


MES Business Benefits

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OPC and MES DAY
15 October 2013, Hotel Scandic Rosendahl, Tampere

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Agenda



- **Trends and observations**
- “Best-in-Class” Responses
- Improve Performance
- Metrics
- Potential of MES
- Closing Remarks



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Industry Challenges and Drivers



- Pressure on margins
 - requiring cost reductions
- Extended complexity
 - making it more difficult to integrate systems and to align with business
- Rapid changes in demand
 - during the current economic turbulence
- Greater eco-system
 - across geographies, logistics and portfolios
- Optimize performance and revenues
 - across the entire value chain
- Stricter regulation
 - financial reporting to environmental controls

Cost reduction

Agile reaction to business requirements

Lean operation, based on service levels

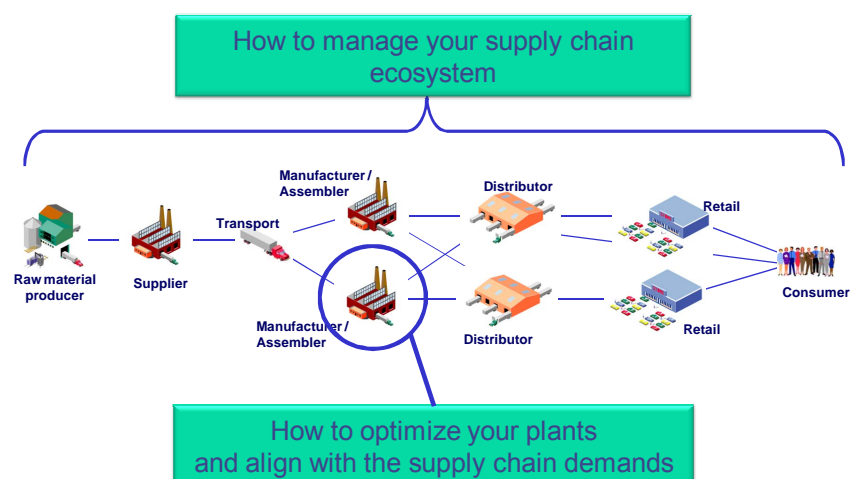
Simplify IT landscape



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Future Manufacturing Ecosystem



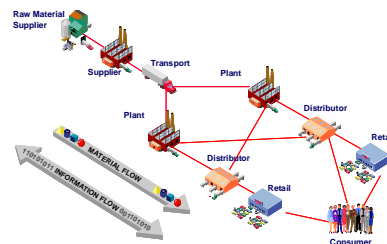
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Supply Chain and Manufacturing Challenges



- Reduce product stock-outs
- Remove supply chain inefficiencies
- Lower inventory to reduce costs
- Reduce transportation and order management costs
- Reduce order fulfillment lifecycle (cash-to-cash cycle time)
- Management of inventory replenishment process
- Retail & regulatory mandates
- Track-and-trace applications force supply chain optimization
- Perfect Order Delivery
 - Right product
 - Right quality
 - Right place
 - Right time
 - Right profit margin



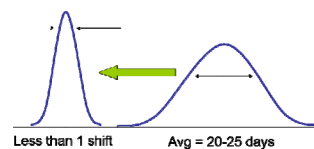
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Global Manufacturing Environment



- Large increase in product variants by region and season
- Much shorter new product development and time-to-volume (TTV) cycle times
- Increasing and wide demand forecast error
- Diverse global regulatory and customer compliance requirements
- Competition \Rightarrow continuous cost reduction
- More dynamic supply networks
 - Ex. Japan, energy cost, credit rating, ...



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It is about Process Capabilities



	Best-in-Class	Average	Laggards
Process	Standardize processes across the enterprise for optimizing manufacturing operations		
	64%	37%	30%
	Standardize measurements of KPIs across enterprise		
	68%	58%	51%
	Standardize processes for response to adverse events		
	64%	51%	19%

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Best-in-Class Focus on Perfect Order and New Product Introduction



