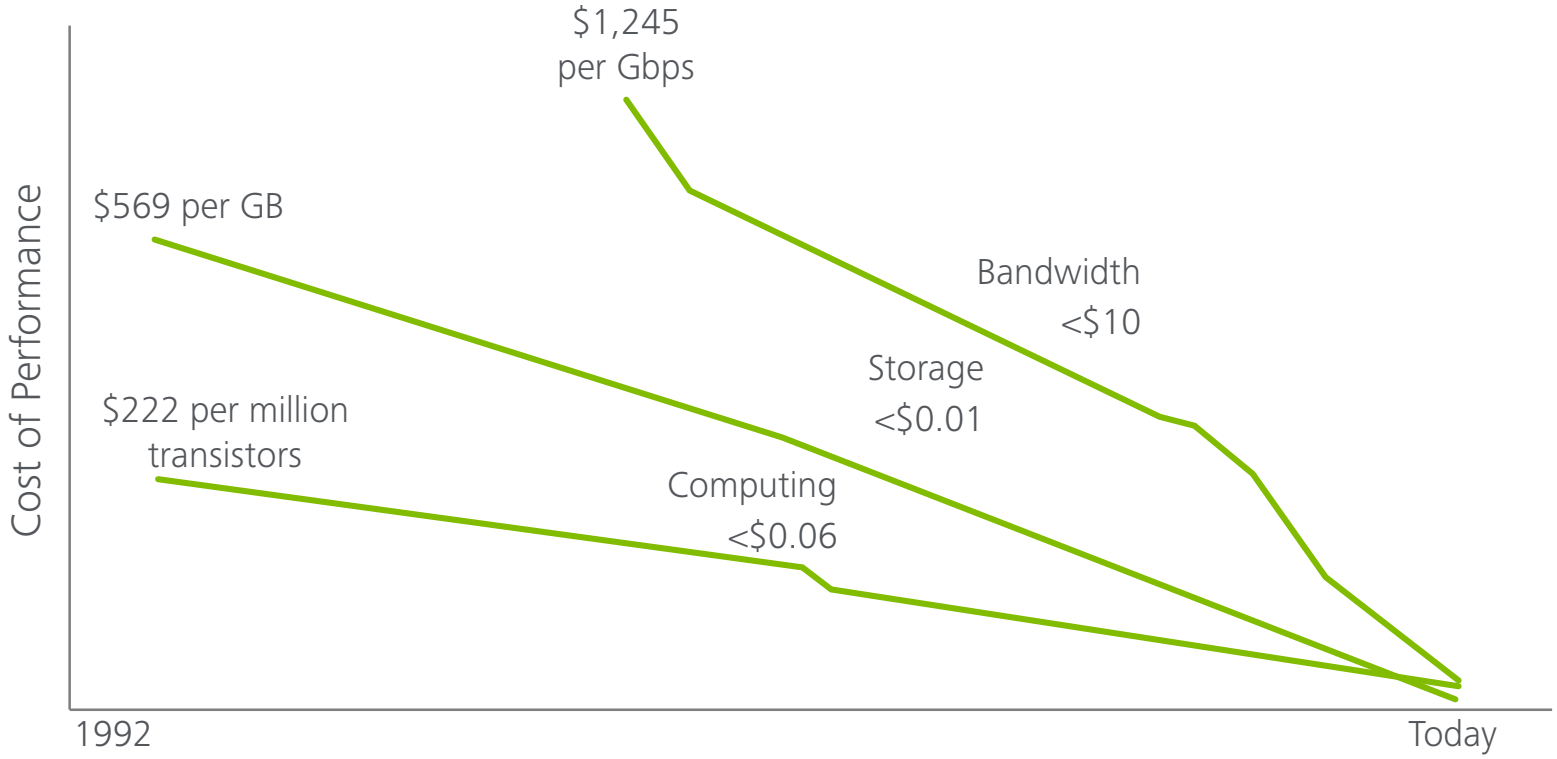
Deloitte.
Digital

OCTOBER 2017

Digital Supply Networks

DISRUPTION SPANS ALL INDUSTRIES

Exponential Technology Change…



Source: Deloitte University Press

…Disrupting Supply Chains Across All Industries

