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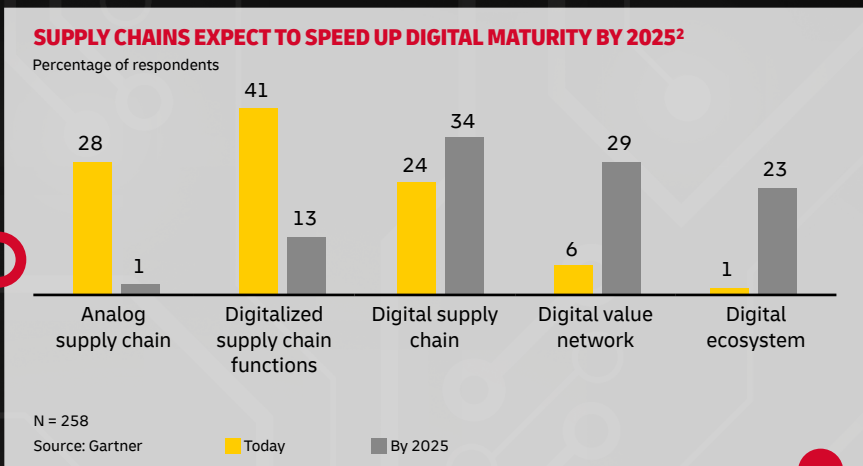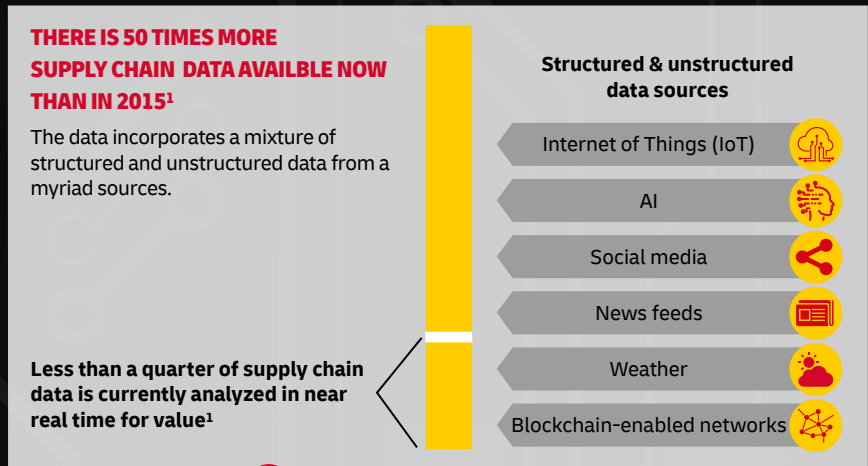
SUPPLY CHAIN INSIGHTS
# DATA ANALYTICS: THREE TECHNOLOGY PLATFORMS THAT WILL REVOLUTIONIZE SUPPLY CHAINS

Global supply chains have been strained to the limit by the pandemic and its unforeseen ripple effects. The daily news feeds worldwide are full of dire stories of supply chain woes and failures.

But these ripple effects are quietly revolutionizing supply chains, by vastly accelerating adoption of new, intelligent data analytics and technology platforms across supply chains in virtually every industry sector.

After suffering the consequences of poor visibility, outdated analytics and lack of predictive capabilities, the goal of these investments is agility, resiliency, risk management, predictive capability and ultimately prosperity, with a fit-for-purpose, future-proofed supply chain.

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**THERE IS 50 TIMES MORE SUPPLY CHAIN DATA AVAILBLE NOW THAN IN 2015[1]**

The data incorporates a mixture of structured and unstructured data from a myriad sources.

**Less than a quarter of supply chain data is currently analyzed in near real time for value[1]**

**Structured & unstructured data sources**

- Internet of Things (IoT)
- AI
- Social media
- News feeds
- Weather
- Blockchain-enabled networks

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**SUPPLY CHAINS EXPECT TO SPEED UP DIGITAL MATURITY BY 2025[2]**
Percentage of respondents

| | Analog supply chain | Digitalized supply chain functions | Digital supply chain | Digital value network | Digital ecosystem |
|---|---|---|---|---|---|
| Today | 28 | 41 | 24 | 6 | 1 |
| By 2025 | 1 | 13 | 34 | 29 | 23 |

N = 258
Source: Gartner

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# THREE SMART PLATFORMS TO CAPITALIZE ON DATA

## 1. COGNITIVE SUPPLY CHAIN ANALYTICS

"This advanced form of supply chain analytics is ushering in a new era of supply chain optimization," IBM notes in a recent website posting. "It can automatically sift through large amounts of data to help an organization improve forecasting, identify inefficiencies, respond better to customer needs, drive innovation and pursue breakthrough ideas.[3]"

