# FACTURING

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Smart Manufacturing brings together closed-looped digitalized processes, people, connected assets, leveraging a virtual platform across design, manufacturing and services leading to mass customization, speed, quality, productivity and security.

# **Perspectives**



**Pradeep Nair Managing Director** Autodesk India & SAARC

### Three technology trends driving the future of making things

The manufacturing industry is undergoing profound change. As a result of new design and production technologies, increasing competition and cost pressures, as well as the globalization of markets, companies are increasingly demanding greater flexibility, faster adjustment and maximum efficiency. Only those who understand these changes can secure competitive advantages and expand the profitability of their company. ... Read more

## CII Initiatives

National consultation on creating an action plan for Samarth Udyog



CII, in partnership with DHI organized a roundtable on creating a national action plan for Samarth Udyog (Smart Manufacturing) on 17th April, 2018 at Silver Oak, India Habitat Centre, New Delhi. The objective of the consultation was to identify specific initiatives and policy measures required to foster adoption of Industry 4.0 in India. The consultation was structured to address key horizontal issues such as - Cost, Technology, Human Resources and Policy as well as focus on sectors with a high potential for adoption such as Automotive, Engineering and Electronics. A variety of stakeholders from Government, industry, academia, multi-lateral agencies and international institutions participated in the deliberations ...Read More

# **CII Mission on Smart Manufacturing**



The Manufacturing sector globally is witnessing paradigm shifts. Several companies are implementing Industry 4.0 / Smart Manufacturing and reaping benefits such as increased competitiveness, productivity, sustainability and reliability. To help industry understand the contours of this transformation and showcase smart manufacturing in action, CII organized a mission on smart manufacturing to Germany from 23 -26 April 2018. The delegation got a chance to participate in the world's largest industrial automation fair -Hannover Messe 2018... Read More

## **Smart In-Action**

• Any business can benefit from Industry 4.0, it's all about thinking smarter

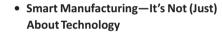
"All processes can benefit from preparation for Industry 4.0 or 'future proofing'," says Lesley Eaton, business development and marketing manager at SEEPEX UK. "There's a general misconception that enhanced connectivity, Smart Manufacturing and Industry 4.0 are for big operations with ultra-sophisticated data capture strategies. Yet, like most decisions in business, it's about thinking smarter, selecting the right pumping equipment for the job and factoring in current and future demands."...Read more

· How smart manufacturers bring Industry 4.0 principles to quality

The implication of poor quality changes depending on the industry. For example, volume matters in the electronics industry. OEMs produce dozens of products per minute which means that a defect in a cell phone casing or circuit board assembly can be replicated hundreds of times before they identify and resolve the issue. That is a lot of potential scrap or rework. Smart electronics OEMs look for solutions... Read More







Business leaders rarely care about the technology in which they invest. They measure success on the bottom line. They want invested capital to increase profits. And they want those financial gains to happen in a timeframe that supports the business's financial goals....Read more

 India must tap its engineers to achieve 'smart' manufacturing: **Global CEOs** 

India produces the best engineers in the world. When it comes to manufacturing, the country should tap into its talent pool to help it move towards 'smart' manufacturing. Not just 3D printing, adopting automation and robotics... Read more

• How to move your existing assets towards Smart Manufacturing

Smart Manufacturing is the ability to make Smart decisions by using the data that is collected from the assets on the plant floor. To collect the data, we need the "things" on the plant floor to be able to talk to a computer that is collecting the data. The "Smart" decisions are driven by the analysis of the data. Collectively, the different types of analysis is called Analytics. Most manufacturing assets do not have the ability to connect directly to a fast network (Like an Ethernet Network)...Read More

### • Industry 4.0, industrial robots & 3D printing are on the cusp of changing how manufacturing is done

"When we envision intelligent factories of the future, we often put technology in a starring role, but technology alone will not ensure a successful transition to an intelligent factory." The success of that transition is in the hands of factory personnel... Read more

 How to Stay Competitive in a **Connected Revolution** 

Whether it's called Manufacturing 4.0 or the Industrial Internet of Things, the core theme is data to drive quality assurance. Quality is king, especially in discrete manufacturing industries that make big-ticket or premium items like automotive, off-highway, and medical. With industries such as these, Manufacturing 4.0 has substantially raised expectations in the marketplace. There is a growing emphasis... Read more

· Need of the hour is shift from cyber security to cyber resilience

The fact is, we are facing a crisis and trust is being eroded; but, we are doing little to avert it. While technology has advanced for the better, our thinking has not. Now more than ever, the need for a revolution within the cyber security industry is vital to rebuild trust...Read more

# **Featured publication**



CII brings forth a compendium capturing case-studies of eight companies that have deployed smart manufacturing in India. The compendium captures the individual journeys of these companies towards adoption of smart manufacturing and provides insights on aspects such as challenges faced, benefits accrued...Read more

## **Useful Links**



Map of Industrie 4.0 Use Cases - Plattform Industrie 4.0, Germany



How industry leaders build integrated operations ecosystems to deliver end-to-end customer solutions



8 insights to shape business strategy



The Smart Factory



**Exponential technologies in Manufacturing** 



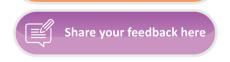
Why Manufacturing Digitalization Matters & how countries are supporting it



Best of Hannover Messe - 2018







# **Smart Manufacturing: Fundamentals**







**Audi Smart Factory - Future of Audi Production** 

# **Start-up in focus: Entrib**

Entrib is taking Digital Manufacturing to the next level, where your Shop Floor now fits in the palm of your hands. No matter where you go or where you are and how big your plant is, you are just a click or touch away. This complete and superior control enables you to excel in your business without having to worry about uncertainties on the Shop Floor. The world of Digital Manufacturing where modern technology is making the Shop Floor smarter. Specialized Sensors, Real-time Data Communication with Remote Systems and Intelligent Software Applications are being deployed in manufacturing plants acting as your virtual assistants. These virtual assistants ensure lower rejection rates and higher quality. The machines now themselves warn you of... Read More

In Focus: Siemens India Ltd.



Siemens India launched its first digital factory in the country by re-inventing a 40 year old switchgear factory in its Kalwa Factory ComplexNavi Mumbai. The factory that once used to manufacture industrial control products for the local market has been transformed into a highly efficient digital factory, on the back of Siemens technology platforms, catering to local and global demand for low-voltage switchgears. Re-inventing the switchgear factory at Kalwa is integral to Siemens strategy for manufacturing excellence in the country. Preceded only by facilities in Germany and China, this is the third of Siemens globally benchmarked factories across the world that boasts end-to-end digitalization across the value chain. Sunil Mathur, Managing Director and Chief Executive Officer, Siemens Limited, explains, "The need for localizing global products and adapting them to the local conditions...Read More

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