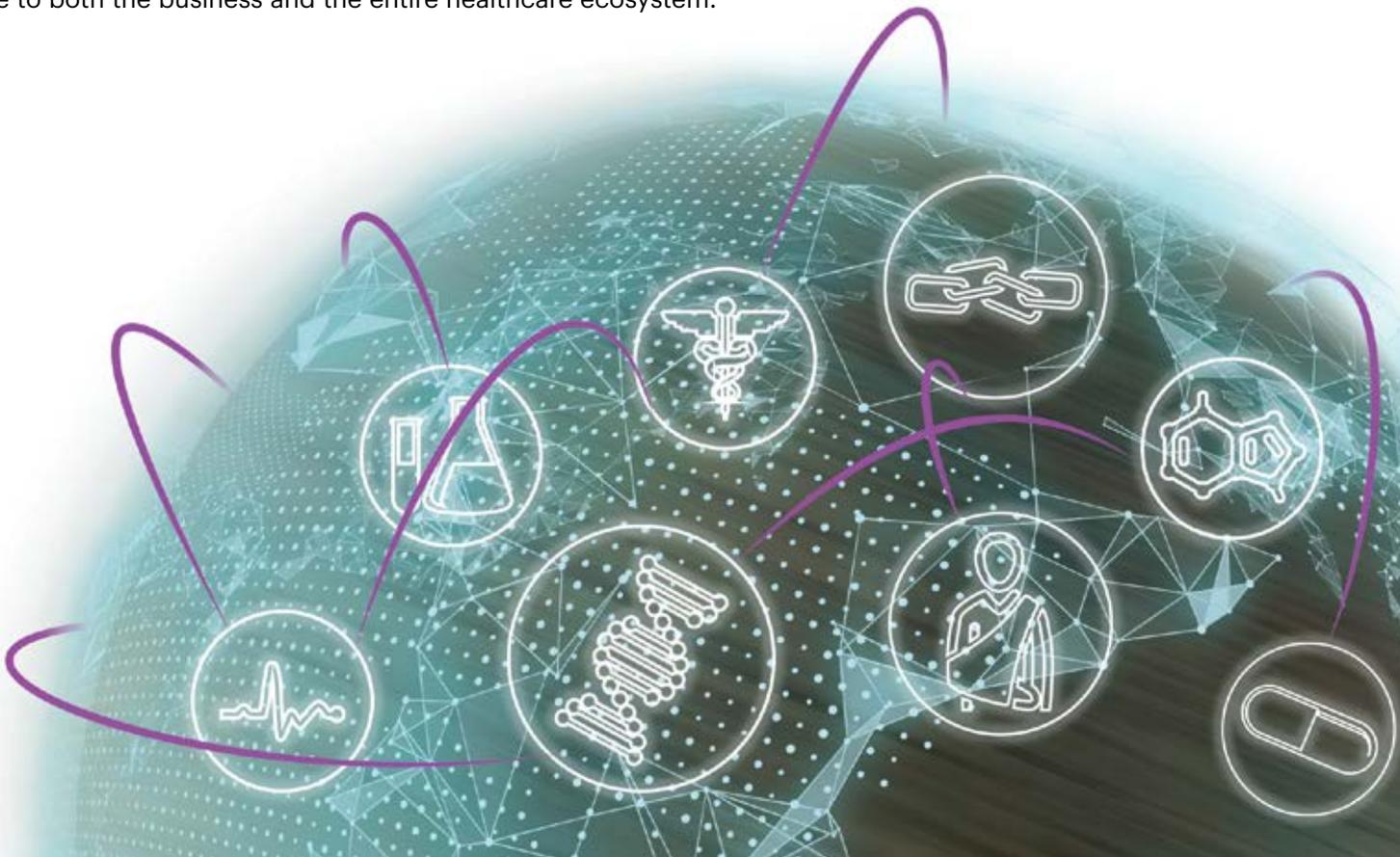


**RETHINK RESHAPE RESTRUCTURE...
FOR BETTER PATIENT OUTCOMES**

DELIVERING AT THE SPEED OF BUSINESS:

DIGITAL SUPPLY NETWORKS IN LIFE SCIENCES

The life sciences supply chain—once considered a back-office function—now represents a critical and strategic element in achieving both growth and competitiveness targets within the business. Propelled by digital disruption, supply chain is at a critical pivot point where the move to digital supply networks is increasingly seen as a necessity. The right investments in demand, supply and distribution capabilities can unlock significant value to both the business and the entire healthcare ecosystem.



