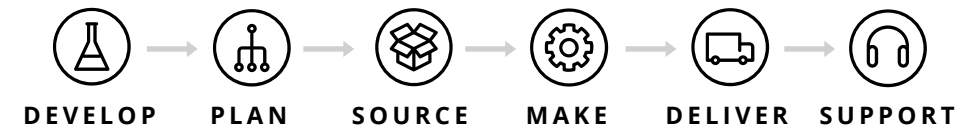


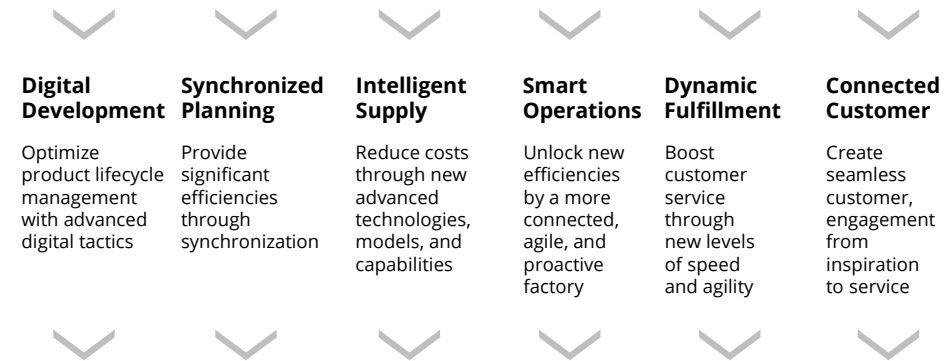
## Digital Capabilities Model for Supply Networks

### THE COLLAPSE OF THE LINEAR SUPPLY CHAIN

New technologies and tools have allowed the traditionally linear supply chain to collapse into an agile interconnected network that unlocks new value across the digitized nodes

