



49 ROBOTICS INDUSTRY RESEARCH REPORTS

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Frank Tobe, ROBO Global Strategic Advisor, Editor of The Robot Report

The number of research reports studying the robotics industry is growing exponentially. To date in 2016 there have been 109 on subjects ranging from overly broad to very drilled- down views of the industry. Prices range from \$800 to \$6,500.

Many of the reports duplicate the coverage of others and frequently differ in their forecasts about the future. Some of the reports are marginally useful; others are full of valuable information.

Bottom line, almost all of the reports are forecasting positive double-digit growth for most segments of the robotics industry. Consistent with previous reports, and with **The Robot Report's** monthly fundings, acquisitions and IPOs recaps, the drone segment has the most activity - 35 of the 109.

The official industry reports, which tabulate the results from all the robot associations around the globe, produced by the **International Federation of Robotics**, appear at the bottom.

INDUSTRIAL ROBOTICS

- **Frost & Sullivan**, in a May 2016, 95-page \$4,950 report,
 - analyzed the top 10 technologies in advanced manufacturing and automation. Their list includes: additive manufacturing, digital manufacturing, collaborative robotics, agile robots, exoskeletons, micro manufacturing, multi-material joining, composites manufacturing, UUVs, and Maglev.
- **Global industrial robotics market**, February 2016, MarketsandMarkets, \$4,650
 - The global industrial robotics market is expected to reach \$79.58 billion by 2022, growing at a CAGR of 11.92% between 2016 and 2022.
- **European industrial robotics market**, May 2016, 55 pages, TechNavio, \$2,500
 - The analysts forecast the European industrial robotics market to grow at a CAGR of 8.42% during the period 2016-2020.
- **Asia-Pacific robotics technology market**, March 2016, 135 pages, AlliedMarket Research, \$2,850
 - An analysis of the APAC countries use and planned use by market, component and application.

- **Global robot machine tools**, April 2016, 69 pages, TechNavio, \$2,500
 - Forecasts the global robot machine tools market to grow at a CAGR of 5.13% during the period 2016-2020.
- **Global rubber & plastic industrial robotics market**, May 2016, 53 pages, TechNavio, \$2,500
 - Predicts the global industrial robotics market in the rubber and plastic industry to grow at a CAGR of 18% through 2020.
- **Global assembly robots**, April 2016, 196 pages, GraceMarketData, \$2,980
 - Global assembly robots market is expected to see fast growth and rapid change during the period 2016-2022.
- **Global welding robots**, April 2016, 199 pages, Grace Market Data, \$3,600
 - Annual shipment and sales revenue in this sector are expected to see two-digit CAGRs over the period 2016-2022.
- **Industrial robotics market in APAC**, May 2016, 70 pages, TechNavio, \$2,500
 - Forecasts the industrial robotics market in APAC to grow at a CAGR of 8.7% during the period 2016-2020 in the top 5 segments: automotive, food & bev, industrial machinery, electronics and semiconductor, and other (includes oil and gas, pharmaceutical, plastic and rubber, and heavy industries).

PROFESSIONAL SERVICE & MILITARY ROBOTS

- **Security robots**, June 2016, 174 pages, Markets and Markets, \$5,650
 - The global security robots market was valued \$1.34 billion in 2015 and is forecast to reach \$2.36 billion by 2022, at a CAGR of 8.56% between 2016 and 2022
- **Global construction robots**, May 2016, TechNavio, \$2,500
 - The global market for construction robots will exhibit steady 5% CAGR growth during the forecast period to 2020.
- **Global military robots**, April 2016, 72 pages, TechNavio, \$2,500
 - Forecasts the global military robots market to grow at a CAGR of 9.36% during the period 2016-2020.
- **Global PR robots market**, May 2016, 56 pages, \$2,500, TechNavio
 - The report predicts the global public relation robots market to grow at a CAGR of more than 26% through 2020. One of the primary drivers for this market is the rising need to improve productivity and efficiency in the hospitality sector.
- **Global educational robots market**, May 2016, 57 pages, \$2,500, TechNavio

- Predicts the global educational robots market to grow at a CAGR of more than 21% through 2020.
- **Global service robotics**, December 2015, Markets and Markets, \$4,650
 - Expected to grow from \$6.97 billion in 2014 to \$18.02 billion by 2020 at a CAGR of 17.36% between 2015 and 2020.