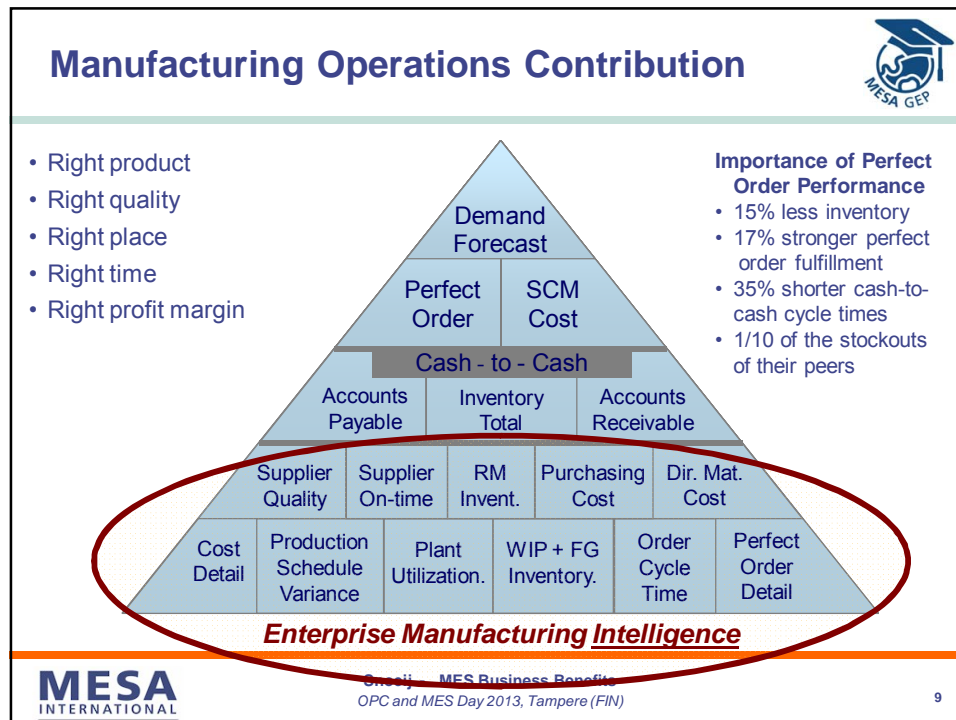
Definition of Maturity Class	Mean Class Performance
Best-in-Class: Top 20% of aggregate performance scorers	<ul style="list-style-type: none"> 94% Success with New Product Introductions 89% OEE 94% On Time and Complete Shipments +6% Operating Margin vs. Corporate Plan
Industry Average: Middle 50% of aggregate performance scorers	<ul style="list-style-type: none"> 78% Success with New Product Introductions 82% OEE 90% On Time and Complete Shipments +2% Operating Margin vs. Corporate Plan
Laggard: Bottom 30% of aggregate performance scorers	<ul style="list-style-type: none"> 49% Success with New Product Introductions 74% OEE 86% On Time and Complete Shipments -3% Operating Margin vs. Corporate Plan

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Prerequisite: Convergence of All Resources



Convergence

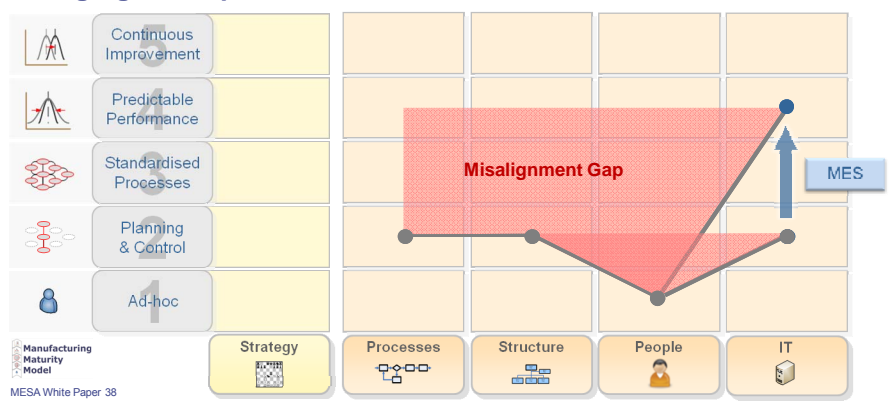
People Technology
Processes

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MES Project is NOT an IT Project



"Bridging the Gap"?!

