | 57.8 |
| Mar 2018 | 84 | 26.1 | 67.1 | 6.7 | +19.4 | 59.7 |
| Feb 2018 | 82 | 24.5 | 71.9 | 3.5 | +21.0 | 60.5 |
| Jan 2018 | 81 | 22.5 | 71.6 | 5.8 | +16.7 | 58.4 |

*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 increased in April by six days, to 145 days. Average lead time for Production Materials increased by four days, to 67 days. Average lead time for Maintenance, Repair and Operating (MRO) Supplies increased by one day, to 35 days. "Capital expenditure lead time and production material lead-time increases rebounded during April. This is in line with general comments received during March and reflects continued strong demand in both sectors of the manufacturing economy," says Fiore.

| Percent Reporting |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Capital Expenditures |  | Hand-to-Mouth |  | 30 Days |  | 60 Days |  | 90 Days |  | 6 Months |  | 1 Year + | Average Days |
| Apr 2018 |  | 21 |  | 5 |  | 10 |  | 21 |  | 21 |  | 22 | 145 |
| Mar 2018 |  | 22 |  | 5 |  | 12 |  | 15 |  | 29 |  | 17 | 139 |
| Feb 2018 |  | 21 |  | 6 |  | 11 |  | 17 |  | 23 |  | 22 | 145 |
| Jan 2018 |  | 18 |  | 6 |  | 11 |  | 18 |  | 25 |  | 22 | 150 |
| Production Mat | rials | Hand-to-Mouth |  | 30 Days |  | 60 Days |  | 90 Days |  | 6 Months |  | 1 Year + | Average Days |
| Apr 2018 |  | 10 |  | 35 |  | 28 |  | 17 |  | 7 |  | 3 | 67 |
| Mar 2018 |  | 13 |  | 37 |  | 23 |  | 18 |  | 6 |  | 3 | 63 |
| Feb 2018 |  | 12 |  | 37 |  | 27 |  | 14 |  | 7 |  | 3 | 64 |
| Jan 2018 |  | 11 |  | 40 |  | 25 |  | 16 |  | 6 |  | 2 | 60 |
| MRO Supplies | Hand | -to-Mouth | 30 D | Days |  | Days |  | Days | 6 M | Months |  | Year + | Average Days |
| Apr 2018 | 35 |  | 41 |  | 15 |  | 7 |  | 2 |  | 0 |  | 35 |
| Mar 2018 | 39 |  | 37 |  | 17 |  | 4 |  | 3 |  | 0 |  | 34 |
| Feb 2018 | 33 |  | 42 |  | 17 |  | 6 |  | 2 |  | 0 |  | 33 |
| Jan 2018 | 33 |  | 42 |  | 15 |  | 8 |  | 2 |  | 0 |  | 34 |

About This Report

DO NOT CONFUSE THIS NATIONAL REPORT with the various regional purchasing reports released across the country. The national report's information reflects the entire U.S., 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 April 2018.

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 ${ }^{\circledR}$ Report On Business ${ }^{\circ}$ is based on data compiled from purchasing and supply executives nationwide. The composition of the Manufacturing Business Survey Committee is stratified according to the North American Industry Classification System (NAICS) and each of the following NAICSbased industry's contribution to gross domestic product (GDP): 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). The data are weighted based on each industry's contribution to GDP. Beginning in January 2018, computation of the indexes is accomplished utilizing unrounded numbers.

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 ${ }^{\circ}$, 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 ${ }^{\circ}$ 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 extent of the expansion or decline. With some of the indicators within this report, ISM ${ }^{\circ}$ 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 ${ }^{\circ}$ 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 ${ }^{\circ}$ 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 ${ }^{\circ}$ 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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## About Institute for Supply Management ${ }^{\circ}$

Institute for Supply Management (ISM ${ }^{\circ}$ ) serves supply management professionals in more than 90 countries. Its 50,000 members around the world manage about US\$1 trillion in corporate and government supply chain procurement annually. Founded in 1915 as the first supply management institute in the world, ISM is committed to advancing the practice of supply management to drive value and competitive advantage for its members, contributing to a prosperous and sustainable world. ISM leads the profession through the ISM Report On Business ${ }^{\circ}$, its highly regarded certification programs and the ISM Mastery Model ${ }^{\circ}$. This report has been issued by the association since 1931, except for a fouryear interruption during World War II.

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

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