OUR 4TH AND CURRENT INDUSTRIAL REVOLUTION

Power Generation

Late 18th century

Industrialization

Early 20th century

Electronic Automation

1970s to 2000s

Digital Supply Networks

4th Industrial Revolution

Optimize Traditional Objectives…

Cost | Innovation | Service

Quality | Safety | Flexibility

…and New Objectives…

Revenue

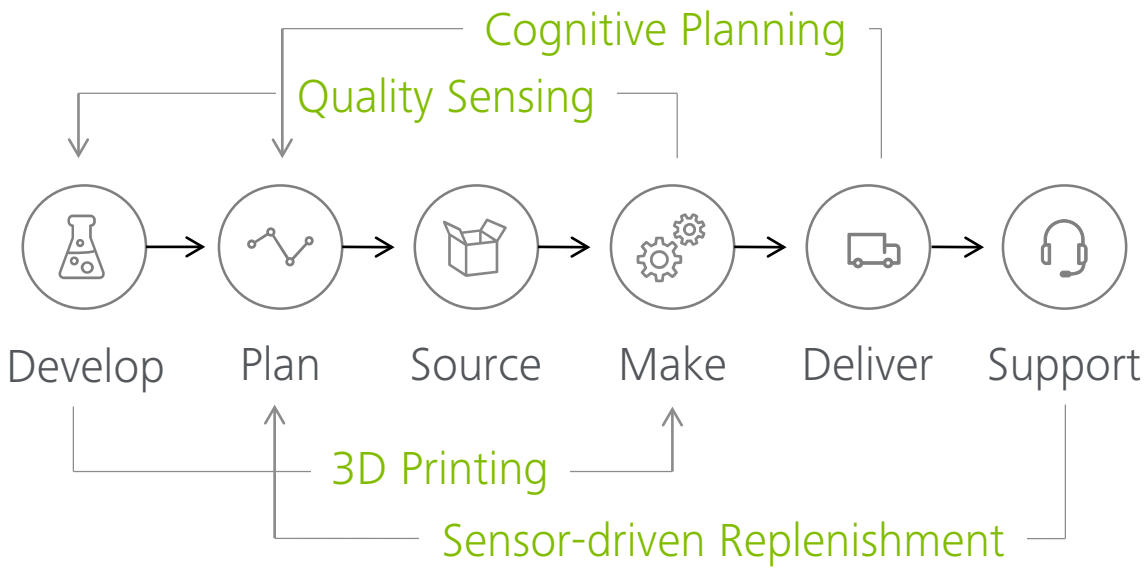
…By Better Managing

Visibility | Variability

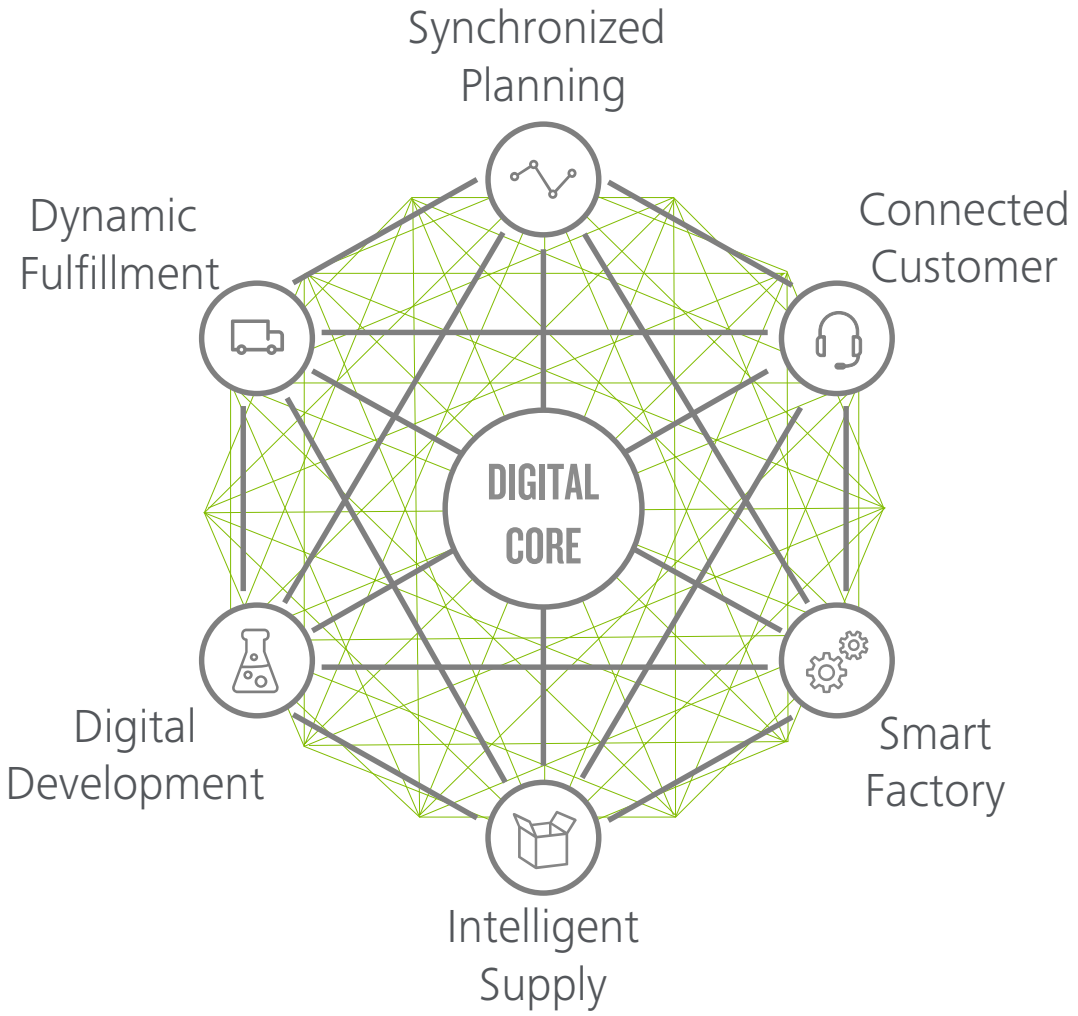
Volume | Velocity

EVOLVING THE SUPPLY CHAIN TO A DIGITAL SUPPLY NETWORK ("DSN")