INTRODUCTION: MAKING THE MOVE TO DIGITAL

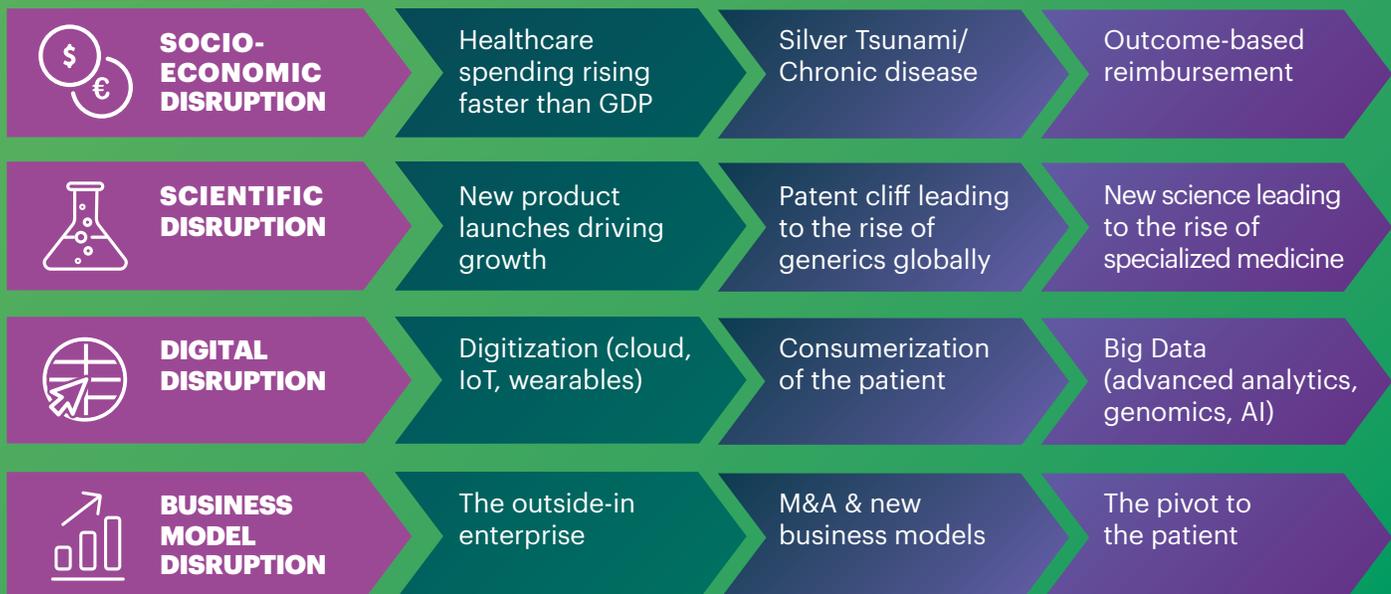
Many factors are influencing the move to digital supply networks in the Life Sciences industry. Several important disruptions—related to socio-economic, scientific and digital advances, as well as necessary changes to business models—are occurring across the life sciences landscape (See Figure 1). The following factors are resulting in a total change in how the industry and its value chain operate.

- Socio-economic factors are influencing the way that therapies and related services are delivered to patients and caretakers.
- Groundbreaking research, scientific advancements and specialized medicines are expanding the breadth of therapies available to patients.
- Global expansion is accelerating for generics, while specialized products are being carefully released in highly developed markets only.
- Digital enablement has empowered the industry with richer patient insights, created new business models, and completely disrupted the traditional paradigm for delivering health outcomes.

In addition to these macro-industry trends, specific triggers are also found across all sectors of the Life Sciences industry—biotech, distributors, specialty, generics and medical devices—which are further intensifying the urgency of a digital supply network:

- The complexity and specificity of products and patient therapies are increasing, driving up costs and lead times.
- The bar is rising on patient service level expectations. This trend requires an increasingly sophisticated delivery model, raising the cost of capital and elevating levels of excess and obsolete product.

FIGURE 1. Macro-industry trends affecting change



Most companies are moving rapidly toward personalized therapies and advanced patient services such as home patient care and immunotherapies, disrupting the traditional supply chain. For example, one recent Accenture survey¹ of patient services executives found that 95 percent intend to invest in patient engagement technologies over the next 18 months. The resulting pressures on the supply chain are intensifying and necessitate dramatic improvements in performance.