Misalignment Gap

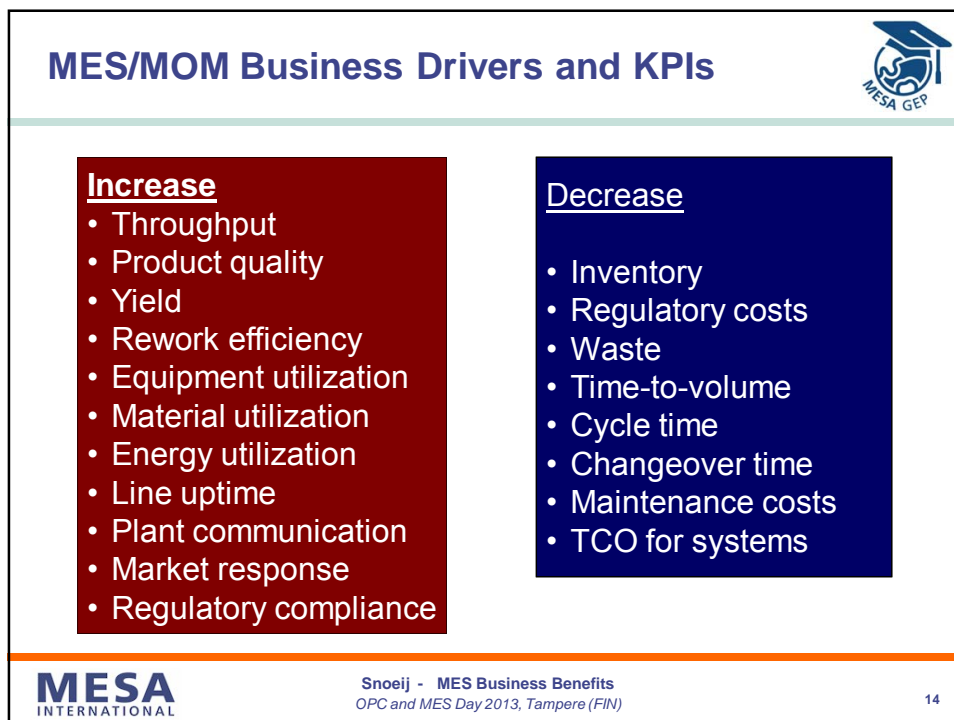
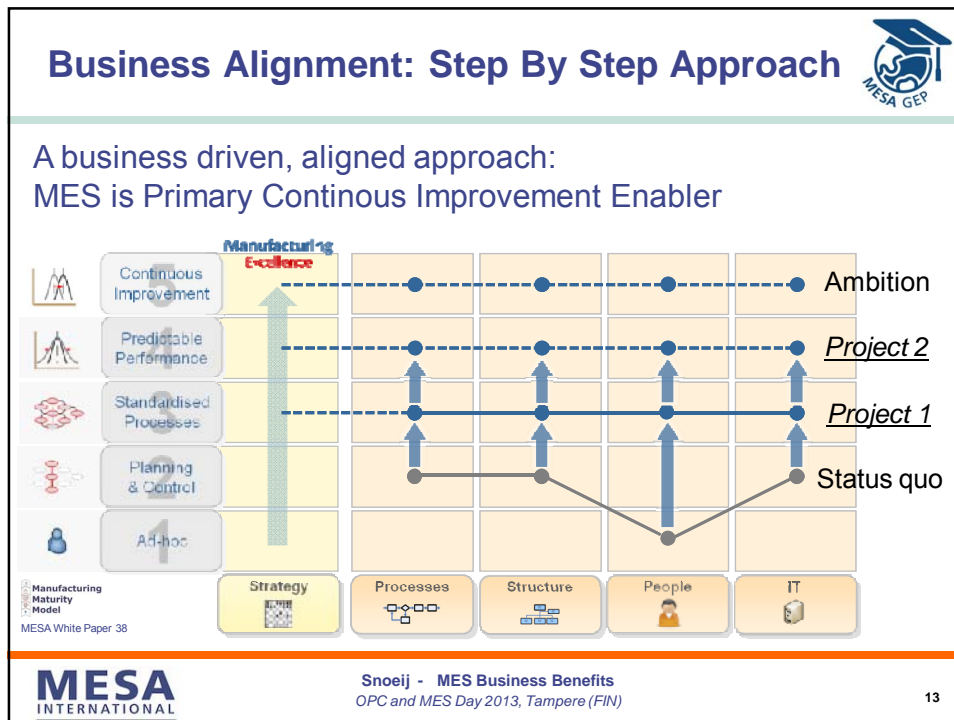
MES

