LEADERSHIP IN SMART MANUFACTURING

JOSE DOMINGO

DEFINITION

SMART MANUFACTURING:

- To stay a competitive manufacturing leader it is needed to strategize and advance with technology. The latest manufacturing revolution has been called Industry 4.0 or Smart Manufacturing, which is the digital transformation of manufacturing. By digitalizing the production processes, a company can make real-time data-driven decisions, enhance productivity, and become more flexible and agile against future obstacles

- Why do we need Digital transformation in manufacturing?. Today this transformation is a strategy advantage but, in some years, will be a must because everybody would have been done this transformation.

- Advantages:
  - Reduction of the total product cost,
  - improve of the Cash flow,
  - customization of the products,
  - improve of the product and service quality,
  - increase of the company brand in the labor market and
  - develop and retain talent.

  So, in general, optimization of the company resources, increase resilience and improve of Customer loyalty.

ORGANIZATION FOR SUCCESS

SYSTEMATIC APPROACH:

- **Alpha plant or line: Develop Concept – Proof of value and Minimum Viable Product**
- **Beta plant or line: Confirm Business Case - Adjustments**
- **Roll out to the rest of the plants or lines – Part of the Operational management tool-box**

KEY SUCCESS FACTOR:

Manufacturing 4.0 projects

have to be lead and drive by

the Leaders of Operations (at regional and plant level).

IMPLEMENTATION

Smart Manufacturing Project - Phases

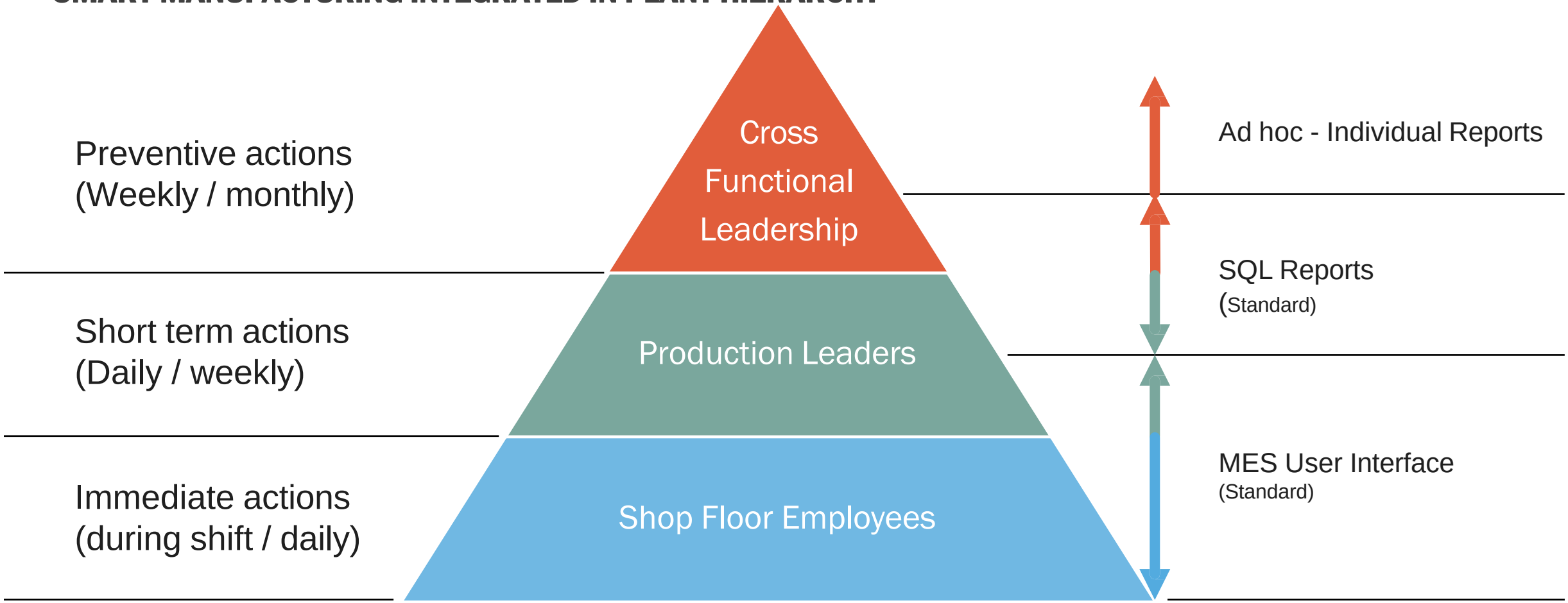
Step I: Machines	Network Connection Configure PLC Signals
Step II: Software	Software Configuration User Acceptance Test
Step III: People	User Training Change Management
Step IV: Adoption	Embed application into the MS of the specific plant and region

KEY SUCCESS FACTOR:

The new project has to be considered as part of the Plant Operational management tool-box.