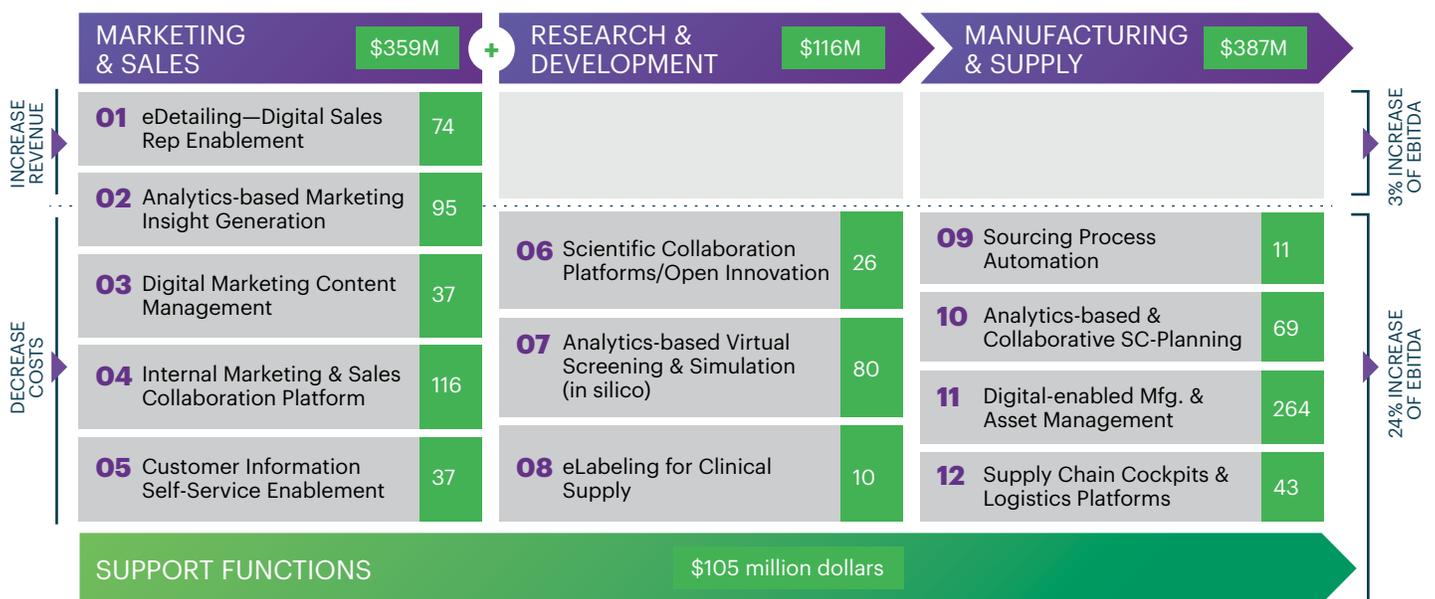
The extent of change required to prepare companies to succeed in this new world requires more than a minor upgrade. Organizations that simply tweak their models are running a huge risk. A new mindset is required to deal with the complexity of this new supply chain environment and to capitalize on the market potential that it unlocks.

The good news is that there are clear and viable solutions available. Companies that are able to adapt and enhance their supply chain capabilities to create a digital supply network have tremendous opportunities to capture market share, increase overall profitability and manage risk more effectively.

ACCENTURE RESEARCH INDICATES THAT FOR A \$10 BILLION DOLLAR PHARMACEUTICAL COMPANY, A PARTIAL DIGITIZATION STRATEGY LEVERAGING THE END-TO-END CAPABILITIES OF A DIGITAL SUPPLY NETWORK ENABLES UPWARDS OF \$387 MILLION IN COST TAKEOUT IN THE MANUFACTURING AND SUPPLY PROCESS REPRESENTING A SIGNIFICANT LIFT TO OVERALL EBITDA.

The opportunity is there, and digital leaders in the industry are already capitalizing on the value potential across each of the areas shown in Figure 2.

FIGURE 2. Partial digitization strategy—EBITDA potentials per digitization lever
\$10 billion pharmaceutical company



Source: Derived from a detailed Accenture Strategy study completed in June 2015 entitled “Value Creation through Digitization in the Pharmaceutical Industry” led by Jan Ising, Clemens Oertel, Christine Knackfuss and Isabelle Heiber. Excerpt from: Jeff Elton & Anne O’Riordan. “Healthcare Disrupted.” iBooks.

