

EuroSciCon Conference on Robotics & Automation - Global Automation Market Analysis

Assem Abdel Hamied Moussa

Chief Engineer, Egypt air, Egypt, E-mail: assemabelhamedmoussa@gmail.com

Mechanical [Automation](#) can be characterized as the utilization of PC helped control gadgets to work distinctive modern procedures by supplanting human contribution. Mechanical computerization works different procedures in controlled way. It helps for large scale manufacturing by diminishing time and expanding creation quality.

Modern [Automation](#) comprises of various levels, for example, sensor level, mechanization control level computerization, supervision level and venture level. The sensor level can likewise be called as the procedure level that utilizations sensors and actuators for getting estimations of the procedure factors on intermittent or ceaseless premise. Control gadgets as PLC PC's/DCS and others are utilized by the robotization control level. PLC is significantly a machine control while DCS drives the procedure control. The mechanization control level works utilizing diverse inserted processors, PID calculations to control all procedures. Mechanical computerization incorporates different advancements as Supervisory control and information obtaining (SCADA), Human Machine Interface (HMI). Supervisory control and information securing is a controlled framework engineering which utilizes PCs, graphical UIs and system information interchanges for abnormal state forms. Human Machine Interface incorporates the gadgets required to flag and control the condition of modern mechanization gear. The real advantages of mechanical mechanization can be considered as supplanting human inclusion from dangerous regions of work, more noteworthy nature of generation.

The business players are underscored on expanding the proficiency of assembling process which is the real driver in mechanical robotization showcase. Aside from it, advancements in PC helped frameworks, web of things (IoT), building advances are the variables driving mechanical computerization. Utilization of robots in modern controller instruments has been a market incline. The diminishing human work has prompted a danger in mechanical computerization. Absence of mindfulness and shortage of speculation for some, organizations could be the significant limitations for mechanical robotization and economy change.

Worldwide Industrial [Automation](#) Market is required to develop at USD 149 Billion by 2022, at 6% of CAGR in the vicinity of 2016 and 2022. Worldwide Home Automation Market was esteemed at \$39,607 million of every 2016, and is anticipated to reach at \$81,645 million by 2023, developing at a CAGR of 11.2% from 2017 to 2023.



Study Objectives of Industrial [Automation](#) Market:

1. To give itemized examination of the market structure alongside figure of the different portions and sub-sections of the Industrial [Automation](#) showcase.
2. To give bits of knowledge about variables influencing the market development. To dissect the Industrial [Automation](#) showcase based watchman's five power examination and so forth.
3. To give verifiable and gauge income of the market fragments and sub-portions regarding four primary geologies and their nations North America, Europe, Asia, and Rest of the World (ROW).
4. To give nation level investigation of the market regarding the present market size and future planned.
5. To give nation level examination of the market for portion based on sort, innovation and end client.
6. To give key profiling of key players in the market, extensively investigating their center capabilities, and drawing an aggressive scene for the market.

7. To track and break down aggressive advancements, for example, joint endeavours, vital organizations together, mergers and acquisitions, new item improvements, and research and advancements in the [Industrial Automation](#).

Over the Pacific, Singapore is a standout amongst the most exceedingly created mechanical economies on the planet and is a noteworthy shopper of U.S. computerization gear. As a facilitated commerce accomplice, advertise get to is completely open, and deals are normal through what's to come. In Brazil, various headwinds that incorporate duties and a moderating economy will challenge trade development for the time being. At long last Germany, the biggest European market and best positioned by United Nations modern records, is viewed as a standout amongst the most managed yet remunerating goals to work together. Entering the German market is regularly observed as key to entering Europe overall. With mechanization and availability at the centre of the Industries 4.0 activity to enhance fabricating efficiency, Germany is a vital market for U.S. exporters. While these five nations are particularly featured, the U.S. Remote Commercial Service keeps up nearness in the greater part of the best markets positioned in this report. The best 35 markets positioned in this report are geologically and monetarily different. They represent more than 90% of all U.S. sends out in the business, with a base edge of \$40 million in yearly fares to each market in 2015. While the conventional markets of Western Europe figure noticeably, development in Asia and Latin America has been broader and has been firmly flourishing. For U.S. exporters, the best fare openings are not just in the biggest markets. Numerous different contemplations might be considered, including geographic and social vicinity, simplicity of working together, duties and market get to, specialized boundaries to exchange, and then some. By positioning markets in view of total exchange streams, this report represents these contemplations while offering additionally nitty gritty data in the five nation contextual analyses.