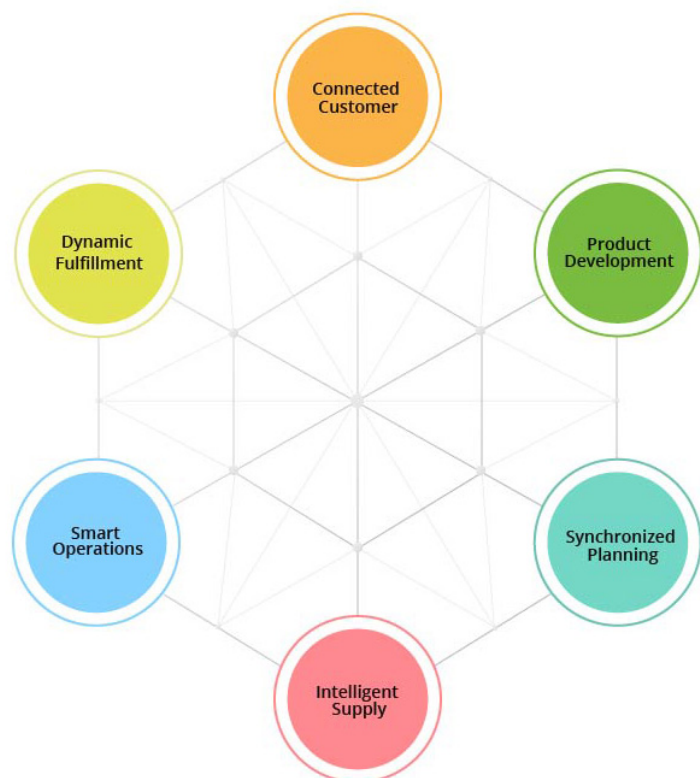


New value is being created by digitizing and connecting the traditional nodes

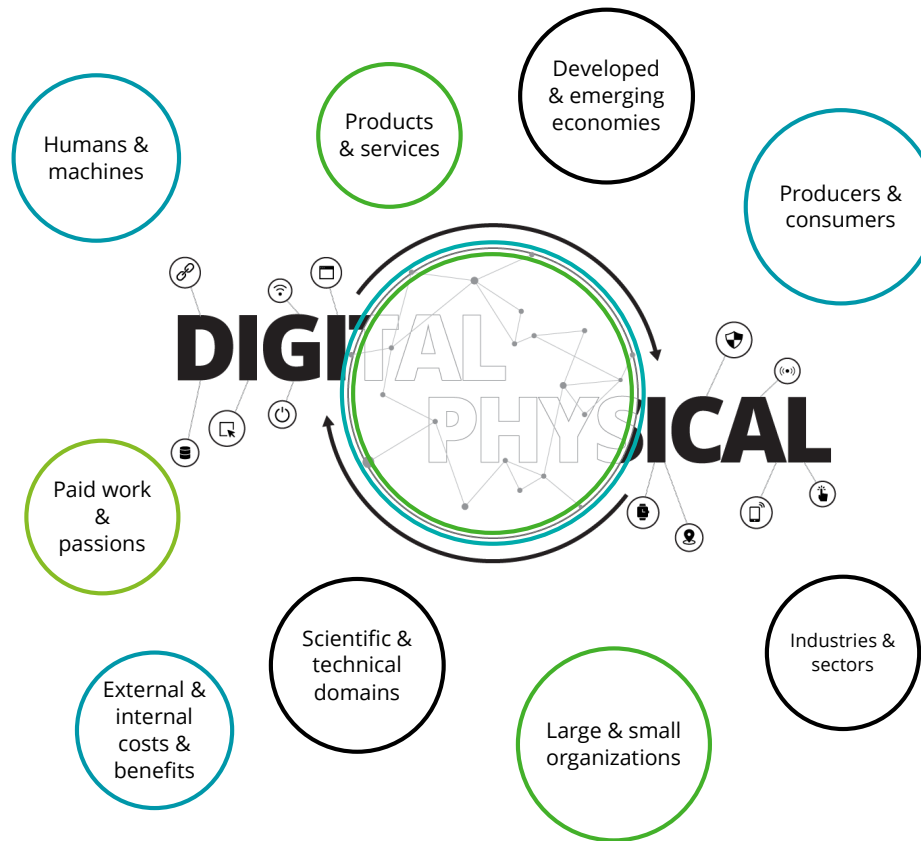


### DIGITAL CAPABILITIES MODEL FOR SUPPLY NETWORKS

Innovative and disruptive technologies can enable supply chains to transform into Digital Supply Networks (DSNs), which can serve as a powerful competitive weapon



### BLURRING BOUNDARIES

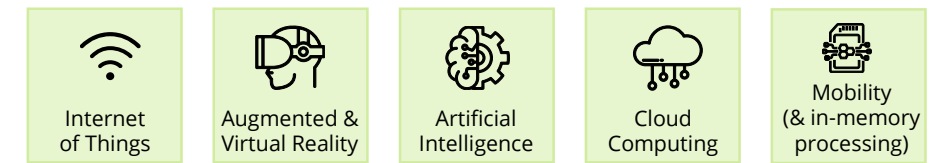


### MARKETPLACE DEMANDS

#### Traditional Challenges

- Bullwhip effect magnifying variability from customer to supplier by up to **50x**
- Poor end-to-end visibility leading to buffers and safety stocks at every stage in the supply chain, creating the quarter-end hockey stick effect
- Functional silos and misaligned incentives in organizations combined with decoupled planning and execution, causing unwarranted delays

#### New Technologies



#### Expanding Demand

- 2.8%** Projected global growth by 2021<sup>1</sup>
- 82%** of consumers consult their phones while they're in a store deciding what product to buy (one in 10 ended up buying a different product than they had planned)<sup>2</sup>
- 36%** of consumers are interested in buying personalized products and services (and 48% would wait longer to receive a personalized product)<sup>3</sup>

