

# Life Sciences disrupted

Accelerating time to market with  
digital supply chain innovation

TechPros.



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# Introduction: Supercharging progress in Life Sciences – embracing digital dynamics for a resilient future

Thanks to the fast pace of digital evolution, the Life Sciences sector finds itself on the cusp of a transformative era. "Life Sciences Disrupted: Accelerating Time to Market with Digital Supply Chain Innovation" presents a pragmatic yet optimistic view of the sector's journey towards a digital ecosystem, infused with the pioneering spirit and imaginative insights of industry experts.

Our narrative is informed by the insights of 16 forward-thinking industry leaders who explored the manifold challenges at hand – including the complexities of market and supply chain disruptions and the rise of personalized medicine – and how these challenges have catalyzed the sector to embrace new digital technologies. As A.K. Karan aptly notes, the accelerated transformation spurred by recent global events has demanded the industry's quick, responsible and ongoing adaptation.



The industry has been transforming, accelerated by the pandemic, which has brought about a need for more dynamic supply chain adjustments."



**A.K. Karan**

Global Senior Director – Digital Transformation,  
Integrated Supply Chain  
Baxter International Inc.

## Realizing agility through better digital collaboration

The recent impacts of geopolitical conflicts, supply chain disruptions and legislative changes have highlighted the sector's need to respond swiftly and innovatively to ensure uninterrupted operations and services.

Contributors emphasized the importance of forward-looking strategies, early risk planning and digital tools to better collaborate with major suppliers, which are key to setting a foundation for agility. Taking a proactive approach has allowed their companies to anticipate and mitigate potential disruptions before they impact the supply chain.

Indeed, the power of collaboration stands out in the shift towards digital. Life Sciences companies are increasingly joining forces with suppliers for smoother

product launches. From key ingredients to packaging, sharing insights, starting supply planning early and integrating risk assessments and supply chain tactics have enabled a number of leaders to effectively accelerate time to market. With 80% of companies now prioritizing such teamwork, it's evident that collaboration is key to overcoming challenges and meeting market demands efficiently.

## ERP: The core of the new digital enterprise

Perhaps surprisingly, at the core of this change is the enterprise stalwart, ERP. However, this is not about legacy systems. Most leaders emphasized the importance of their company's investments in modern, digital global ERP systems as key to making their operations more agile and resilient.

By extending systems with tools for detailed supply chain planning and tracking, companies work more efficiently and help drive faster and more predictable times to market. This combination of global ERP and modern supply chain tools is helping the sector confidently face the digital era's challenges with smart and effective solutions.

Central to this transformation lies the pioneering adoption of digital technologies. The integration of tools like AI and machine learning are more than just technological advancements; they are the catalysts driving the Life Sciences sector towards unprecedented efficiency and effectiveness. Amitte Gulamhussen's insights into predictive analytics highlight the power of these technologies to navigate through the uncertainties of supply chain disruptions proactively.



Predictive analytics are crucial for anticipating supply chain disruptions and preparing accordingly."



**Amitte Gulamhussen**

Global Head Excellence, Digital, Automation  
DSM-Firmenich



Balancing innovation with regulatory compliance and operational efficiency also remains a critical aspect of this journey. The sector's approach to navigating these waters reflects a blend of resilience and responsibility, as emphasized by Sheila Amarnath-Iyer, Global Supply Chain Lead at a pharmaceutical company in the US.



Understanding and navigating the regulatory landscape is key to achieving both compliance and innovation."



### Sheila Amarnath-Iyer

Senior Director Supply Chain Planning and Strategy  
A leading pharmaceutical manufacturing organization

The leaders profiled in this eBook collectively envision a future where technologies are not just augmenting current practices but are redefining patient experiences. Michael Shanno's perspective on leveraging real-time data analytics embodies the imaginative and pioneering spirit that drives the sector forward.



Utilizing real-time data analytics is essential for enhancing patient care and driving industry progress."



### Michael Shanno

Head of Digital Transformation  
A multinational pharmaceutical company

Read further and join us on this enlightening journey as Life Science leaders explore the transformative power of digital supply chain innovation.