Policymakers ought to welcome the distinctive intensity issues and market qualities that effect exporters in every segment. For more nations particular data on nearby business rehearses and the monetary and political conditions, the U.S. Business Service additionally gives inside and out Country Commercial Guides that can be gotten to on the web.

Industry Overview and Competitiveness:

Comprehensively, computerization is the demonstration of lessening difficult work contributions to items or procedures. There are numerous purposes behind computerizing forms. One is the need to diminish the measure of direct work and reduction costs. A few undertakings are genuinely "thoughtless" and might be unwanted to try and low-talented laborers. By utilizing mechanization to decrease the quantity of dreary undertakings, organizations can better apportion assets to higher offers, for example, research or business advancement. Different purposes behind robotization incorporate the requirements to enhance item quality, to reliably meet demanding particulars, or to enhance speed of yield. In numerous mechanical settings, certain assignments are likewise inalienably hazardous or unsanitary for human laborers. Computerization of these errands can enhance word related wellbeing and security results while diminishing the quantity of specialist remuneration cases and expenses for claims.

Today, as indicated by an investigation by the McKinsey Global Institute, as much as 45% of exercises people are paid to perform can be computerized. A significant number of the advancements that have supported the push toward computerization have existed for a considerable length of time. As the advances have advanced, in any case, the level of computerization over any number of modern settings has achieved unparalleled levels. Out in the open travel, supervisory control and information securing (SCADA) frameworks are empowered by mechanical mechanization items to guarantee prepares and movement networks stay liquid and decongested. One peer within a noteworthy postal conveyance or coordinations focus uncovers a relatively amazing cluster of many-sided quality that is made reasonable via computerization. Inside the sustenance and refreshment industry, process controls are the way to guaranteeing that diverse clumps of the same soda reliably look, smell and taste the same

The United States is a best level worldwide provider of modern robotization gear and is home to a hearty household industry. On one side of the range, several little to medium-sized ventures (SMEs) regularly offer items to contend in exceptionally particular hardware and segment markets. A large number of these unadulterated play organizations are family possessed and tend to center around specific items for particular enterprises or applications. These make up the lion's share of robotization hardware organizations.

The best extent of gear deals, in any case, is produced via mechanization divisions of Fortune 500 modern aggregates. U.S. headquartered organizations

incorporate GE (NYSE: GE), Johnson Controls (NYSE: JCI), Emerson Electric (NYSE: EMR), Rockwell Automation (NYSE: ROK), and others, for example, Danaher Corporation (NYSE: DHR) and Honeywell International (NYSE: HON). These organizations are regularly organized to give items and administrations that are custom fitted to the remarkable settings of end-utilize enterprises. With representative include extending the several thousands; these organizations frequently appreciate strong nearness in significant markets all through the globe.

The United States is likewise home to an extensive number of computerization frameworks integrators. These organizations are specialist organizations, with designing and creation ability that introduce or incorporate robotization items into existing apparatus, production line lines, stockrooms and that are only the tip of the iceberg. They normally are ensured by unique hardware producers (OEMs) to work specifically with end-clients, and they have practical experience in specific businesses or applications. Integrators have a tendency to be SMEs that give inside and out ability of neighbourhood business needs and conditions, a plan of action that has a tendency to be locally arranged and less fare driven.