#### Hyper Connectivity

- 6B** Internet users by 2022 (75% of projected world population of 8 billion)<sup>4</sup>
- > 7.5B** Internet users by 2030 (90% of the projected world population of 8.5 billion, 6 years of age and older)<sup>5</sup>
- 30B** IoT connected devices by 2020<sup>6</sup>
- 5.5M** New things connected to network infrastructure each day in 2016<sup>7</sup>

### ABOUT THE MODEL

Deloitte and ASCM will incrementally develop and release components of the model through 2022

Compatible with the **Supply Chain Operations Reference (SCOR) Digital Standard**, the new model helps companies advance their capabilities from traditional linear supply chains to digital supply networks, the dynamic, interconnected systems that simultaneously plan, execute, and enable digital supply "chains".

Include **capabilities and their interdependencies** that transcend physical-digital boundaries and include people, processes and technologies needed to break through traditional organizational silo's and be competitive in the digital age.

How to **explicitly leverage established and emerging digital enablement**, from IoT and sensors, to the application of data science, machine learning and artificial intelligence, and lights out supply network planning and execution functions.

**Span functions** to achieve enterprise level optimization, aligning planning and execution in collaboration with customers, suppliers and internal facilities.

### HOW TO ENGAGE



[dcm.ascm.org/survey](https://dcm.ascm.org/survey)

**Assess your readiness:** Take a Readiness Assessment to learn how your organization's digital readiness capabilities measure up.

[dcm.ascm.org](https://dcm.ascm.org)

**Explore the website:** Bookmark and explore the first release of the Digital Capabilities Model for Supply Networks. (Level 1 capabilities are available to the general public while ASCM members have access to the full model.)






[Deloitte.com/us/dcm](https://deloitte.com/us/dcm)

**Move ahead on your DSN journey:** Learn more about the Deloitte and ASCM collaboration, the DSN Deloitte Greenhouse® Lab, and ASCM's Transformation Learning Programs, and on-demand learning.

# Digital Capabilities Model for Supply Networks

## DIGITAL SUPPLY NETWORKS CHARACTERISTICS

DSNs share common characteristics that drive differentiated performance and value

 <b>End-to-end Transparency</b>	The ability <b>to see</b> across the network	<b>Capability Elements</b> Existing data sets, Sensors, New data sets, Visualizations
 <b>"Always-on" Agility</b>	The ability <b>to proactively operate</b> across the network	<b>Capability Elements</b> Predictive alerts, Advanced analytics, Edge computing
 <b>Connected Environment</b>	The ability <b>to extend into</b> your suppliers and customers	<b>Capability Elements</b> Third party data sets, Real-time collaboration and live data sharing
 <b>Resource Optimization</b>	The ability <b>to identify and utilize</b> the right worker, human or machine, for work	<b>Capability Elements</b> Artificial intelligence, Optimization algorithms, Unstructured data
 <b>Holistic Decision Making</b>	The ability <b>to continuously learn and make optimal</b> network decisions	<b>Capability Elements</b> Machine learning, Voice and thought interaction
<b>Foundational Elements</b>		
<b>Cybersecurity</b>	<b>Data Integrity</b>	<b>Safety</b>
		<b>Talent</b>

## DIGITAL DISCIPLINES

**Sense: Identify and act on environmental changes**  
DSNs sense the environment around them, their customers, suppliers and own operations to detect risks and opportunities

- Customer sentiment
- Supplier risk and performance
- Internal operational performance
- Employee performance and satisfaction

**Respond: Place decisions into action**  
DSNs systematically and effectively convert decisions into actions

- Within the enterprise and with partners, suppliers, and customers
- Highly automated capabilities to convert decisions to tasks with owners

**Collaborate: Inside and outside the organization**  
DSNs collaborate with their business partners, upstream and downstream, to understand and address the impact of the sensed signals

