

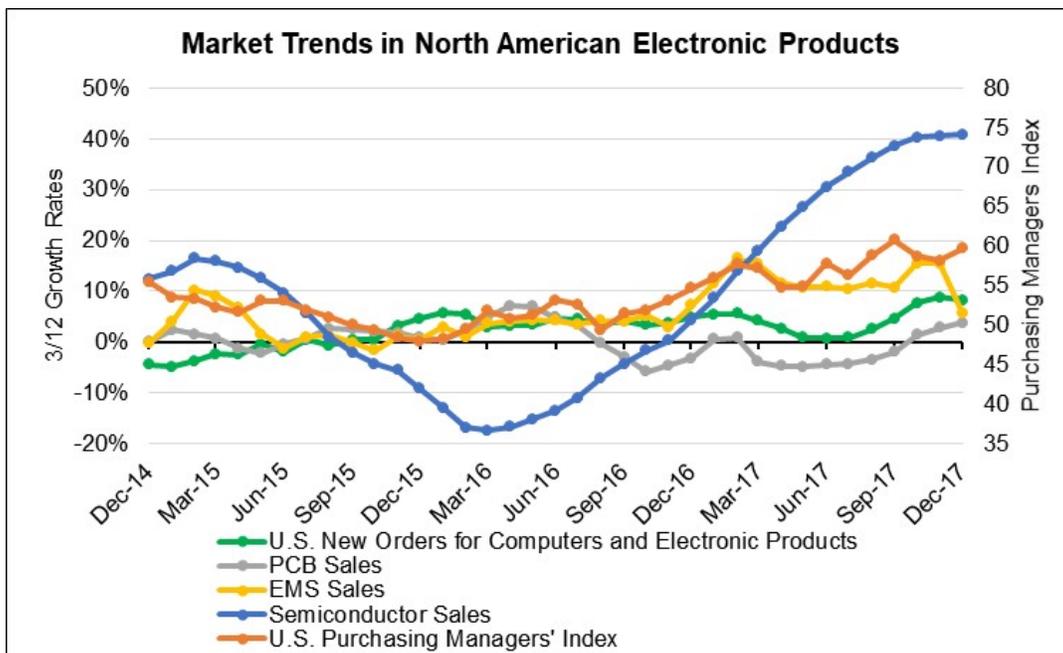
February 2018

### North American Electronics Business Outlook Remains Positive

Based on three-month rolling averages, North American sales of semiconductors, electronics manufacturing services (EMS) and printed circuit boards (PCBs) in December 2017 continued to outperform the previous year. Year-on-year sales growth in the EMS sector fell sharply in December 2017 due to a spike in sales at the end of 2016, but it remained in positive territory.

The U.S. Purchasing Managers' Index (PMI), which tends to lead industry sales by two to six months, increased in December and remained strong. It has been trending upward over the past year and has been in positive territory (above 50) for more than a year. The 3/12 rate of change for U.S. new orders for electronic products, which leads industry sales by one to three months, has been strengthening since mid-2017 and remains strong.

Another leading indicator, IPC's PCB book-to-bill ratio, is based on three-month rolling averages of orders and sales, and normally leads industry sales by three to nine months. The ratio has been in positive territory for the past 11 consecutive months, driven mainly by growth in orders. The book-to-bill ratio reached a strong at 1.15 as of December 2017. Ratios above parity (1.00) indicate greater demand than supply, which may be a precursor of sales growth for electronics manufacturers, especially when a run of positive ratios over several months is seen. These indicators suggest the likelihood of sales growth in the industry in early 2018, but with some volatility.



Notes:

1. Three-month rolling averages iron out some of the volatility in monthly data to show clearer trends.
2. This information is provided by IPC — Association Connecting Electronics Industries®.
3. Other industry data can be found at [www.ipc.org](http://www.ipc.org).
4. The U.S. Department of Commerce revised its historical data on U.S. new orders and issued new data on May 18, 2017. The graph above reflects the revised data, showing that U.S. new orders have been positive for the past twenty months.
5. IPC's EMS and PCB 3/12 rate-of-change data going back to March 2017 have been updated as of July 2017.

Sources: IPC statistical programs for the EMS and PCB industries; SIA for semiconductor data; U.S. Census Bureau for U.S. new orders for computer and electronic products; and Institute for Supply Management for the U.S. Purchasing Managers' Index.