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# Digital Transformation in Semiconductor Manufacturing

Ranjan Chatterjee

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Digital Transformation

Shaping a transformation journey

Viswa Anakkara Vadakkath

Semiconductor Supply Chain & Manufacturing Leader

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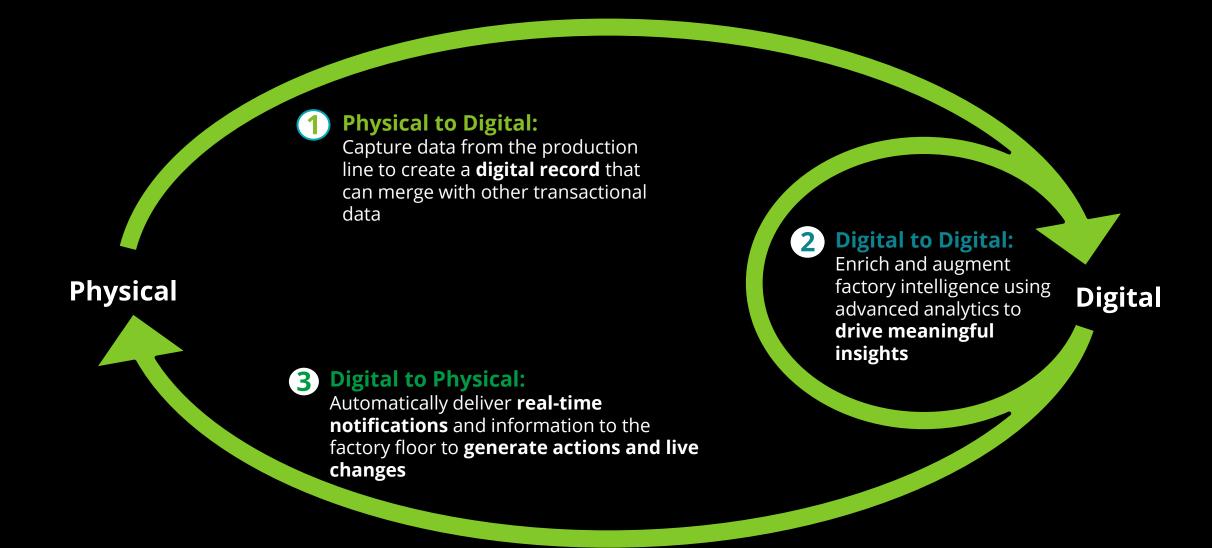
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# Digital Transformation | Growing Traction YoY

"There is no alternative to digital transformation. Visionary companies will carve out new strategic options for themselves – those that don't adapt will fail." – Jeff Bezos

- 44% of Technology companies state their #1 digital priority is to invest in digital processes and cut costs
- Technology companies on an average invest 5.1% in digital programs as % of revenue
- **50%** of Technology companies have a 1–2-year horizon for returns on digital programs
- 44% of Technology companies plan to invest 5-10% more on digital programs in the next 1-3 years
- Digital transformation upside = US\$1.25 trillion in additional market capitalization across all Fortune 500 companies. But, done wrongly, it puts more than US\$1.5 trillion at risk

# What Constitutes a Digital Transformation?



# What is a Digital Transformation – SEMI Definition



**ISA-95 Network Architecture** 

# Shaping your Transformation Journey







# **Think Big**

Define the vision & develop foundational digital capabilities

## **Start Small**

Launch value-driven deployments of tailored use cases as targeted pilots How will the transformation be self-funding?

# **Scale Fast**

Create a portfolio and scale solutions across the enterprise

# Think Big – Establishing the Vision



### **Aspirations**

- What enterprise and function goals drive this transformation?
- What are today's key pain points?



### **Focus Areas**

- Which business functions or platforms offer the biggest impact?
- Where should we concentrate our efforts for greatest ROI?



# **Opportunities**

- What 3–5 digital initiatives will differentiate us?
- Which platform strategy supports future scalability and integration?



#### ROI

- What business value is expected?
- How will we track ROI throughout the journey?



## Risks / Alignment

- Are all critical business and IT stakeholders onboard with the transformation?
- What could derail us, and how do we stay aligned to business strategy?



**Watch Items** 

- Focus on Technology, not Strategy
- Top-down
  sponsorship and
  communication
- Siloed approach
- Low-to-no emphasis on business case

# Start Small – Driving a successful Pilot



**Watch Items** 



# **Pilot Design**

- Which site, product or function is the best PoC pilot?
- Does the pilot represent full-scale complexity?



#### Scope

- What is our definition of success for the PoC?
- How do we ensure learnings are relevant for scale?



# **Self-Funding**

- Will early wins fund future phases?
- How are cost savings and efficiency gains measured and reported?



#### **Momentum**

- How do we avoid lack of follow-through?
- How do we demonstrate early wins and tangible value to secure ongoing buy-in?

- Short-term mindset
- Intuition, not data driven approach
- Getting caught in operational issues and corner cases

# Scale Fast – Implementation and Adoption



#### **Governance and Team**

- Is the right cross-functional team empowered?
- Are governance, decision processes and escalation paths clear?



#### Milestones

- What key milestones signal success at scale?
- How are we recognizing wins and celebrating success?



# **Value Capture**

- How is value (ROI) tracked and tied to original goals?
- Are benefits reinvested to sustain momentum?



## **Change Management**

- How are teams supported through the transition?
- Are success stories and learning loops in place?



**Watch Items** 

- Reducing governance and oversight
- Involving people impacted by change late
- Use of Agile approach, where unnecessary



Digital change capability only -3x

#### Digital strategy + tech aligned to strategy

#### **Most negative combination**

Digital strategy and tech investments are aligned, but change capability is not present, risking as much as a 9% market cap erosion.

How digital transformation factors correlate to market cap

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