A CALL TO ACTION:

USING DIGITAL TO SOLVE SUPPLY CHAIN ISSUES

How do these trends and disruptions potentially affect the performance of the life sciences supply chain? The following supply chain issues persist or are being amplified due to the industry trends. Digital leaders understand the value potential of leveraging a digital supply network as a competitive differentiator to turn these issues into advantages.

ISSUES:

TALENT SCARCITY

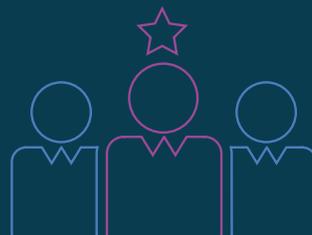
LACK OF VISIBILITY

INEFFICIENT FULFILLMENT MODELS

INFLEXIBLE TECHNOLOGIES

POOR RESPONSE TIMES

CONFLICTING PRIORITIES



ISSUE:

TALENT SCARCITY

Most of the operational skills in supply chain today seem to be specific to a function. Life Sciences companies need a workforce with the ability to understand end-to-end dependencies, the associated financial and operational impacts of decisions across functions, and the ability to analyze information across functions.

THE DIGITAL RESPONSE

Introducing new skill sets into the traditional supply chain talent pool is key (e.g., Data Scientist vs. Engineer vs. Technologist). Leveraging the new on-demand or “liquid” talent service models can help companies obtain the differentiated skills needed to succeed in a timely manner.



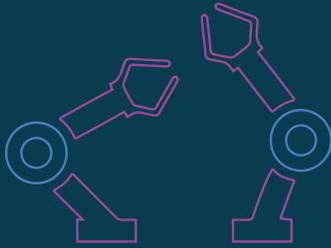
ISSUE:

LACK OF VISIBILITY

Current technology and processes limit end-to-end supply chain visibility at order, product or shipment levels. This situation results in inaccurate supply chain plans, higher fulfillment costs and an inability to sense problems as they occur and then resolve them quickly.

THE DIGITAL RESPONSE

The digital supply network leverages the broader ecosystem of information from all sources across the value chain. This creates a rich visibility and analytics network, increasing the accuracy of supply chain planning, streamlining distribution operations, and creating a “sense-and-respond” model for proactive exception handling.



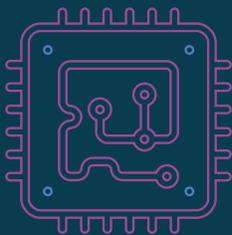
ISSUE:

INEFFICIENT FULFILLMENT MODELS

Most companies' fulfillment models are too static. Leaders are struggling to manage the cost and complexity of the new world. Traditional distribution and transportation models have been created to support high volumes and fewer SKUs. But these models can also prove to be inflexible and inefficient when extended to individual customized orders, wider product assortment and multiple last-mile delivery options.

THE DIGITAL RESPONSE

Automated, touchless delivery services are being introduced to provide the right level of service specification to support highly sensitive pharma, biologic, and medical products. These types of digital fulfillment models will continue to expand with the heightened demand for personalized services and the need to scale to meet market change.



ISSUE:

INFLEXIBLE TECHNOLOGIES

Legacy technology platforms created around supply chain functions or silos are considered time-consuming, costly to deploy and inflexible to extend, making it difficult to address the growing needs of today's supply chain.

THE DIGITAL RESPONSE

Digital leaders are quickly moving toward cloud-based, interoperable technology platforms. These provide more flexible solutions that can more easily scale to the changing dynamics of the supply chain and the business.



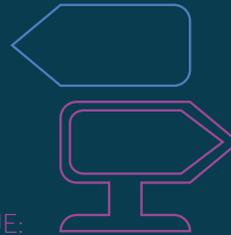
ISSUE:

POOR RESPONSE TIMES

- Companies are experiencing accelerating volatility in planning and execution.
- Long-term planning faces new challenges, while short-term execution issues take more and more resource time.
- Companies find it difficult to create seamless coordination between functions and to share information on a real-time basis between commercial, supply and distribution processes.