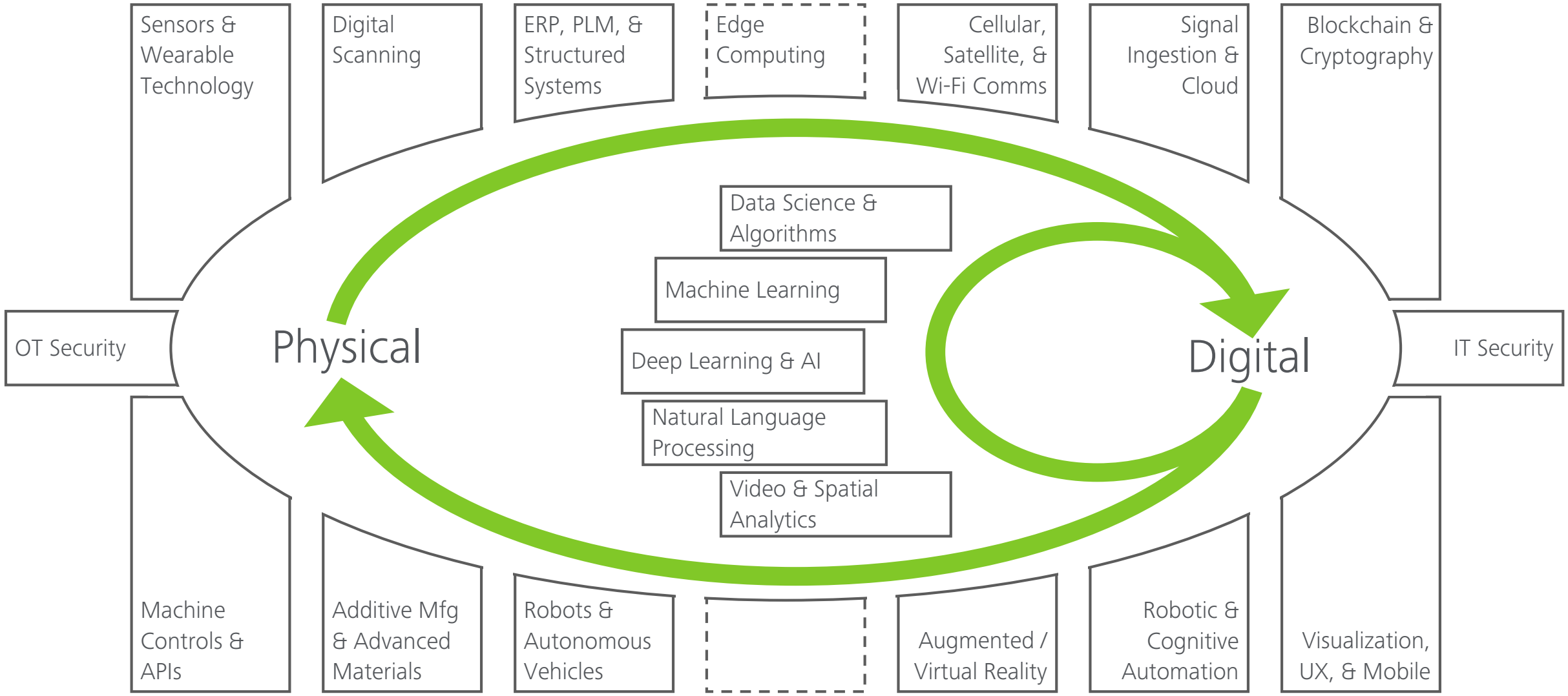
TRADITIONAL SUPPLY CHAIN



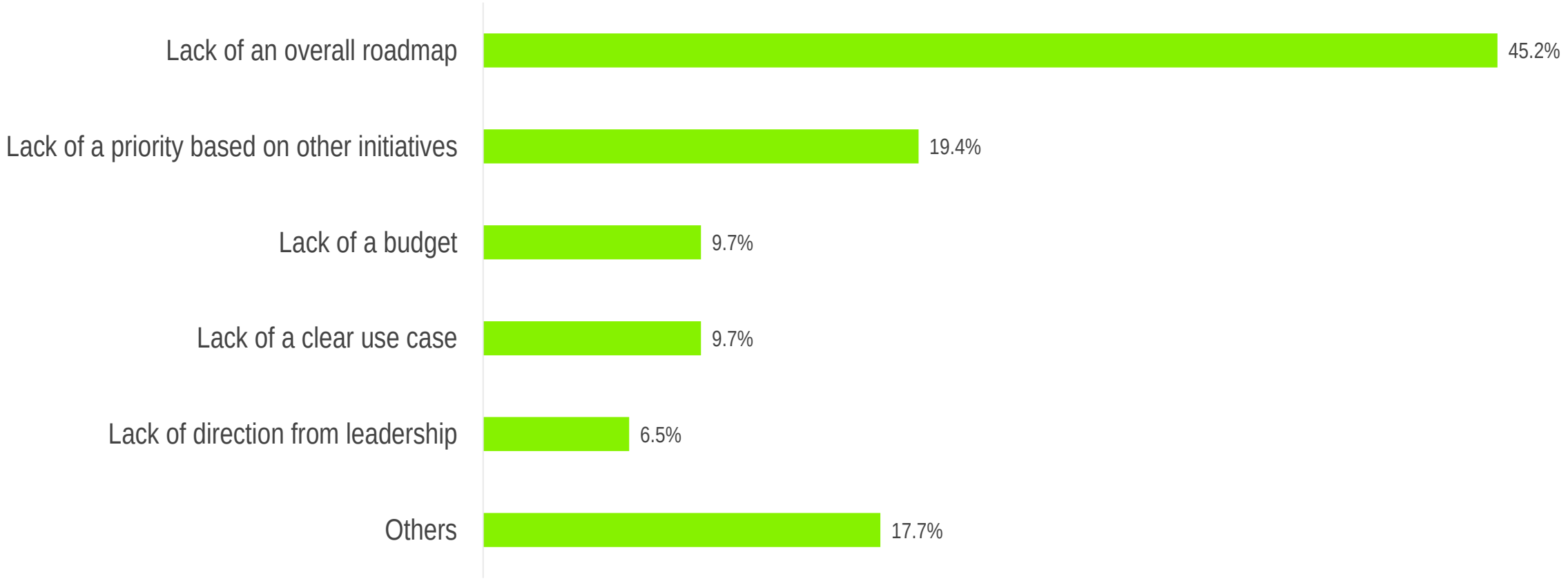
DIGITAL SUPPLY NETWORKS



DIGITAL SUPPLY NETWORK TECHNOLOGIES



The biggest roadblocks organizations face in beginning a digital pilot are…