## Key insights from industry experts

- **The resilience of the Life Sciences sector:** Understand how the industry has adeptly navigated through market disruptions, emphasizing its resilience and adaptive strategies.
- **Digital transformation as a catalyst:** Discover how digital technologies are revolutionizing supply chain processes, leading to more prescriptive and proactive decision-making.
- **Balancing innovation with compliance:** Gain insights into how Life Sciences companies are striking a balance between rapid innovation and stringent regulatory compliance, ensuring safety without stifling progress.
- **Strategic choices in ERP implementation:** Learn about the strategic considerations in choosing between global and local ERP systems and how this impacts supply chain efficiency and adaptability.
- **Global ERP systems' agility:** Discover how modern, digital ERP systems facilitate rapid changes across global supply chains, enhancing operational agility and responsiveness.
- **Early risk planning with suppliers:** Learn the value of early risk planning and modeling in collaboration with major suppliers for a resilient supply chain.
- **The future of Life Sciences technologies:** Explore the potential future adoption of emerging technologies such as bots, predictive analytics and machine learning and how they can enhance patient experiences.
- **Optimizing supply chain management:** Understand how companies are redefining business processes, deploying new systems and training employees to optimize supply chain management in a rapidly evolving landscape.
- **The role of agile strategies in supply chains:** Understand the importance of agile supply chain strategies in improving responsiveness and efficiency in the face of market changes.
- **Emerging tech and process improvements:** Discover the importance of piloting emerging tech solutions and the need for continuous reassessment of ERP and technological strategies to stay ahead in the industry.

# Five pivotal challenges in pioneering digital supply chains in Life Sciences

The journey towards digitalizing the Life Sciences supply chain is marked by distinct industry challenges:

1. **Market disruptions:** Analyzing how global events have necessitated rapid adaptation in supply chain strategies.
2. **Technological integration:** Assessing the hurdles in implementing AI and IoT within legacy systems and regulated frameworks.
3. **Regulatory compliance:** Understanding the balancing act between accelerating digital transformation and adhering to stringent regulatory standards.
4. **Global vs. local ERP system decisions:** Evaluating the implications of choosing between global standardization and regional customization in ERP systems.
5. **Future outlook and emerging innovations:** Exploring the potential and challenges of emerging technologies in reshaping patient care and industry practices.



## 01. Market disruptions

### Adaptation to rapid market changes and evolving medical needs

The Life Sciences sector has been at the forefront of navigating through a landscape rife with diverse market disruptions. While the COVID-19 pandemic has been a significant catalyst for transformation, other disruptors, like geopolitical tensions, technological advancements and evolving consumer behaviors, have also played a crucial role. These events have not only challenged the industry's resilience but have also acted as a catalyst for rapid transformation, particularly in streamlining the supply chain.

A significant shift was observed in the time from approval to market for critical medical products. Recent findings show that an overwhelming 85.71% in the sector reported a notable decrease in this duration. This improvement highlights the industry's swift adaptation to urgent healthcare and medical needs. The unprecedented speed in drug delivery witnessed during the pandemic – from 7-10 years to as little as 18 months post-pandemic, as highlighted by Sheila Amarnath-Iyer – underscores how the industry can transcend traditional timelines, pushing the boundaries of what's possible when faced with global health emergencies.



Organizations came together to make rapid drug delivery happen during the pandemic. This raised the question: Why can't this collaborated and accelerated approach be our normal course of business for certain diseases?"



### Sheila Amarnath-Iyer

Senior Director Supply Chain Planning and Strategy  
A leading pharmaceutical manufacturing organization

A.K. Karan's perspective captures the essence of this evolution, "The industry had been transforming even before the pandemic, albeit at a slow pace. But what the pandemic has done is accelerate some of these transformational initiatives, bringing about a need for more dynamic supply chain adjustments." This acceleration is evident in the industry's adoption of advanced supply chain processes and technologies.

The importance of agility in these times is emphasized by Sheila Amarnath-Iyer, who points out how the rise of personalized medicine and globalization necessitates a more agile and innovative approach in the industry.

This mirrors the industry's commitment to not just overcoming the challenges posed by these disruptions but leveraging them as a springboard for innovation.