THE DIGITAL RESPONSE

- Leveraging real-time information and unstructured data to proactively respond to accelerating volatility in planning and execution.
- Increased precision of mid- and long-range planning through advanced analytics enables more proactive, short-term operations and service specificity to customers.
- Seamless coordination between functions through single-source platforms to share information on a real-time basis.



ISSUE:

CONFLICTING PRIORITIES

Each supply chain function has its own priorities and performance metrics. These need to be aligned with other functions, overall supply chain objectives and business outcomes.

THE DIGITAL RESPONSE

Within a digital supply network, end-to-end visibility and connectivity enable performance measurement in line with broader business outcomes, with a priority on business value and customer or patient service.

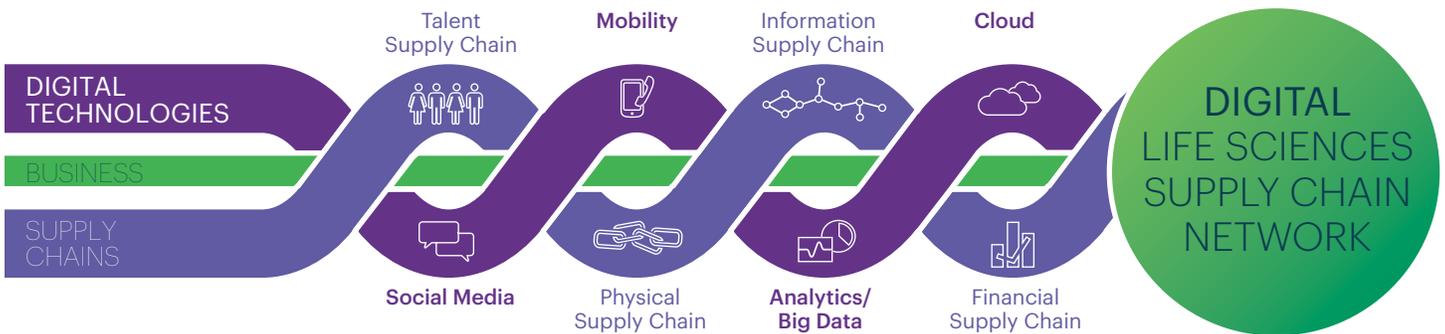
CREATING A DIGITAL SUPPLY NETWORK

UNDERSTANDING THE BASICS

A digital supply network represents processes, organization structures and technologies that enable a seamless, frictionless planning and execution function that can manage the supply chain end-to-end.

Digitization will converge traditional supply chain elements into supply chain networks. The resulting digital supply networks will be a seamless integration of talent, physical, information and financial supply chains (See Figure 3).

FIGURE 3. Evolution of digital Life Sciences supply network
Examples of Convergence