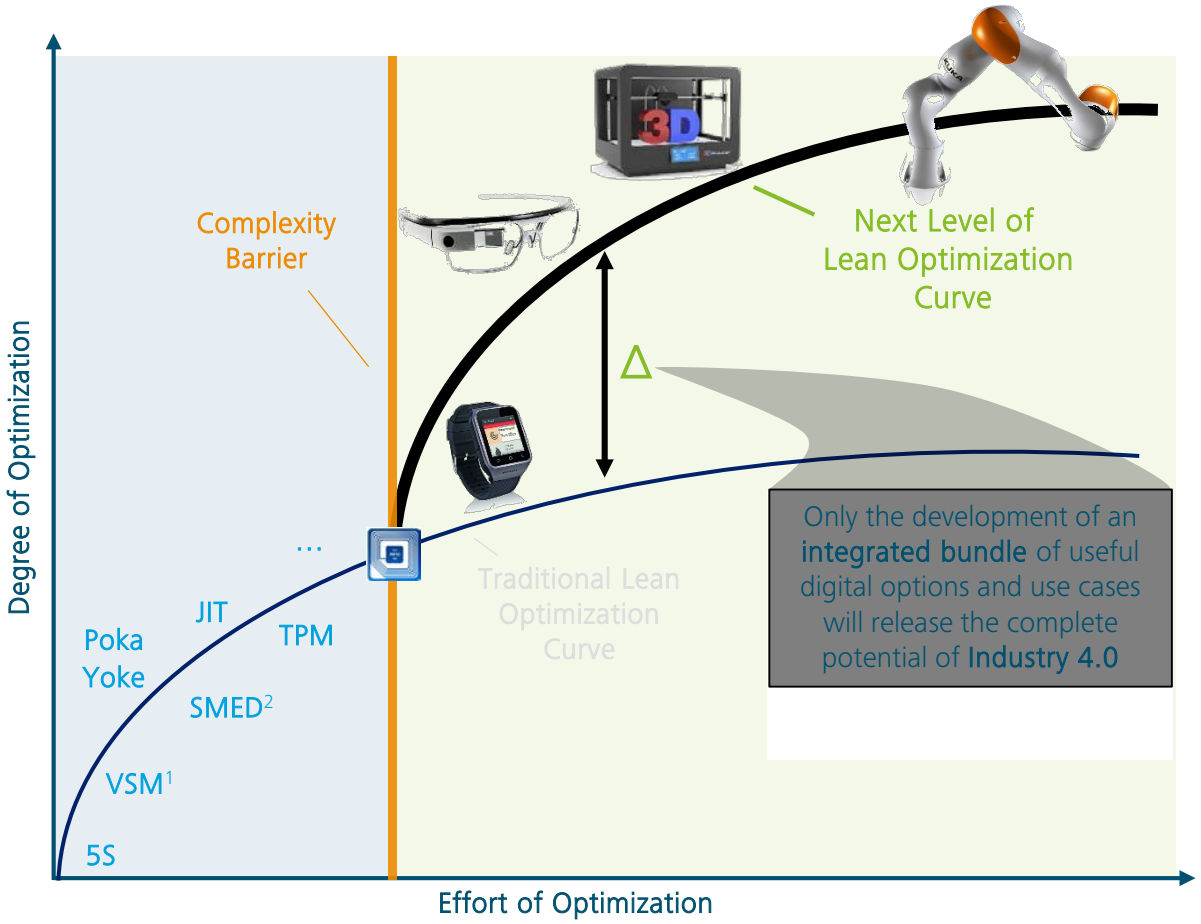


Source: SCM World 2017

THE COMPLEXITY BARRIER

Overcome complexity and enabling Next Level of Lean Manufacturing

Lean 4.0 Optimization Curve



1) VSM: Value Stream Mapping
2) SMED: Single Minute Exchange of Die