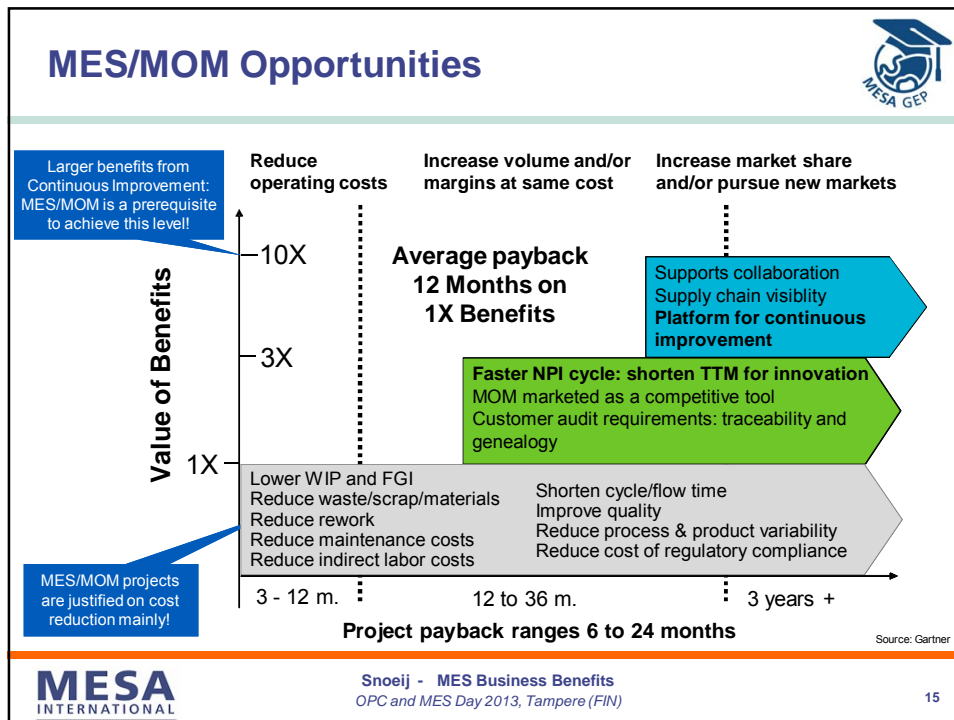
Manufacturing Maturity Model
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Metrics Matter!

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Driving Operations Excellence

Cambashi
Industry Knowledge for Business Advantage

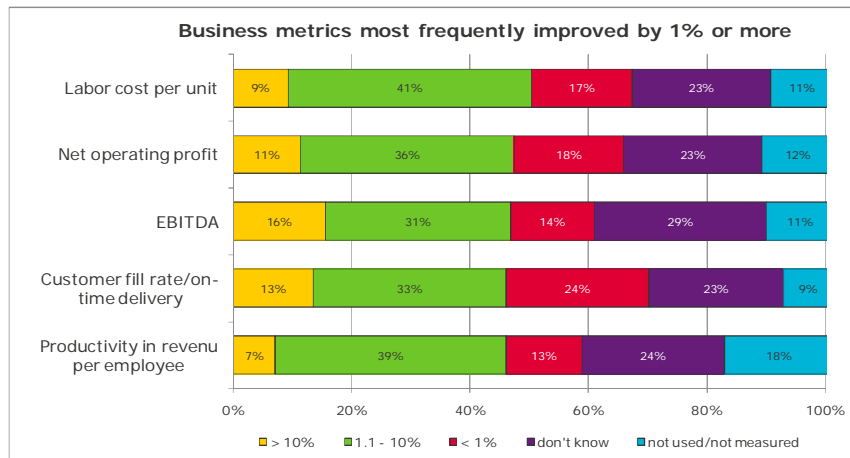
- MESA Metrics Research
- Correlating Plant and Business performance
- Metrics 2007 - 2009
- Comparison with 143 participants and 'peers'.
- Main topics
 - Business metrics (14)
 - Operational metrics (26)
 - Data capturing
 - Feedback to 'originators'
 - Information technology

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Business Gains despite Economy



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Business Movers versus Others



"Business Movers":

- EBITDA improved over 10%*
or
- Net Operating Profit improved over 10%*
or
- Have improved more than 1% on at least 10 of 14 business metrics*
- 50 participants (35%) of the 143 participants are business movers
 - in all industries
 - in all regions
 - small and big

