The Future of Manufacturing

“THE DIGITAL TRANSFORMATION AND THE ALUMINUM F150”

John Fleming Sept. 2018

INDUSTRIAL REVOLUTIONS

Digital Transformation

4th industrial revolution
Based on cyber-physical systems

3rd industrial revolution
Use of electronics and IT to automate production

2nd industrial revolution
Adoption of work sharing by using electrical power

1st industrial revolution
Adoption of mechanical production facilities by using water and steam power

End of 18th C  Beginning of 20th C  Early 1970s  Today
“The Leaders dilemma”

One foot in today and the other in tomorrow.
IIOT “The Industrial Internet of Things”

- Data Deluge: Real time information relay and data security
- Artificial Intelligence: Cognitive systems for full autonomy
- Sensor Fusion: Machine to Machine Communication
- Cloud Computing: Converged Infrastructure & shared services
- Advanced Manufacturing Systems: Flexible and on demand personalised & customised manufacturing

IIOT “The Industrial Internet of Things”

- Big Data
- Information
- Analysis
- Government
- Technology
- Management
- Software
- Volume
- Large
- Storage
- Sets
- Future
- Exabytes
- Petabytes
- Science
- Every
- World
- Results
- Search
BEET Analytic Technologies

3 D Printing
COLLABORATIVE AUTOMATION
Augmented Reality

Exoskeleton
NEW MAINTENANCE PARADIGM

- From Crisis to--
- Planned to--
- Monitored &Preventive to--
- Predictive to –
- AI and True Mach.Learning
THE FUTURE “SKILLED” WORKERS

- Technical skills.
- IT literate.
- Mechatronics, Controls Eng.
- M.E. Quality, Production Planning.
- Logistics/Supply Chain Mngmt.
- Data Scientists and Analysts.