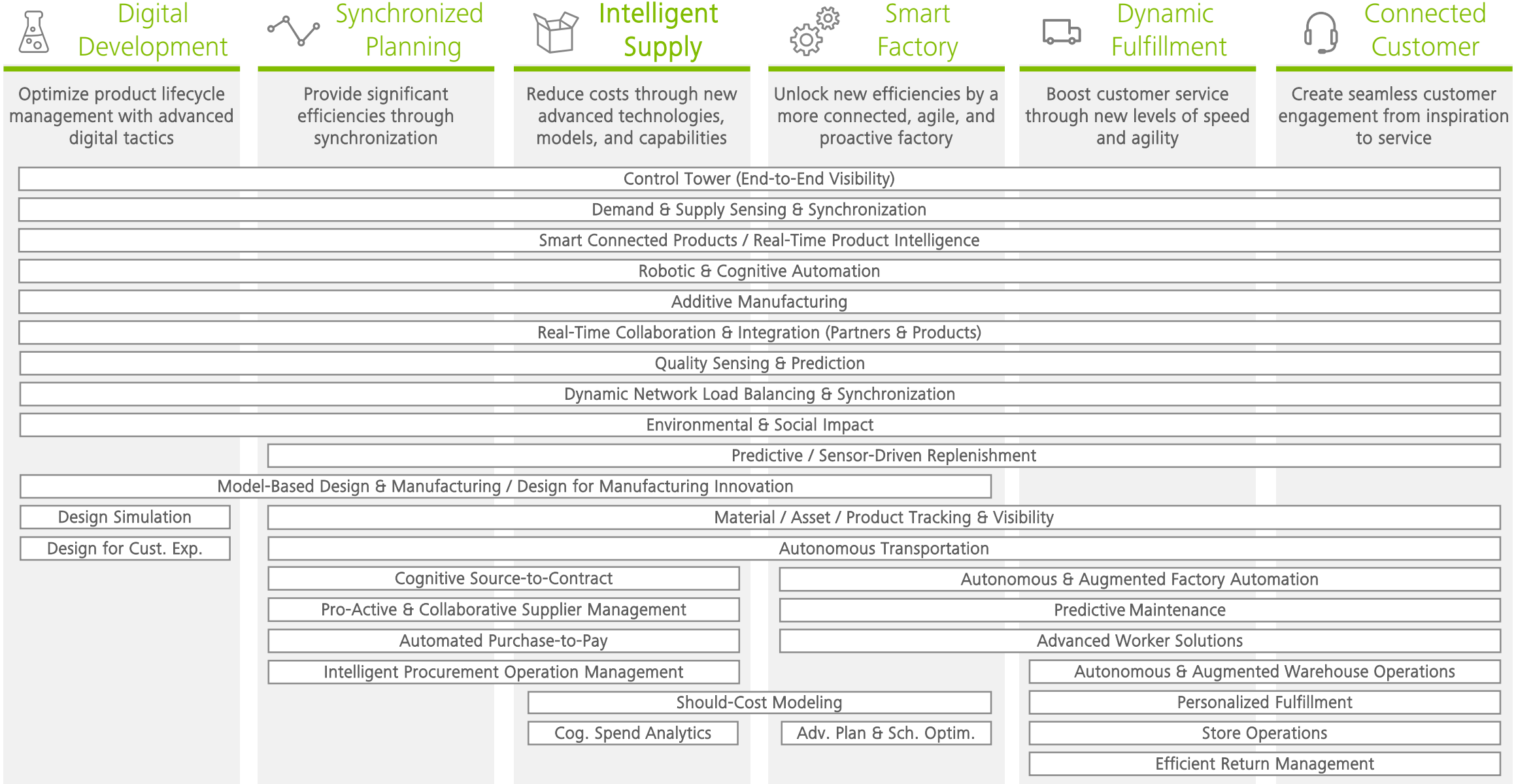
Complexity Challenges:

- Higher degree of product **individualization**
- Increasing **product complexity**
- Greater **variety** of variants
- Demand for high **flexibility**
- **Limited usability** of classic Lean optimization methods