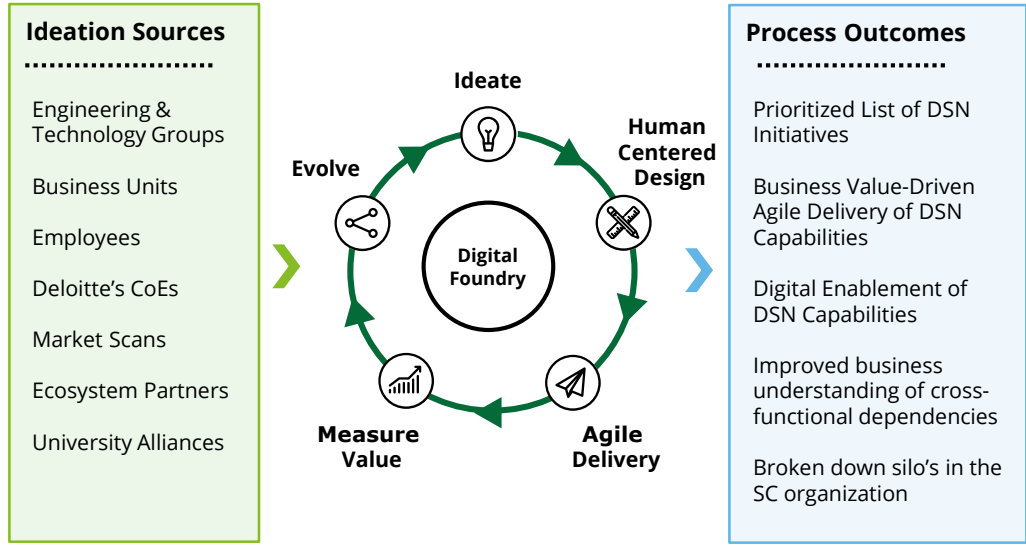
- Improved data visibility as "one source of the truth"
- Improved collaboration technologies, from phone to email to chat to corporate social media
- Concurrent and transparent engagement across multiple nodes in the network

**Optimize: Maximize performance**  
DSNs persistently seek to identify the best, implementable courses of actions to optimize the end-to-end network

- Cross-functional and cross-enterprise optimization
- Computing, communication and storage technologies augmented by artificial intelligence capabilities

## THE DIGITAL FOUNDRY

Build a scalable delivery model that rapidly ideates, prototypes, and implements digital tactics, on an ongoing basis using established processes and governance.



## DELOITTE IS THE RECOGNIZED MARKET LEADER

Deloitte named the undisputed global leader in **Data and Analytics Services**, based on ability to execute and completeness of vision by Gartner (2019)<sup>8</sup>

Deloitte named the undisputed worldwide leader in industry **Cloud Professional Services** based on capability and strategy by IDC (2019)<sup>9</sup>

Deloitte named a global leader in **Cybersecurity Consulting** based on strategy and current offering by Forrester (2019)<sup>10</sup>

Deloitte named a worldwide leader in **Artificial Intelligence Services** based on capability and strategy by IDC (2019)<sup>11</sup>

Gartner names Deloitte a Leader in its Magic Quadrant for **SAP Application Services**, Worldwide (2018)<sup>12</sup>

Gartner names Deloitte a Leader in its Magic Quadrant for **Oracle Application Services**, Worldwide (2018)<sup>13</sup>

Deloitte named a global leader in **Product Development Operations Consulting** based on breadth and depth of capabilities by ALM Intelligence (2018)<sup>14</sup>

IDS names Deloitte a leader in Worldwide **Cloud ERP Implementation Services** (2017)<sup>15</sup>

Deloitte named the undisputed global leader in **IoT Services** based on current offering and strategy by Forrester (2018)<sup>16</sup>

ALM Intelligence names Deloitte a global leader in **Sourcing Strategy Consulting** (2017)<sup>17</sup>

Deloitte named a global leader in **Logistics Management Consulting** based on breadth and depth of capabilities by ALM Intelligence (2017)<sup>18</sup>

## DELOITTE GREENHOUSE® CORPORATE INNOVATION LAB

Experience that DSN "aha!" moment with a business breakthrough



### Immerse and inform

Immerse yourself in the details of digital transformation and disruptive technologies that impact the value chain. Inform yourself with a new business and digital transformation strategy, and in-flight initiatives.