Personalized medicine is a game changer for the industry and it does bring its own set of challenges for the supply chain. The traditional one-size-fits all approach doesn't work here. We need to have a more agile and flexible supply chain that can cater to individual patient needs."



### Sheila Amarnath-Iyer

Senior Director Supply Chain Planning and Strategy  
A leading pharmaceutical manufacturing organization

The Life Sciences sector's adoption of digital strategies, coupled with its response to a range of market disruptors, exemplifies the importance of having the ability to rapidly adapt, setting new benchmarks for agility and resilience in the Life Sciences supply chain.

## 02. Technological integration

### Incorporating technologies like AI and advanced analytics into existing systems

The drive towards digitalization in the Life Sciences sector is intricately linked with the integration of advanced technologies. Embracing technologies such as AI and IoT, among others, is not merely a trend but a strategic imperative to enhance operational efficiencies, improve decision-making and foster innovation.

The focus on AI and machine learning is particularly prominent, with companies seeking to leverage these tools for critical functions like product inspection and demand sensing. This integration goes beyond mere compliance; it represents a shift towards more intelligent, data-driven operations that can significantly impact efficiency and product development.

Data analytics has become a cornerstone of this technological integration. By harnessing the power of predictive analytics, organizations are now able to uncover hidden correlations and insights, which in turn can lead to better demand planning and risk assessment. This approach highlights the industry's move towards a more analytical and proactive stance in managing its supply chains.

Highlighting the importance of data analytics in decision-making, Richard Durina explains: "Predictive analytics can detect hidden correlations like product cannibalization." This indicates the role of data-driven insights in refining supply chain strategies and product development.

However, the integration of these emerging technologies is not without its challenges. One of the primary obstacles is the need to modernize existing systems, many of which have grown complex due to mergers and acquisitions. Upgrading these legacy systems to support new digital capabilities remains a significant undertaking for many organizations.

Michael Shanno points out the challenge of integrating these technologies within existing systems: "Our current systems, grown through M&A, make large-scale change difficult." His observation reflects a common hurdle many organizations face – the need to modernize legacy systems to fully leverage digital capabilities.

The sector's commitment to technological integration is further validated with a notable emphasis on investing in digital ERP platforms. While there is clear recognition of the value these technologies bring, the journey to full integration is ongoing. The average importance score of 7.25 out of 10 from our survey attributed to these investments suggests that while there has been progress, there is still considerable growth and development to be done.

One issue, as Sheila Amarnath-Iyer observes, is that there is a perception that the time-to-benefit from large technology programs can be frustratingly long. This is because of the perceived need to bolt on analytics solutions on top of core ERP – projects that demand tight integrations and can take years to roll out globally.



If we can develop a drug from inception to discovery to commercialization to manufacturing and get it to the end patient in 18 months, why should a technology department or a technology program take three years?"



### Sheila Amarnath-Iyer

Senior Director Supply Chain Planning and Strategy  
A leading pharmaceutical manufacturing organization

As the sector progresses, its success in deploying new technologies rapidly will be a critical determinant of its ability to adapt and thrive in an increasingly digital landscape.

## 03. Regulatory compliance

### Balancing rapid market access with regulatory compliance

Regulatory compliance in the Life Sciences sector is a complex but vital aspect of the industry's digital transformation. Navigating this intricate landscape requires a careful equilibrium, balancing innovative digital adoption with stringent regulatory standards. This balance is increasingly challenging as companies extend their focus from traditional compliance areas to encompass comprehensive supply chain management – including the often-overlooked elements like packaging, which can significantly impact market access timelines.

The integration of new technologies, while offering significant potential for process optimization, must be managed with a keen eye on data integrity, patient privacy and product safety. These concerns are at the forefront of industry leaders' minds. As noted by industry experts, leveraging AI and machine learning has become essential in enhancing regulatory compliance, aiding in areas such as product inspection and demand planning. This technology is also pivotal in ensuring comprehensive supply chain oversight, allowing for earlier and more effective planning stages, where collaboration with key suppliers becomes crucial.



We use AI and ML in various areas: one is for product inspection, where we've seen significant value, significant return on investment."