Global Competitive Landscape:

Depending on worldwide exchange information gathered by the United Nations Statistics Division, ITA ventures that opposition will keep on coming from providers in Asia, Western Europe and Mexico. As indicated by U.N. information, in 2014, the United States was the third biggest exporter of robotization hardware on the planet, behind China and Germany. Since 2007, China has been the biggest exporter of gear. It has additionally been the quickest developing as far as worldwide fare piece of the overall industry, expanding from 11.4% of every 2004 to 20.2% of every 2014. The United States, then again, has seen the biggest decrease over a similar period, tumbling from 15.1% to 9.8%. Japan was the fourth biggest exporter in 2014; however it likewise observed a decrease in piece of the overall industry

1. Asia:

In Asia, the major contending markets are China, Japan and South Korea. China has been the biggest maker of computerization hardware for about 10 years. A lot of this has been because of seaward gathering for major multinational firms by contract producing organizations. For instance, Taiwan-headquartered Foxconn customarily gathers ICT items for send out into western markets. Development, be that as it may, is likewise being pushed by an expansion in local utilization

and a drive to enhance fabricating profitability in-nation. A few sources assess that yield inside China from Chinese-possessed firms will outperform that of outside claimed firms by 2020. In Japan, accentuation on item quality and lean assembling has made the nation a main engineer and provider of mechanization hardware. Japan is outstanding for reforming PC numerical control (CNC) innovation, turning into a worldwide powerhouse in assembling controls for the machine apparatus industry. Japan is additionally outstanding for modern mechanical autonomy. While China has as of late overshadowed Japan as the main worldwide maker, as indicated by the IFR, Japan is evaluated to have the biggest operational supply of modern robots on the planet. A portion of the nation's major mechanical combinations, for example, OMRON, Fanuc, Yaskawa and Mitsubishi, are differentiated crosswise over apply autonomy and other computerization items. Korea has developed as one of the unmistakable "Asian Tigers" and is one of the best 10 makers of robotization gear. The IFR takes note of that Korea had the most astounding robot thickness on the planet, a point examiners ascribe to a great extent to government activities and activities.

2. Europe:

Western European organizations keep on competing firmly with U.S. organizations in worldwide markets. In 2014, the biggest European exporters were Germany, Italy, France and the United Kingdom. In Europe, Germany is viewed as the main voice in keen assembling and efficiency. Germany is Europe's biggest exporter of robotization hardware by a long shot and outperforms the United States as the second biggest on the planet. Germany is home to the Industries 4.0 activity, which plans to "use the colossal capability of digitization... to reinforce Germany's assembling base." The world's biggest mechanization expo, the Hannover Messe, draws about 225,000 members every year. Germany is home to a great many SMEs and various driving multinational companies, including Siemens AG and Bosch Rexroth.

Crosswise over Europe, nations, for example, Italy, France and Switzerland, are home to various noticeable robotization organizations. Organizations like Schneider Electric of France and ABB of Switzerland are driving suppliers of mechanical control frameworks. At the season of composing this Top Markets Report, ABB is additionally one of the biggest mechanical apply autonomy organizations to produce in the United States. Italy's Comau Group, a backup of car goliath Fiat-Chrysler, has likewise delivered propelled robotization frameworks for quite a long time.

3. Mexico:

Mexico, similar to China, has customarily been a vast market for gathering and assembling by major multinational firms. A lot of this pattern has been driven by the North American Free Trade Agreement (NAFTA), Mexico's most seasoned and most weighty organized commerce understanding. Because of lower work expenses and close geographic vicinity, numerous U.S. multinational firms have gained fabricating tasks in Mexico with the end goal of possible resale in the U.S. showcase. Mexico, be that as it may, has additionally gone into more than 40 facilitated commerce concurrences with Japan, the European Union and others, giving further motivator to bigger multinational organizations to extend development into the Americas.