* average annual improvement over last 3 years



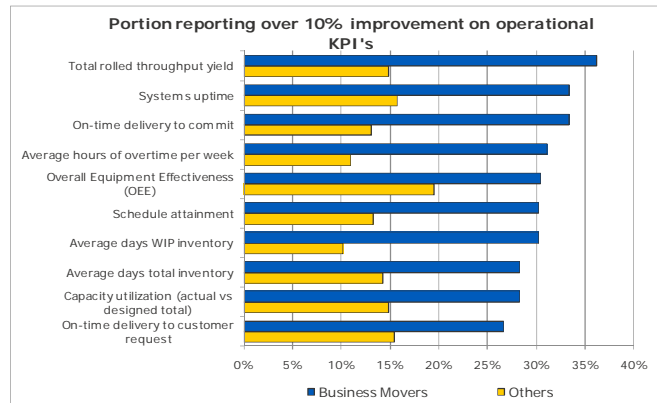
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Business movers improve more in operations



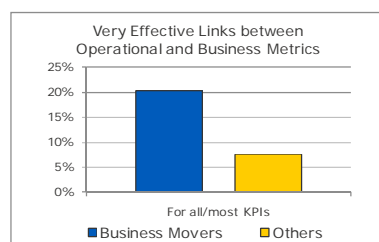
- *Business Movers improved more on the vast majority of the operations metrics.*



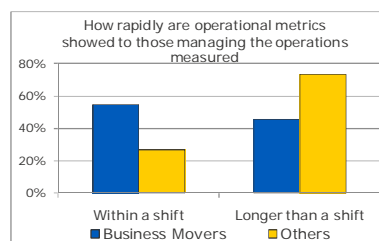
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Business movers: better and faster control



- *Business Movers have more effective links between business and operational metrics: better control.*



- *Business Movers provide feedback on operational metrics to those who manage the concerning operations more rapidly*



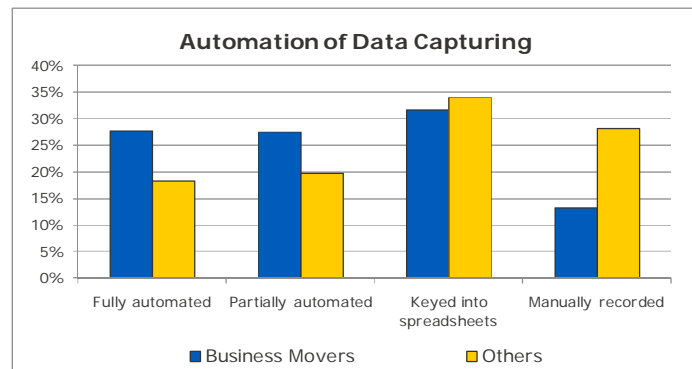
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Automated Data Collection



- Business Movers are collecting their metrics data fully or partially automated more often.*



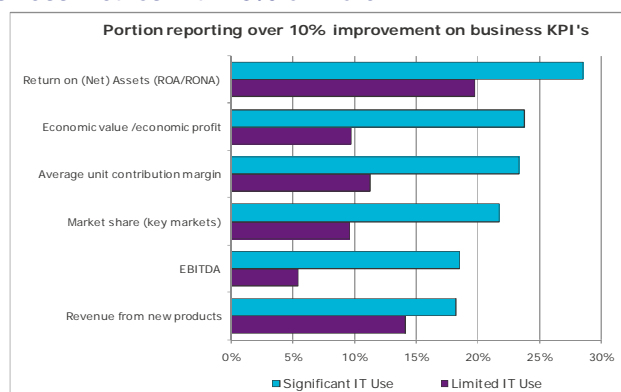
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Use of IT and Business Metrics Improvement



- Companies who use 75% of the information systems listed (significant IT use) are more likely to improve on most business metrics with 10% or more.*



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Metrics that Matter Revisited - Summary



- Characteristics of Business Movers:
 - Direct relations (link) between business and operational metrics
 - Rapid feedback of operational metrics to those who 'make the difference' (shop floor and management)
- Supported by:
 - Automatic capture of data for metrics
 - Appropriate IT to provide reliable and consistent feedback frequently and quickly
- Top performers all have at least these characteristics!
 - To **become** a top performer, a company needs significant improvement on the mentioned characteristics and support them.
 - To **stay** in top quartile ranking, these characteristics must continuously be maintained and improved.