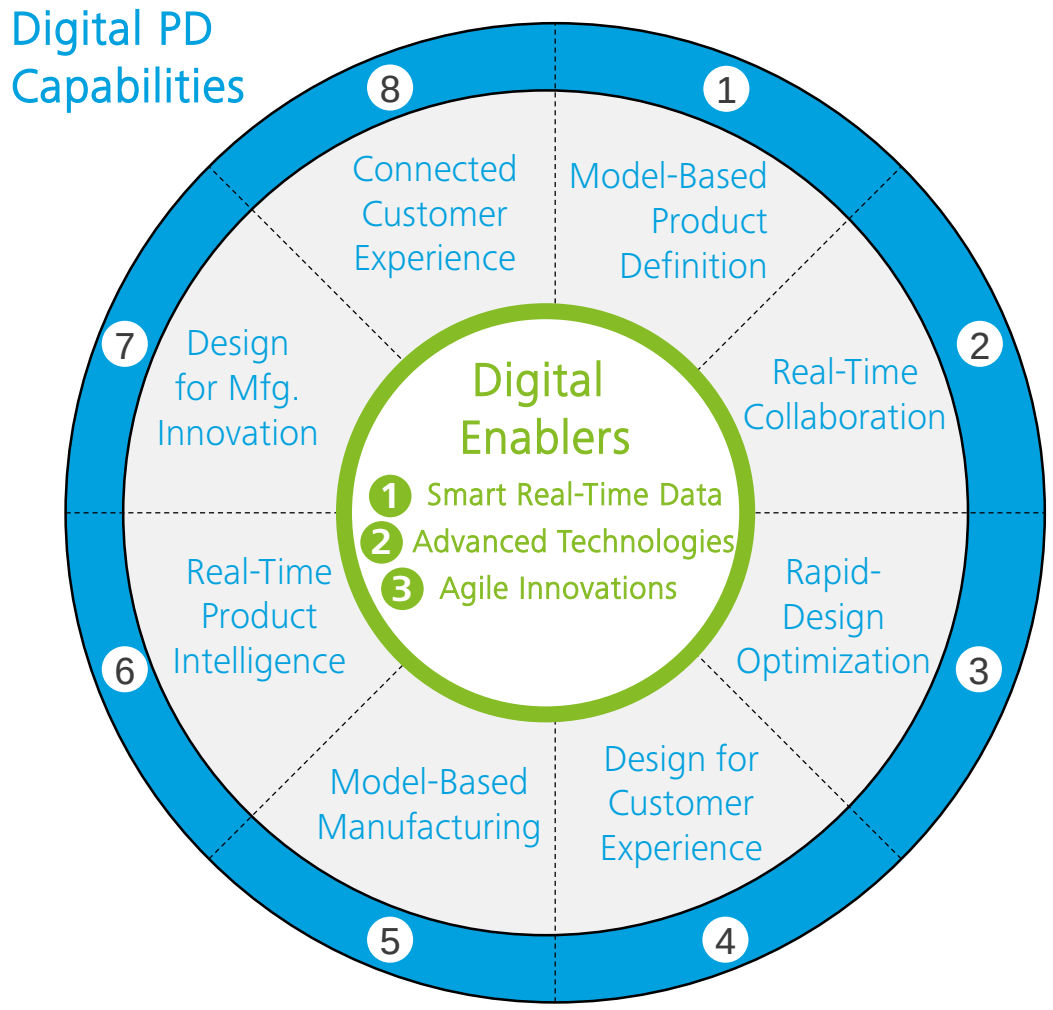
Next Level of Lean Manufacturing:

- Use **Industry 4.0** as a suitable "tool" to **enrich classic Lean**
- Build up **integrated** optimization solutions
- Pursue the **economic useful** instead of technical possible

DIGITAL SUPPLY NETWORK CAPABILITIES



DIGITAL PD CAPABILITIES, TRANSFORMED BY DIGITAL ENABLERS, HELP UNLOCK AMPLIFIED BENEFITS TO ORGANIZATIONS



Potential Business Impacts

Speed up Time-to-Market by 50%
- Concurrent engineering / Real-time Collaboration
- Rapid prototyping and virtual design simulation
- Improved R&D / engineering organizational Efficiency

Reduce Cost by 20-50%
- Product portfolio rationalization
- Reduced material and labor spend through manufacturing innovation
- Less inventory

Increase Market Share by 20% - 30%
- Improved customer experience with individualized design
- Integration of IoT, sensors / data-driven design enhancements
- Open innovation / customer co-creation