IMPLEMENTATION

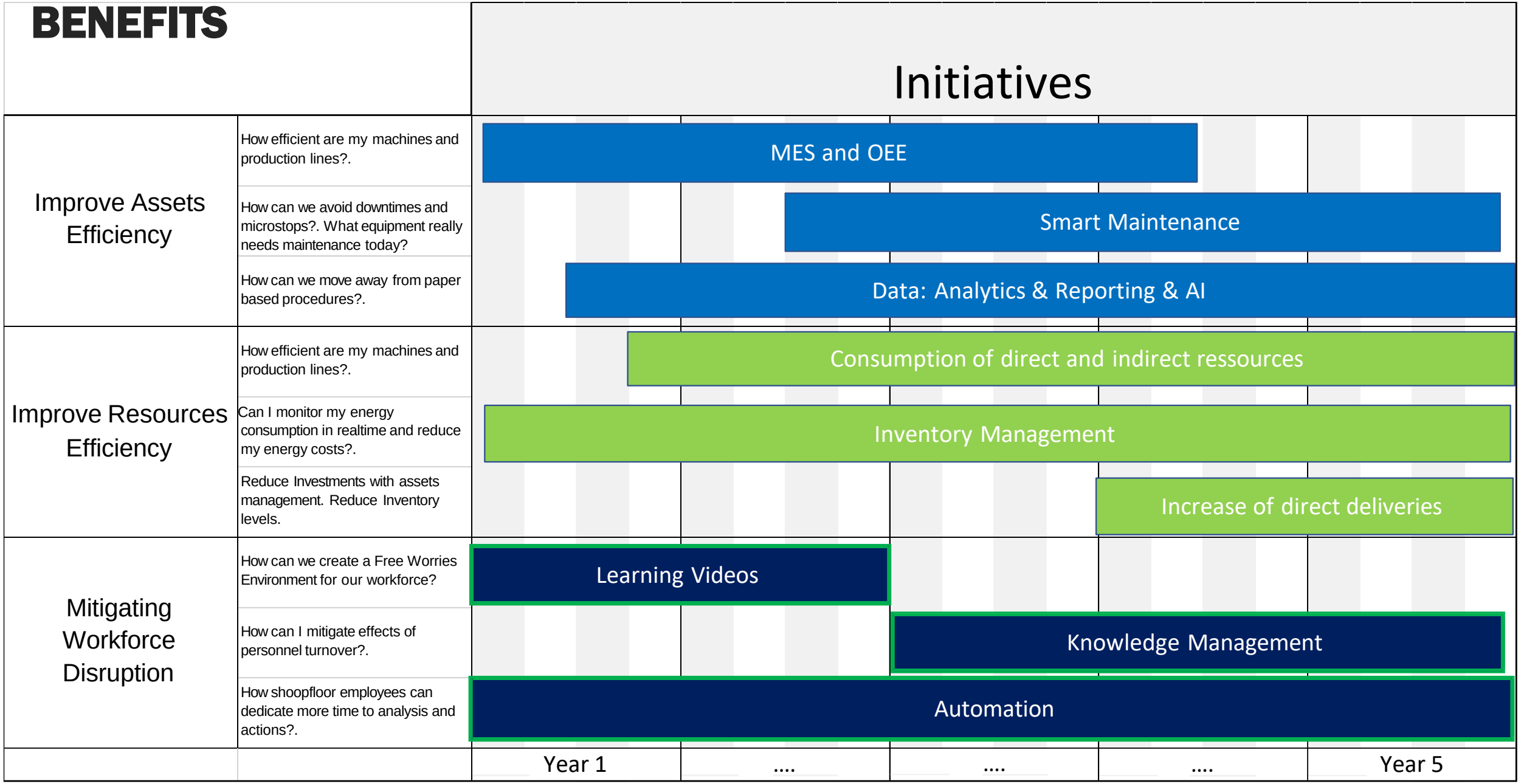
SMART MANUFACTURING INTEGRATED IN PLANT HIERARCHY



KEY SUCCESS FACTOR:

HELPING PEOPLE AT PLANT LEVEL & UNIQUE SOURCE OF TRUTH & DRIVING ACCOUNTABILITY

BENEFITS


Initiatives
Improve Assets Efficiency
How efficient are my machines and production lines?.
How can we avoid downtimes and microstops?. What equipment really needs maintenance today?
How can we move away from paper based procedures?.
MES and OEE
Smart Maintenance
Data: Analytics & Reporting & AI
Improve Resources Efficiency
How efficient are my machines and production lines?.
Can I monitor my energy consumption in realtime and reduce my energy costs?.
Reduce Investments with assets management. Reduce Inventory levels.
Consumption of direct and indirect ressources
Inventory Management
Increase of direct deliveries
Mitigating Workforce Disruption
How can we create a Free Worries Environment for our workforce?
How can I mitigate effects of personnel turnover?.
How shoopfloor employees can dedicate more time to analysis and actions?.
Learning Videos
Knowledge Management
Automation
Year 1
....
....
....
Year 5

BASIC FEATURES FOR MES PROJECT

- A) For plants with low maturity:
  - Start with the Foundation in the Core of the Line and focus on actions.
  - Confirm improvements before next Steps.

PRIORITIES		Core Machines	Rest of the line		
			Machine 1	Machine 2 ….	… Machine N
FOUNDATION	OEE & User Interface	**Step I**	Step II		
	Downtime Details				
BASIC	Rejects Count	Step III			
	Basic Escalation	Step IV	Step V		
	Set Point Change Managem	Step VI			
Advance	Direct Consumption	Depending on cost saving opportunities			
	Indirect Consumption				

- B) For plants with experience:
  - Everything at the same time

KEY SUCCESS FACTOR:

Define Maturity Level of the organization and Focus on action and Confirm improvements before next steps