By 2023, Simon Ellis of IDC expects "over half of all supply chain applications will have embedded cognitive capabilities".[2]
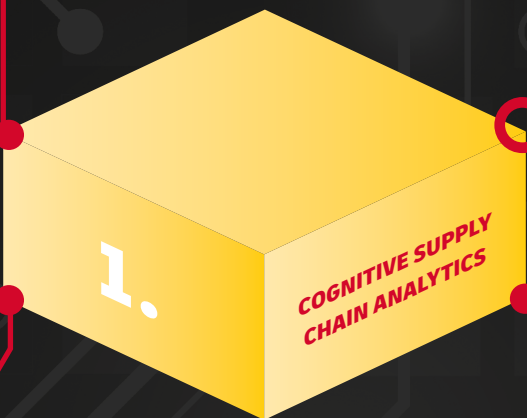
Cognitive analytics can identify known risks and help predict future risks by spotting patterns and trends throughout the supply chain, by applying AI technologies to supply chain processes. AI and machine learning absorbs massive amounts of process-related data, analyzes it, understands it, learns and generally interacts with data like a human, but at enormous capacity and speed.

## 2. THE DIGITAL TWIN

'With a digital twin', as Sachin Lulla and Sven Dharmani of EY explain, 'simulations can be run by changing different variables to visualize the full impact of any number of scenarios, such as supplier insolvency, production shutdowns, shipment delays due to shipping port congestion or a sudden spike in product demand.[2]'

'Having a digital twin may help condition supply chain leaders to think more strategically over the long term,' Lulla and Dharwani note.[2]
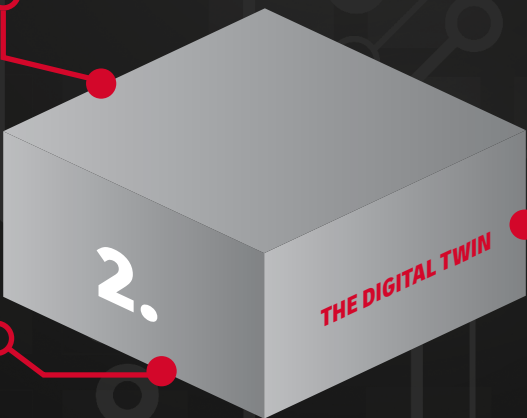
A digital twin is a freestanding model of the supply chain, based on processes mapped by digital process mining (DPM). Once the model is in place, the supply chain strategist can experiment with multiple key variables, testing different scenarios and contingencies. This provides decision-makers with the ability to assess the impact and helps them identify backup options, which could include using alternative suppliers, different shipment modes, or increasing inventory levels to avoid disruptions to their supply chain.

## 3. THE THINKING SUPPLY CHAIN

The imperative for the thinking supply chain is to aggregate data across regions to both anticipate future demand accurately and manage current replenishment. As well as to manage asset, inventory and shipments through real-time tracking and optimization and then configure and change orders even in the middle of production.

"Regardless of the nature of data, however, the thinking supply chain must have access to the data, and be able to analyze it for value, in real time," insists Ellis.[2]
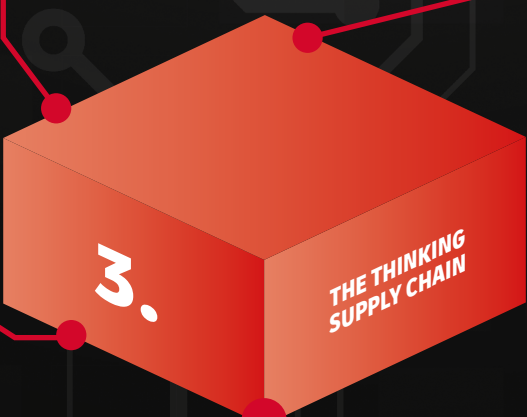
If supply chains are to meet the challenges and complexities of the future, today's digitalization and data analytics best practices will be insufficient.
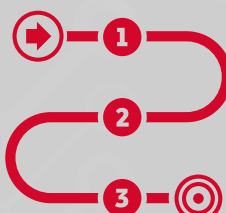
The thinking supply chain[2] offers the prospect of a supply chain capable of an intervention-free, self-learning system, powered by AI and leveraging predictive and cognitive analytics, and structured and unstructured data (e.g. data that comes from social media).

According to a recent white paper by IDC's Simon Ellis, supply chains must aggressively embrace all the fast-emerging analytics platforms and tools – including cognitive analytics solution; fast artificial intelligence analytics; structured and unstructured data mining and pattern recognition systems; openly collaborative cloud-based commerce networks and ecosystems; and, other related technologies.[2]

This supply chain would not replace people, who would have oversight. Rather, it would enhance and augment the decision-making process, and make vetted decisions far faster than any human could.

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## THE QUANTUM LEAP

This broad roadmap of just three aspects of the future of supply chain data analytics will take time to implement. But the pandemic is the accelerant not to be denied. It crystallizes the need to design and implement a supply chain that takes a quantum leap towards harnessing a technology stack that moves the operational and strategic dial to an intelligent, truly predictive supply chain.

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