

**Webinar Title: SMART FACTORY–KEY COMPONENTS, PRINCIPLES & TECHNOLOGY USED IN ITS CREATION FOR SMART MANUFACTURING**

**Registration Fee (including GST):- Rs 899/- (Rupees Eight Hundred Ninety Nine Only) per participant inclusive of GST**

**Expert Speaker (Name/ Designation):- Mr. Naresh Chawla, Business Excellence Coach and Six Sigma Master Black Belt**

**Webinar Date: 29.08.2021 Duration: 11.00 hours to 12.30 hours ( one hour thirty minutes)**

**About Webinar (Brief One para):-**

A Smart Factory is a highly digitized shop floor that continuously collects and shares data through connected machines, devices, and production systems. The data can then be used by self-optimizing devices or across the organization to proactively address issues, improve manufacturing processes and respond to new demands.

By connecting the physical and digital world, smart factories can monitor the entire production process, from manufacturing tools and the supply chain to individual operators on the shop floor. When fully realized, Smart factories use fully-integrated, collaborative manufacturing systems to make operations flexible, adaptable, and optimizable.

The manufacturing practice adopted by smart factories is smart manufacturing which is the most optimized application of technologies arising from the fourth industrial revolution known as Industry 4.0. . Smart factory is not about deploying one software across the entire shop floor and seeing immediate improvements in the production process.

A combination of various Industry 4.0 technologies contribute to creation of a Smart Factory and the optimization of smart manufacturing techniques being used in a smart factory. Here are the most important enabling technologies being implemented in a Smart Factory:

- Industrial IoT (IIoT)
- Sensors
- Cloud Computing
- Big Data Analytics
- Advanced Robots & Cobots
- Additive Manufacturing
- Augmented and Virtual Reality
- Artificial Intelligence
- digital twin etc.

The smart factory involves an advancement from traditional automation to a fully connected cyber physical system. Smart Factory has ability to self-optimize performance over a network of

internet of things, self-adapt to and learn from new conditions in real time, and autonomously run entire production processes. Integration of Operational technologies with the information technology is the key for a visible and transparent value chain. Connectivity, optimization, transparency, reactivity and agility are the key features of smart factory that help in answering four layers of questions; What is happening, Why it is happening, what will happen and how to respond in an autonomous way.

Smart factories optimize efficiency and productivity by extending the capabilities of both manufacturing devices and people. By focusing on creating an agile, iterative production process through data collection, smart factories can aid decision-making processes with stronger evidence.

By continuously improving the productivity of manufacturing processes, smart factories can lower costs, reduce downtime and minimize waste. Identifying and reducing misplaced or underused production capacities mean opportunities for growth without investing in additional monetary and/or physical resources.

The webinar will focus on explaining concepts, essential components, elements, principles and features of a Smart Factory and discussing various technologies being used by a smart factory for digital transformation of shop floor and implementing Smart Manufacturing practices aligning with Industry 4.0.

#### **Webinar Coverage:-**

- **Introduction and essential components of a Smart Factory**
- **Features of Smart Factory and key design principles of a Smart Factory**
- **Key Technologies of Smart Factory**
  - **Industrial IoT (IIoT)**
  - **Sensors**
  - **Cloud Computing**
  - **Big Data Analytics**
  - **Advanced Robots & Cobots**
  - **Additive Manufacturing**
  - **Augmented and Virtual Reality**
  - **Artificial Intelligence**
  - **Additive Manufacturing**
  - **Digital twin etc.**
- **Digital Road Map enabling smart factory**
- **Smart manufacturing and Smart automation in a smart factory**
- **Digital transformation of processes at shop floor**
- **Application of Industrial robots and cobots**

- **Four levels of data structure being used in a smart factory**
- **How to create a smart factory**
- **Smart factory benefits and challenges**
- **Case study and examples**

**Speaker Profile (Brief One Para & Photograph):-** Mr. Naresh Chawla is a business excellence professional and a Lean Six Sigma coach with more than 28 years of experience driving innovation, continuous improvement and performance management in the business organizations to optimize quality, efficiency, cost and customer value. He is a Certified Six Sigma Master Black Belt and has trained more than 400 people in green belts and black belts. He is also a Certified Productivity Practitioner from APO, Japan. He has served with Vardhman Group as Industrial Engineer, as Dy. Director with National Productivity Council, as Corporate Head Quality & Engineering with KDDL Ltd, as General Manager with PTU Nalanda School of TQM & Entrepreneurship and as Visiting Professor with Centre for Total Quality Management with Punjab Engineering College (a deemed University) in the past.



**Register to learn (Key Learnings' in bullet points):**

- **Essential components of a Smart Factory**
- **Key Technologies of Smart Factory**

- Industrial IoT (IIoT)
  - Sensors
  - Cloud Computing
  - Big Data Analytics
  - Advanced Robots & Cobots
  - Additive Manufacturing
  - Augmented and Virtual Reality
  - Artificial Intelligence
  - Additive Manufacturing
  - Digital twin etc.
- Digital Road Map enabling smart factory
  - Digital transformation of processes at shop floor
  - Application of Industrial robots and cobots
  - Smart manufacturing and Smart automation in a smart factory
  - Smart factory benefits and challenges
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**Please Register in advance for this webinar**

**Thanks and regards**

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