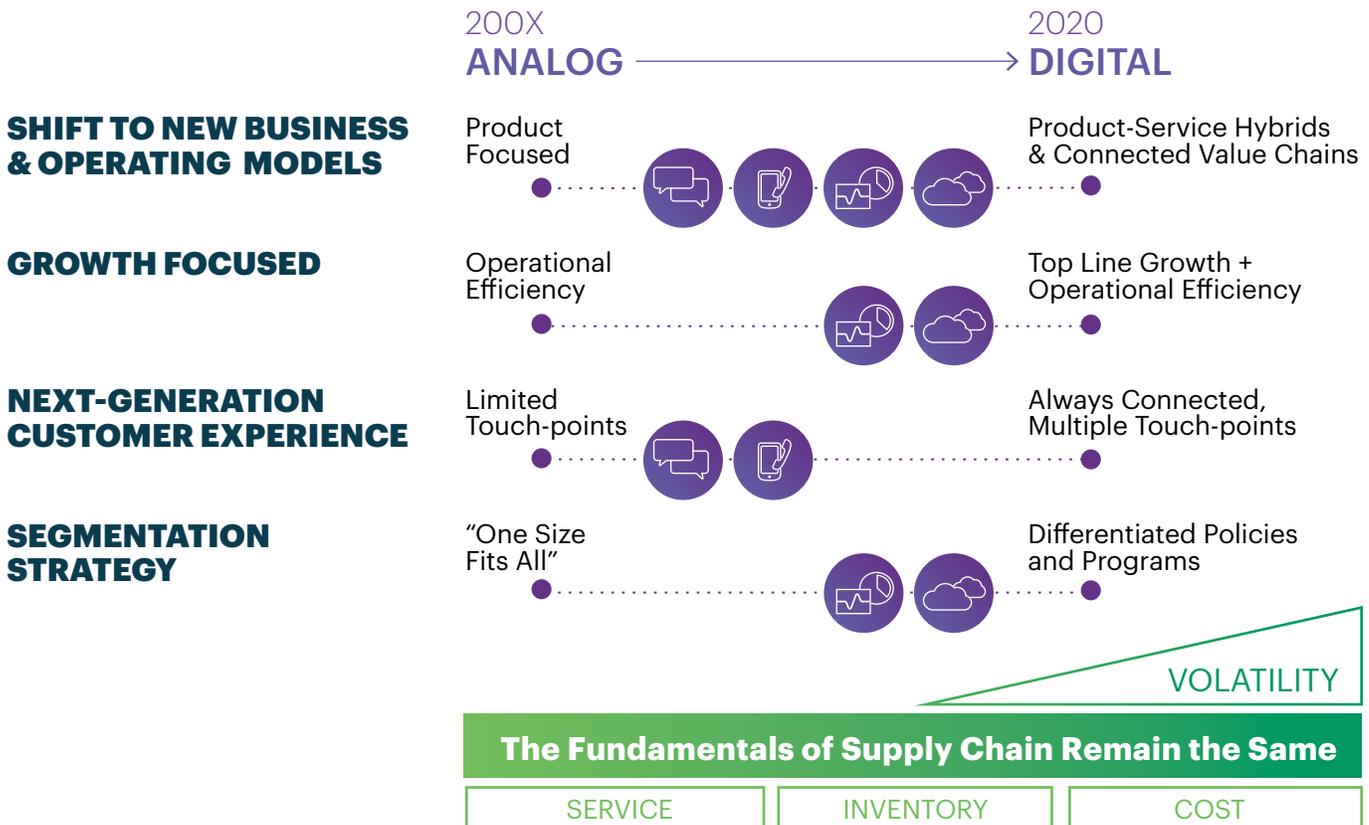
Source: Accenture

As shown in Figure 4, the move to digital requires new business models that incorporate service and are closer to the customer. There must be multiple supply chain models instead of just one. At the same time, although the shift to a digital supply network is a comprehensive change, it is still founded on the same supply chain fundamentals of service, inventory and cost.

What are some inhibitors to creating a digital supply network? Most life sciences companies are still structured according to function. That perspective tends to separate multiple planning and execution areas (design, sell, plan, make, source, deliver, return) and results in competing priorities across the time horizon of the value chain.

Leveraging disruptive technologies and building a digital supply network means breaking down these traditional functional barriers and instead focusing on integrated services that drive value across the enterprise.

