

Indian Institute of Metals – Delhi Chapter

Technical Talk on “Industry 4.0”

A talk on “**Industry 4.0 – The Vision for Advanced Manufacturing**” was organised at Delhi Chapter on 29 July 2017.

At the outset Shri P K Bajaj, Vice Chairman IIM Delhi Chapter welcomed the Speaker - Dr Ratnakar Gedam, *Former Advisor Planning Commission* and others present in the gathering. He gave brief details about the activities of Indian Institute of Metals at national level as well as at Delhi Chapter level.

He introduced the speaker, Dr Gedam. After introductory reference, the floor was handed over to Dr Gedam for presentation.

Dr Ratnakar Gedam, during his detailed presentation traced the different phases of Industrial progress commencing in 1782 with advent of Steam Engines. The different stages of Industrialisation may be broadly classified as follows:

- ❖ First Industrial Revolution in 1782 based on introduction of mechanical production driven by water and Steam Power in Great Britain
 - ✓ Driven by Quality of Life and Engineering Sciences
 - ✓ Resulting in Power Generation and Mechanical Automation
- ❖ Second Industrial Revolution in 1870's with Conveyor Belt production concepts in USA
 - ✓ Driven by Mobility
 - ✓ Resulting in Rapid Industrialisation by mass production
- ❖ Third Industrial Revolution in 1970's with Large Scale usage of Computers/NC/PLC etc. Microelectronics in Europe/USA
 - ✓ Driven by Microelectronics
 - ✓ Resulting in Intelligent Infrastructure and Rapid Industrialisation
- ❖ Fourth Industrial Revolution (4.0) in 2015 with Cyber Physical Systems concepts in EU
 - ✓ Driven by Integrated Systems Approach
 - ✓ Resulting in Smart Automation

Dr. Ratnakar traced gradual evolution of Industry 4.0 concept in EU countries with German BMBF (The Federal Ministry of Education & Research at Bonn) initiating in 2010 the Science Union to identify future High Tech Trends with high impact on society; Submission of BMBF-Report in 2013 on “Securing the future of German

manufacturing Industry”; Recommendations for implementing the strategic initiative **Industry 4.0** and gradual laying the Foundation of the Platform **Industry 4.0** by Industry Associations.

Dr. Ratnakar described a Smart Factory which is designed for Sustainable and service oriented business. Such a Smart Factory is characterised by cyber-physical systems, providing sufficient real-time quality, time, resource & cost advantage in comparison with classic production systems. Intelligent operations are through self-optimisation, self-configuration, self-diagnosis, cognition and intelligent support of workers. The ultimate aim of **Industry 4.0** would be to establish a system with adaptability, resource efficiency and ergonomics as well as integration of customers and supply chain partners in business & value process. Technological basis are cyber-physical systems and Internet of Things

Dr.Ratnakar strongly advocated initiation of activities under Industry 4.0 in Indian Industries in order to remain globally competitive.

The presentation which was supported by suitable visuals evoked a lively response amongst the audience. There were a number of queries during the Presentation

The talk was attended by IIM DC members.

The audience found the programme very interesting and informative.

Shri S C Suri, Immediate Past Chairman, proposed a vote of thanks to Dr Ratnakar Gedam.

As a token of appreciation, a memento was presented to Dr Gedam by Chairman.

The programme concluded with lunch.



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