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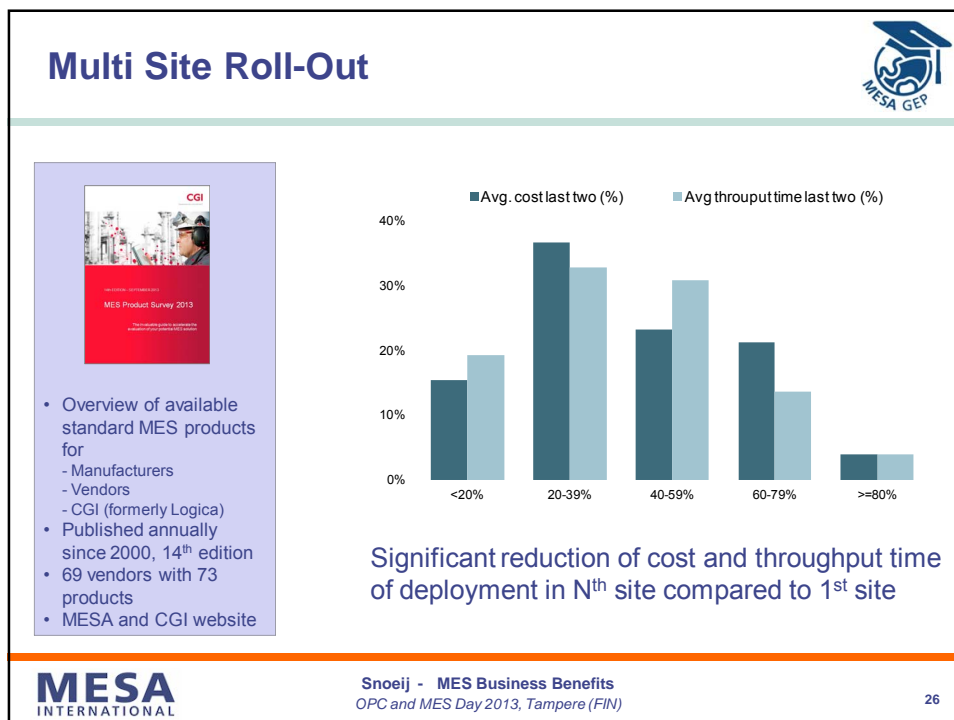
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MES Benefits (examples)		
Industry	Improvement	Results
High Tech	Data quality & product costing	+ 3% Turnover, exchange accurate operational information between level 3 and 4.
Beer brewery	Stock reduction	15-20% (ongoing) reductions, through implementation of MES, LIMS and WMS
Performance- and life science materials	IT Service cost reduction	30% less IT service cost worldwide, by outsourcing of the Manufacturing IT
Metal	Improved productivity & reduced WIP	Productivity up 9%, WIP down 15% through implementation of MES and integration with planning.
Feed	Lower (production) costs and capacity increase (-> Postpone investments)	+ 2 % improvement, + 5% improved capacity, through implementation of standardized MES in all the sites.
Metal	Material efficiency Delivery performance	Improved with 6% # wrong shipments reduced to zero, through implementation of MES and APS.
Food & Beverage	Efficiency improvement & OEE improvement	+ 8% improved efficiency due to less stops, + 10% OEE improvement, implementation of MES
CPG (Cleaning agents)	Production throughput time	45% improvement in production throughput time, by implementing MES
High Tech	Accurate as-built and as-maintained information and improved tracking and tracing	Improve product quality and significant lower warranty costs, through right tracking and tracing information via MES.

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Multi-Site Roll-Out: Prerequisites for reduction of cost and throughput time*



- **Standardization** of the manufacturing operation processes is a prerequisite, according to 50% of responding vendors.
- Equally important is proper **governance** in which corporate and local objectives and interests are well aligned, with clear roles and responsibilities, ensuring commitment from top management to the shopfloor.
 - Closely related is **change management**, focusing at the intended improvement, continuously monitoring the progress.
- Multi-site deployment should be part of an integral **continuous improvement** program, in which best practices are identified and shared across the enterprise (20% of vendors).
- A standardized template based solution comprising configurable building blocks that includes all required functionality, but can be configured to specific needs in each site. This aspect is mentioned by one fifth of the responding vendors.

* Only half of the vendors responded with 'best practices'



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Closing Remarks



- The demand of the market is more dynamic than ever before!
- Best-in-class: Successful perfect order delivery and new product introduction by standardization!
- MES projects are NOT just IT projects.
- MES projects deliver cost reduction (and more ...) when applied step-by-step as part of a continuous improvement program.
- MES is a prerequisite, an enabler ...
... but people make the difference!



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Any Questions?



- Then ask now!

Or later:

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