FIGURE 4. Digital is enabling new supply chain capabilities



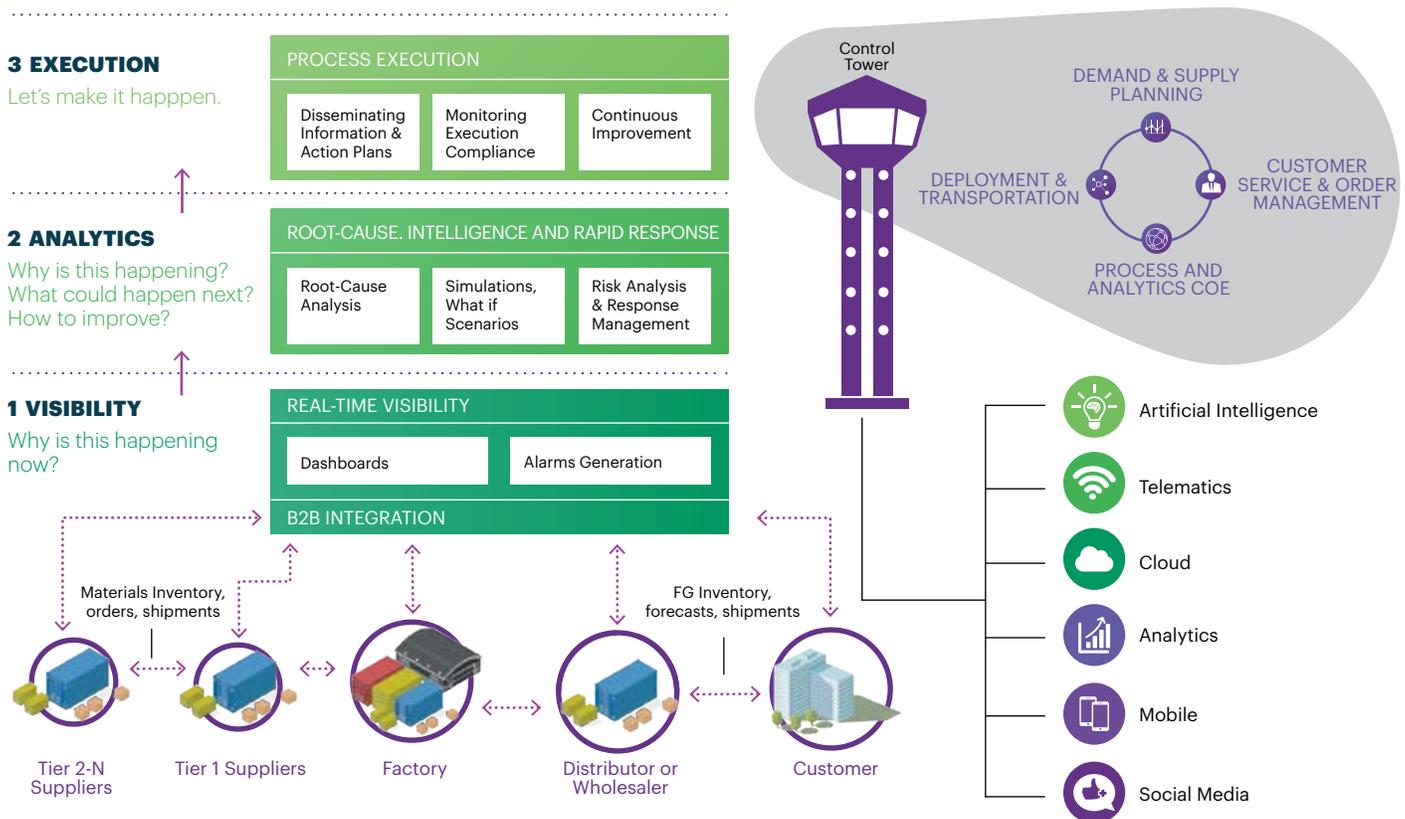
Source: Accenture

Think of organizations responsible for demand and supply planning, deployment and transportation, or order management and customer service. These types of integrated services organizations are being further integrated, creating a more seamless services engine to support the changing environment.

Digital supply networks leverage cloud-based platforms and control tower set-ups. In this way they connect, scale, and ultimately integrate data from multiple sources such as end-consumer devices, multiple points of sale, and internal and external data warehouses. Although the concept of control towers has been around for years, Accenture views the new approaches to control towers as core to a digital supply network. Control towers provide overarching supply chain visibility and analytics while helping to enable end-to-end supply chain transformation.

Figure 5 depicts the top three tenants of a control tower necessary to run a supply chain. By introducing digital capabilities into this model—artificial intelligence, cloud, analytics, mobility, social—a company may be able to break down the walls of traditional supply chain functions. Demand and supply planning can be combined to focus on true network planning. Customer service and order management can be managed as one function; deployment and transportation can be managed as one function; etc.

FIGURE 5 . Integrated supply chain operating model example



Source: Accenture

REIMAGINING THE SUPPLY CHAIN IN A DIGITAL WORLD

To realize the growth potential of digital, companies should go beyond piecemeal additions of technologies such as analytics, social media, mobility, cloud, cognitive computing and 3D printing. Instead, they should leverage these technologies in an integrated way.

FOUR KEY CHARACTERISTICS ARE NEEDED TO CREATE AN INTEGRATED DIGITAL SUPPLY NETWORK:

1 RAPID

Speed is the currency of the future. By making their supply chains more responsive, proactive, predictive, real-time and scalable, leading companies can move quickly to take advantage of growth opportunities. They are not only better at sensing market shifts more accurately than their competitors; they can also allocate product design and manufacturing capacity across their facility network faster and more dynamically. For example, a global command center linked to a geographical data system connects the computer and device maker's outsourced field engineers and third-party logistics providers in real time.

2 SCALABLE

Digital supply networks have the ability to add (or shed) suppliers or customers and invest in (or divest) businesses, as required, for maximum efficiency. This organizational flexibility is critical in markets whose growing complexity and fragmentation is a top issue. Mergers and acquisitions in the industry are partly responsible for driving this need for scalability. Being able to integrate new organizations or separate existing ones is critical for a supply chain in life sciences.