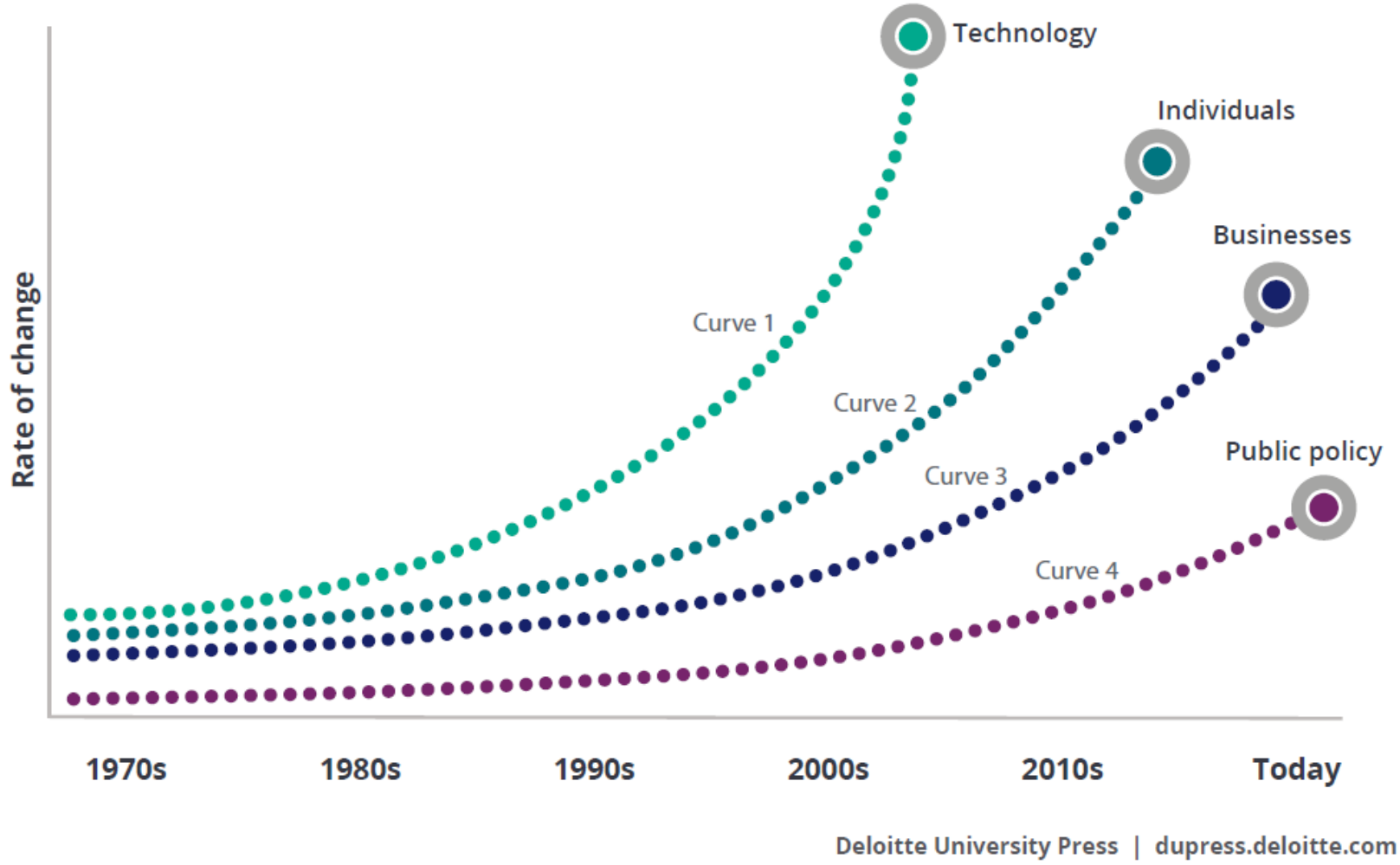
Potential PD Enhancements

Improve Design Quality
- Early identification of requirements issues
- Enhanced system design integrity
- Fewer errors during integration and testing
- Consistency in design approach across programs

Increase Productivity
- Improved impact analysis of requirements changes
- Improved interaction across a multi discipline team
- Reuse of existing models to support design and technology evolution
- Auto-generation of design documentation

Enhance Communication and Visibility
- Reduced communication barriers across regional and functional barriers
- Real-time collaboration with a digitized footprint as single source of truth
- Early, and on-going, requirements validation and design verification

PACE OF CHANGE IS ACCELERATING, YET FOUNDATIONAL ELEMENTS ARE SLOW TO REACT



FOCUS DRIVING FORWARD

Workforce Skills & Capabilities

- Identify capability gaps
- Establish new recruiting techniques
- Refresh retention and development tactics

Develop Ecosystem of Supply Chain & Technology Partners

- Lean on your partners for insights and recommendations
- Share risk and be open to co-development
- Facilitate open communication across all functions & areas

Identify Data Analytics Opportunities

- Link insight strategy to business strategy
- Prioritize pilots with short time to value
- Apply innovative science to the old problems

Enable Agile Systems Development & Deployment

- Apply agile tools (e.g. cloud) and approaches at every turn
- Remember that speed matters
- Don’t be afraid to ‘fail fast’ and ‘fail forward’ to grow

Manage Cyber Security Risk

- Embed security as a central theme
- Remember importance of OT security
- Develop emergency mitigation plan

THANK YOU.

Stephen Laaper
Principal
Deloitte Consulting LLP
slaaper@deloitte.com
312.513.7900

www.deloitte.com
@DeloitteStratOp

