

Bloomberg Intelligence

AI, IoT, Robotics to Boost Steel Demand

BI Steel Producers, Global Dashboard



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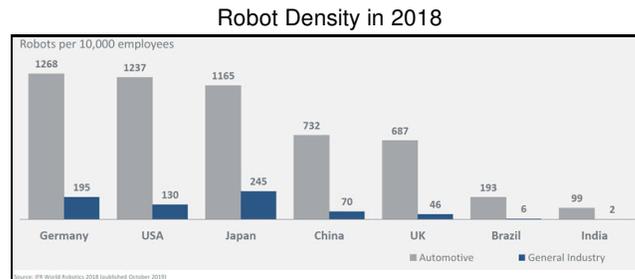
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Robotics, Semiconductor Wafer Plants to Drive Up Steel Demand

(Bloomberg Intelligence) -- Industrial robotics and wafer plant build outs could positively surprise steel demand in the next three years, as high-tech factories such as integrated-circuit foundries and assembly lines have to be built. Industrial robotics demand will grow at 12% CAGR through 2022 after 23% CAGR from 2013- 18, according to industry forecasts. (01/13/20)

1. AI, IoT Semiconductors, Robots to Boost Steel Demand

Adoption of industrial robotics adoption and semiconductor foundry build outs in the next three years should boost steel demand, we believe. Integrated-circuit foundries with high-tech assembly lines have to be built for 5G, AI and IoT developments. Meanwhile, various industries need to convert human labour to industrial robots for cost savings. Industrial robot demand may grow 22% CAGR through 2022, according to the International Federation of Robotics, after 23% growth from 2013-18. Robot density grew 16% in Asia in 2018, 9% in the Americas and 6% in Europe. (01/13/20)



2. Demand May Push for Added Wafer Capacity

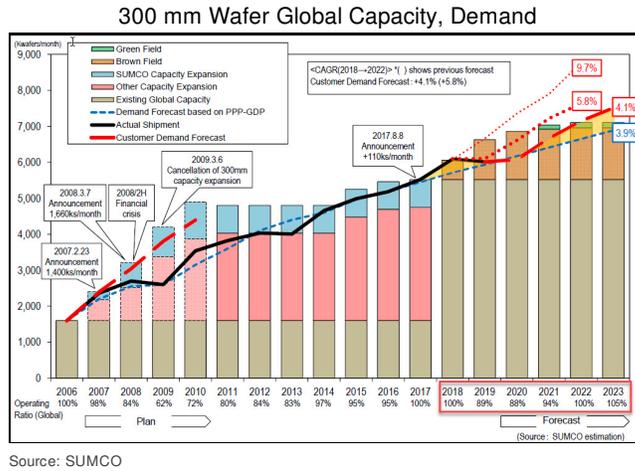
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Silicon-wafer demand growth, especially 300 mm wafers, is likely to continue for the next three years, helping manufacturers resume full capacity utilization by 2022. Increasing consumer demand for 5G communications and autonomous driving technology will require more chips installed on the devices. According to IC Insights, the average value of semiconductors in an electronics system may jumped to 31.8% in 2023 from 26.4% in 2019.

New technologies require more-complex and capable semiconductors to handle more automation tasks, pushing chipmakers to produce small node chips, such as 7 nanometres, on more cost-efficient larger diameter wafers.

(01/13/20)

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3. 5G Tower Build Out May Not Add Much Steel Demand

5G tower development may only add limited steel demand as it uses small-cell antennas that are light enough to install on light poles and rooftops, unlike 4G antennas which required large steel towers. 5G's high radio frequency can only travel shorter wavelengths than 4G and will require more antennas to maintain the same coverage. While 4G antennas were installed on steel towers weighing 10-15 tons, 5G small-cell antennas can be installed even on light wooden poles. China Tower added 75,000 towers in 1H19, requiring only 1.1 million tons of steel, insignificant compared to China's 1 billion tons annual output. (01/13/20)

Ericsson's 5G Small-Cell Antenna



Source: Ericsson

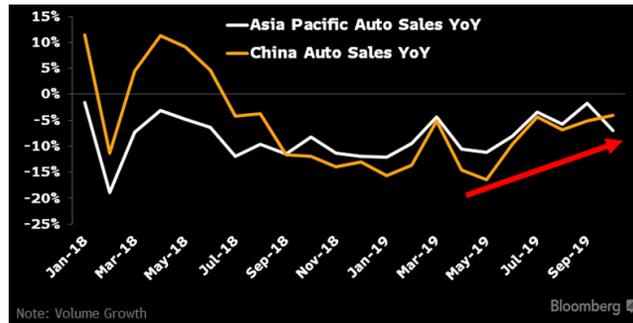
4. Asian Passenger Vehicle Sales Improve Sequentially

Asian automotive demand for steel has been recovering with 3Q Asia Pacific monthly vehicle sales down 3.6%, after a 10% drop in 2Q. The sequential improvement implies better steel demand. Prices of palladium, used in vehicle exhaust systems to reduce carbon emissions, surged over 30% sequentially in 2H19, suggesting automakers are firming up production volume. (01/13/20)

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Asia Pacific and China Auto Sales Volume YoY



Note: Volume Growth
Source: Bloomberg Intelligence

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