MOBILE & COLLABORATIVE ROBOTS

- **Global entertainment robots**, July 2016, 54 pages, TechNavio, \$2,500
 - The global market for entertainment robots and guides will grow at a CAGR of over 20% from 2016 to 2020. Market is expected to witness an exponential growth, with annual shipment and sales revenue from hardware and software growing at more than 42% annually through 2022.
- **Global mobile robotics**, April 2016, 98 pages, TechNavio, \$2,500
 - Forecast the global mobile robotics market to grow at a CAGR of 12.21% during the period 2016-2020

EMERGING TECHNOLOGIES

- **A.I. market by technology**, February 2016, 150 pages, MarketsandMarkets, \$4,650
 - Artificial Intelligence market forecast to grow from \$419.7 million in 2014 to \$5.05 billion by 2020, at a CAGR of 53.65% from 2015 to 2020.
- **Global robotic software platforms market**, May 2016, 54 pages, TechNavio, \$2,500
 - Forecasts the global robotic software platforms market to grow at a CAGR of 4.17% during the period 2016-2020.
- **Smart machines market**, May 2016, 54 pages, TechNavio, \$2,500
 - Forecasts the smart machines market in the Americas to grow at a CAGR of 14.96% during the period 2016-2020.
- **5G and robotics**, July 2016, 65 pages, MindCommerce, \$995
 - The 5G-enabled autonomous robot market (which includes robotics, IoT, big data and analytics, and AI companies) is forecast to reach \$14.6 billion by 2030. North America will lead the 5G-enabled autonomous robot market with a 41% revenue share

REMOTE PRESENCE ROBOTICS

- **Teleoperation & telerobotics in industrial IoT**, April 2016, 67 pages,

MindCommerce, \$1,995

- Overall robotics market for industrial IoT will be worth \$45.73 billion by 2021..

MATERIAL HANDLING AND LOGISTICS

- **Global logistics robots industry**, June 2016, 153 pages, BigMarketResearch, \$2,000
 - Forecasts that the sector will register a 32% CAGR through 2020.
- **Global material handling robots**, April 2016, 217 pages, Grace MarketData, \$3,800
 - Unit shipments and sales revenue for the material handling robots sector are forecast to be two-digit CAGRs over the period of 2016-2022.
- **US warehouse robotics industry**, March 2016, 131 pages, QY Research, \$3,800
 - Includes profiles of Amazon, Hitachi, Swisslog, Hi-tech Robotic Systemz, GreyOrange and Fetch Robotics.
- **Automated material handling market**, June 2016, 108 pages, Knowledge Sourcing Intelligence, \$4,200
 - Automated material handling market - including robotic solutions - estimated to be worth \$18.55 bn in 2015 and will expand to \$33.6 bn by the end of 2021 at a CAGR of 10.4%.

SELF-DRIVING VEHICLES AND SYSTEMS

- **Global truck platooning systems**, June 2016, 71 pages, TechNavio, \$2,500
 - Truck platooning is perceived as the future of the transportation industry. Multiple trucks travel at an aerodynamically efficient distance and drive cooperatively by maintaining the distance. EU holds a clear lead for truck platooning by 2025.
- **ADAS Market**, February 2016, 200 pages, BIS Research, \$3,999
 - ADAS (advanced driver assistance systems include automated cruise control, parking assistance, collision avoidance, rear view, blind spot detection, speed control, driver drowsiness alert, etc.) shipments expected to reach 60.5 million units by 2022

AGRICULTURAL ROBOTS AND DRONES

- **Ag drones market**, June 2016, 166 pages, MarketsandMarkets, \$4,650
 - The agriculture drones market is forecast to reach \$4.2 billion by 2022.
- **Global precision ag market**, February 2016, 234 pages, BIS Research, \$3,999

- Industry to grow to over \$7.6 billion by 2022.
- **Global agricultural drones and robots market**, April 2016, Infinium Global Research, \$4,795
 - Global agricultural drones market is expected to surpass \$3.5 billion while agriculture robotics market is expected to exceed \$8.1 billion by 2021.
- **Agricultural drones**, Apr 2016, 288 pages, WinterGreen Research, \$4,100
 - The worldwide market for agricultural drones was \$494 million in 2015 and anticipated to reach \$3.69 billion by 2022.
- **A.I. in the ag industry**, April 2016, 31 pages, Frost & Sullivan, \$1,500
 - Describes A.I. use cases in 5 areas of ag: precision ag, ag drones, vertical farming, driverless tractors, and open data. Forecasts that all ag providers will become technology providers.