### Explore the art of the possible

Explore the importance of integration between operating technology and information technology (including sensor technology). You'll learn how data and tech architecture are related to the implementation of new use cases. Plus, you'll discover a selection of value creating use cases that are relevant to your digital transformation goals.



### Design the path forward

Design a high-level implementation roadmap by prioritizing ideas and business needs. You'll review case studies of Deloitte's digital transformation experiences to help inform your strategy. Then, we'll help conduct an interactive session where potential opportunities are identified and documented. Finally, take part in a discussion on the role people and culture play in the success of transformative change.

## CONTACTS

Get in touch with our team to begin your supply chain transformation.

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Learn more at:

[Deloitte.com/us/dcm](https://deloitte.com/us/dcm)

1. Global Economic Prospects: <https://www.worldbank.org/en/publication/global-economic-prospects>, June 2019  
2. Think with Google: <https://www.thinkwithgoogle.com/marketing-resources/micro-moments/how-micro-moments-are-changing-rules/>  
3. Deloitte Consumer Review: <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/consumer-business/deloitte-uk-consumer-review-mass-personalisation.pdf>  
4. <https://cybersecurityventures.com/how-many-internet-users-will-the-world-have-in-2022-and-in-2030/>  
5. <https://cybersecurityventures.com/how-many-internet-users-will-the-world-have-in-2022-and-in-2030/>  
6. Statista.com: <https://www.statista.com/statistics/471264/iot-number-of-connected-devices-worldwide/>

7. Deloitte: <https://www2.deloitte.com/insights/us/en/focus/tech-trends/2016/internet-of-things-iot-applications-sensing-to-doing.html>  
8. Gartner, Magic Quadrant for Data and Analytics Services, Worldwide, Jorgen Heizenberg, Twigg Lo, Ehtisham Zaidi, Shubhangi Vashisth, Gareth Herschel, 12 February 2019  
9. IDC MarketScape: Worldwide Industry Cloud Professional Services 2019 Vendor Assessment by Zachary Rabel, July 2019, IDC #US44483719  
10. Forrester Research, Forrester WaveTM: Global Cybersecurity Consulting Providers, Q2 2019", Jeff Pollard and Claire O'Malley, May 1, 2019  
11. IDC MarketScape: Worldwide Artificial Intelligence Services 2019 Vendor Assessment by Jennifer Hamel, Ali Zaidi, April 2019, IDC #US44514819  
12. Gartner, Magic Quadrant for SAP Application Services, Worldwide. Kris Doering, Susan Tan, Fabio Di Capua, 26 February, 2018

13. Gartner, Magic Quadrant for Oracle Application Services, Worldwide. Alan H Stanley, Susanne Matson, Jim Longwood, Allan Wilkins, 26 February 2018  
14. ALM Intelligence; Product Development Operations Consulting 2018; ALM Intelligence estimates © 2018 ALM Media Properties, LLC. Reproduced under license  
15. IDC MarketScape: Worldwide Cloud ERP Implementation Services 2017 Vendor Assessment by Douglas Hayward and Ali Zaidi, June 2017, IDC #US41523417  
16. Forrester Research, Forrester WaveTM: Global IoT For Connected Business Operations, Q4 2018", Bill Martorelli, Michele Pelino, December 4, 2018  
17. ALM Intelligence; Sourcing Strategy Consulting 2017; ALM Intelligence estimates © 2017 ALM Media Properties, LLC. Reproduced under license  
18. ALM Intelligence; Logistics Management Consulting 2017; ALM Intelligence estimates © 2017 ALM Media Properties, LLC. Reproduced under license