Key Players:

The prominent players in the Industrial Automation Market are –

Siemens AG (Germany), ABB Ltd. (Switzerland), Emerson Electric Company (U.S.), General Electric Company (U.S.), Schneider Electric SE (France), Honeywell International, Inc. (U.S.), Mitsubishi Electric Corporation (Japan), Yokogawa Electric (Japan), Ametek, Inc. (U.S.), Rockwell Automation, Inc. (U.S.) and Fanuc (Japan)



Industrial Automation by Type:

1. Fixed Automation
2. Programmable Automation

Industrial Automation by Technology:

1. Supervisory control and data acquisition(SCADA)
2. Programmable Automation Controller(PAC)
3. Programmable Logic Controller (PLC)
4. Distributed Control System (DCS)
5. Human Machine Interface (HMI)

Industrial Automation by end user industries:

1. Machine manufacturing
2. Oil & gas
3. Aerospace & defence
4. Electrical & electronics
5. Automotive & transportation
6. Chemical
7. Pharmaceuticals
8. Mining & metals
9. Food & beverages
10. Electric power generation

Regional Analysis:

The local investigation of Industrial robotization advertise is being contemplated for district, for example, Asia Pacific, North America, Europe and Rest of the World. The on-going worldwide pattern towards more prominent modern computerization is being reflected in an expansion in the quantity of mechanical robots into the US.

Presently, there has been news in Japan that industrial facility mechanization has cleared a path for foundation of robot preparing focuses. There has been an upward pattern in modern mechanization in the Asia pacific countries including Vietnam. It is demonstrated that utilizing mechanical robots helps sparing time and expanding item quality and creation limit prompting enhance the intensity. These components are relied upon to drive the mechanical computerization advertises in Asia-Pacific Region..!!!

Graphical analysis of different automation sectors:

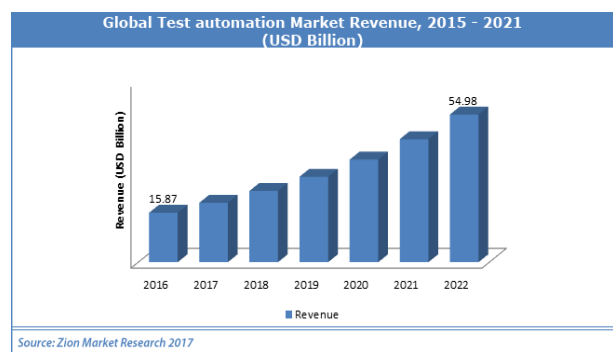
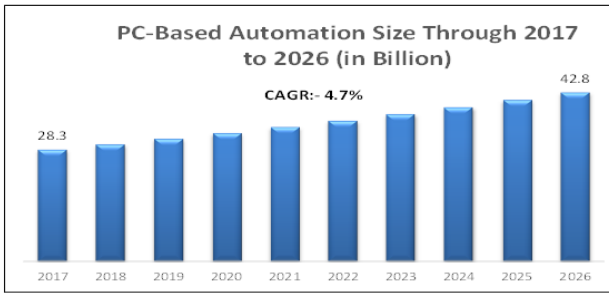
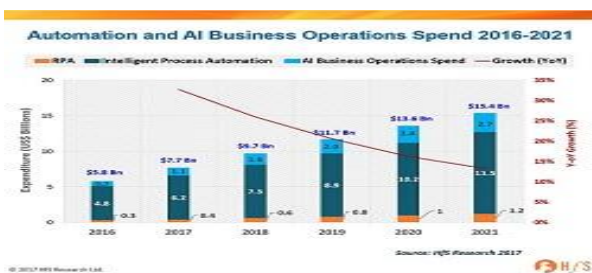


Figure 2: Global Test Automation Market Revenue(2016-2022)



Source: Maximize Market Research

Figure 3: PC based Automation Market size (2017-2026)



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Source: HFS Research 2017



Figure 4: Automation and AI Business Operations Spend(2016-2021)

Opportunities :

The worldwide market for mechanization is developing. Going into 2016, the interest for coordinated and adaptable items is at an untouched high so as to meet the developing desires of buyers. This isn't just the case in exceptionally industrialized economies yet additionally in creating countries the same numbers of organizations basically sidestep old advances and jump frog straight into the patterns of today. As conventional IT standards keep on merging with assembling, organizations that can outfit ideas of "advanced manufacturing plant" will be at a particular upper hand in their individual ventures.