3 INTELLIGENT

Digital supply networks excel at creating data-driven, actionable insights. They leverage digital technologies—and analytics in particular—to raise the supply chain's IQ, enabling automated execution and accelerated innovation. Companies can leverage data available from the network captured by serialization. Or they can collect data points at manufacturing sites from machines and use this data as input into advanced analytics software. In this way they can enable predictive capabilities and machine learning to drive efficiency.

4 CONNECTED

Digital supply networks leverage cloud technologies and analytics to provide end-to-end supply chain visibility in real time. They also keep a company connected—both internally and externally—through seamless collaboration. For example, leveraging a cloud-based global platform provider can help companies identify trends in trade migration and use predictive analytics to determine whether or not bottlenecks will make it more difficult to do business in specific locations in the future.

GETTING STARTED: KEY QUESTIONS AND A PATH FORWARD

A recent Accenture study has shown that trendsetters in the area of digital supply networks have followed a common pattern to pinpoint what capabilities they need next, take action to implement them in a meaningful way, and capture the benefits.²

1 REINVENT YOUR SUPPLY CHAIN BUSINESS CASE

Preserve basic efficiencies, but examine how you could leverage digital to change your value proposition and enable growth at speed for the enterprise as a whole. You can't, and shouldn't, do it all. Go after what can make a disproportionate impact on growth and profitability. You'll need new areas of focus, additional KPIs that capture market share and revenue generation, new tracking tools and even more cross-functional governance.

2 RETHINK YOUR OPERATING MODEL

Scan your supply chain for digital enablement and let digital inform how you can reimagine your supply chain to truly reap its benefits. Challenge the current setup of who owns certain functions, where they are located, and how they are done. Applying digital capabilities to an existing operating model will only yield marginal benefits. Whereas using digital to re-define your operating model is transformative.

3 REIMAGINE YOUR ECOSYSTEM

Expand your ecosystem beyond your four walls and leverage digital to access and share data, while managing cybersecurity risk. Engage proactively with strategic partners, including digital start-ups, to help you jumpstart innovative, value-enhancing capabilities.

As your organization begins to create strategies to develop a digital supply network, challenge yourself with the following questions:

- Do you have a formal digital supply network strategy, with clear initiatives and measurable objectives?
- Have you evaluated your supply chain organization to identify conflicting priorities and redundancies, and to look for opportunities to develop integrated services organizations?
- Do you have a strategy for data and analytics with a focus on ownership of data at either a functional or enterprise level?
- Do you have visibility across your supply chain, inclusive of third parties? Leveraging digital capabilities, companies are developing visibility solutions in weeks as opposed to months or years.
- Have you begun to explore alternative manufacturing technologies to deal with personalized medicines and increasing associated services?

CONCLUSION: **BE BOLD, BUT PRAGMATIC**

A digital supply network represents a new paradigm for your supply chain, breaking traditional norms and revolutionizing the way that you serve patients and customers. Increase your focus on more sophisticated technologies but don't fall prey to "bolting on" new technology to an old model. With that approach you will only realize a fraction of your potential value. Look at your high-impact technologies and ask, "What new bold moves should we make in our strategy, processes and organization to push far beyond today's reality?"

There is some urgency here. If supply chain organizations cannot proactively propose digital capabilities and new models, the rest of the business may source them elsewhere.



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ABOUT ACCENTURE LIFE SCIENCES

Accenture’s Life Sciences group is dedicated to helping companies rethink, reshape or restructure their businesses to deliver better patient outcomes and drive shareholder returns. We provide end-to-end capabilities within or across strategy, consulting, digital, technology and operations around the globe in all strategic and functional areas—with a strong focus on R&D, Patient Services, Commercial and the Supply Chain.

We have decades of experience working hand-in-hand with our clients to improve their performance across the entire life sciences value chain. Accenture’s Life Science’s group connects more than 15,000 skilled professionals in over 50 countries who are personally committed to helping our clients achieve their business objectives and deliver better health outcomes for people around the world. Accenture has been named a leader in the IDC MarketScape: Worldwide Life Science Manufacturing and Supply Chain Digital Transformation 2016 Vendor Assessment.

ABOUT ACCENTURE

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions—underpinned by the world’s largest delivery network—Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With more than 394,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at www.accenture.com.

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