HEALTHCARE/SURGICAL ROBOTS

- **Global medical robotics**, March 2016, 122 pages, Intelliroi, \$4,025
 - Global medical robotics market is expected to reach \$11.4 billion by 2020 from \$4.3 billion in 2015 at a CAGR of 23.2%.
- **Robotic surgery market**, June 2016, 51 pages, Konzept Analytics, \$800
 - Image guided laparoscopic control, rehabilitation robotics and expanded use of robots in general surgery are on the rise but expansion is hindered by effect of soft tissue challenges, challenge of laparoscope control, and regulatory risk.

COMMERCIAL & MILITARY UAV/UAS MARKET

Trends for drones show an increasing adoption of hybrid-fueled drones; a growing adoption of nano drones; increasing mergers, acquisitions and consolidations; emerging drone insurance; declining selling prices; rising product bundling; and increasing regulations for commercial drones.

Commercial drones

- **Global commercial drone market**, May 2016, 250 pages, TechSci Research, \$3,700
 - The global market for commercial drones is projected to grow at a CAGR of over 27% during 2016-2021.
- **CivilUASmarket**, April 2016, Frost & Sullivan, \$1,500
 - The civil unmanned aerial systems (UAS) market is growing rapidly as public

agencies are exposed to the benefits of aerial photography, video, and other sensing capabilities.

- **UAV payload and avionics market**, May 2016, 131 pages, BIS Research, \$3,599
 - UAV payload and avionics market to grow at a CAGR of 8.3% from 2016 to 2022 and reach over \$3.9 billion by the end of 2022.
- **Drones for wind turbine inspection**, November 2015, 69 pages, Navigant, \$4,600
 - Revenue for wind turbine UAV sales is forecast to total \$6 billion by 2024; support and inspection services \$1.6 billion.
- **Smart autonomous flight technology market**, April 2016, 212 pages, Wintergreen Research, \$4,100
 - The worldwide market for smart drone technology (cameras, auto pilots, collision avoidance systems, communication systems, etc.) was \$137M in 2015 and is forecast to reach \$2.7 bn by 2022.
- **Public safety drone market**, May 2016, 20 pages, Arcluster, \$2,450
 - Market for search and rescue and public safety drones is forecast to grow at 127% through 2021.
- **Consumer drones**, June 2016, 66 pages, Tractica, \$3,800
 - Forecasts the segment to reach a market value of \$5.0 bn by the end of 2021 and that worldwide consumer drone unit shipments will increase from 6.4 million in 2015 to 67.7 million units annually by 2021.
- **Consumer camera drones market**, April 2016, 881 pages, WinterGreen Research, \$4,100
 - The worldwide market for camera drones is \$2 billion anticipated to reach \$21.5 billion by 2022.
- **First responder UAVs**, January 2016, 344 pages, Market Info Group, \$4,950
 - Report combines a market and technology forecast with an operating concept and buying guide for the first responder industry.
- **Sensors for drones and robots market**, March 2016, Yole Development, \$6,250
 - The sensors for drones and robots market is expected to grow at a CAGR of 12.4% from 2015 to 2021, reaching a total revenue of \$709M by 2021.
- **Small drones market**, April 2016, 156 pages, Industry ARC, \$5,250
 - Small drones include medium, micro, mini and nano-sized drones but all vendors seem to be multi-rotor.
- **UAV propulsion market**, May 2016, 121 pages, BIS Research, \$3,599
 - The UAV propulsion market is forecast to capture a market value of \$2.7 billion in 2015 with gas turbine engine segment the highest share followed by piston, wankel, solar power, electrically powered and hybrid systems.

- **Drone transponders**, June 2016, 268 pages, Wintergreen Research, \$4,100
 - The worldwide market for drone transponders is forecast to start from zero and reach \$2.5 billion by 2022.
- **LiDAR drone market**, May 2016, 125 pages, MarketsandMarkets, \$4,650
 - The LiDAR drone market was valued at \$16.1 million in 2015 and is expected to reach \$144.6 million by 2022 at a CAGR of 35.2% between 2016 and 2022.

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