**A.K. Karan**

Global Senior Director – Digital Transformation,  
Integrated Supply Chain  
Baxter International Inc.

Adding to this, Richard Durina emphasizes the importance of analytics in the regulatory domain, stating, "Simple correlation identification exists today... But automatically generating scenarios based on that is still basic."

These analytical advancements are not only enhancing traditional compliance measures but are also instrumental in the early phases of supply chain planning, helping to identify potential risks and collaboratively address them with suppliers before they escalate into larger issues.

However, the global nature of the Life Sciences industry adds another dimension of complexity to regulatory compliance. Organizations need to adapt their digital strategies to fit diverse regulatory standards across different markets. This necessitates a strategic, forward-thinking approach where compliance considerations are woven into the initial phases of technology adoption and product development, ensuring all elements of the supply chain are meticulously planned and aligned with regulatory demands.

Survey findings reflect a divided perspective on the integration of regulatory compliance within digital supply chain management, with 50% of respondents acknowledging the presence of integrated solutions and 50% indicating a lack thereof. This highlights the industry's ongoing efforts to harmonize digital innovation with regulatory obligations and the need for a more unified approach in integrating compliance with early supply chain planning.

Moving forward, the Life Sciences sector's success hinges on its ability to integrate regulatory compliance seamlessly into its digital transformation initiatives. This involves leveraging technology to streamline compliance processes and embedding a compliance-focused culture throughout the organization. Ensuring that all digital initiatives are aligned with regulatory expectations and that proactive supply chain planning is integrated from the onset will be crucial in advancing the industry's digital transformation journey.

While the path is challenging, the ability to navigate regulatory compliance in the context of digital transformation, particularly through integrated supply chain management, will be key to its ongoing resilience and innovation.

## 04. Global vs. local ERP systems

### Standardization versus local market needs

Choosing between global and local ERP systems is a crucial decision in the Life Sciences sector, significantly impacting supply chain operations. Global ERP systems offer the advantage of standardizing processes across diverse geographical locations, which is essential for maintaining consistency, improving data management and enabling effective decision-making.

Insights from industry leaders emphasized that global ERP systems are pivotal in orchestrating streamlined, efficient and consistent operations across the Life Sciences sector's vast geographical expanse.

These systems not only facilitate a unified platform for managing complex processes but also enable rapid implementation of changes, reinforcing the sector's agility and responsiveness. As Firat Mericer pointed out, the adoption of global ERP infrastructures has significantly accelerated the pace at which organizations can adapt to market shifts, underscoring the strategic advantage of such systems in enhancing operational excellence and global competitiveness.



Global ERPs, with local add-ons, maintain consistency during growth, solving interface and compatibility issues.”



**Firat Mericer**

VP Supply Chain – Global

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In recognizing the benefits of global systems, it's also essential to understand the strategic role of localized planning and execution capabilities. These allow organizations to meet specific regional requirements and comply with local regulations within the global framework, ensuring both global efficiency and local relevance.

The debate is nuanced, and for many organizations in the Life Sciences sector, a strategic integration of global ERP systems with local customization capabilities would offer the most effective solution. This approach enables the efficiencies and standardization benefits of a global system while preserving the flexibility to address local market and regulatory needs effectively.

Industry experts, including A.K. Karan, highlight the importance of leveraging current technologies while exploring advancements like machine learning and quantum computing for future optimizations. The survey results reflect a trend towards global strategies, with a majority of respondents (54%) indicating a preference for globally driven transformation initiatives.



Technologies like machine learning and quantum computing show promise by enabling optimizations and closed loop systems. But the focus is on stabilizing current tech first.”



**A.K. Karan**

Global Senior Director – Digital Transformation,  
Integrated Supply Chain  
Baxter International Inc.

As Life Sciences companies continue to navigate their digital transformation journeys, the decision between global and local ERP systems remains a critical strategic decision. This choice will influence their ability to adapt to changing market conditions, meet regulatory requirements and achieve operational excellence in an increasingly digital world.

## 05. Future outlook and emerging innovations

### Integrating rapid technological advancements

The adoption of future technologies is rapidly becoming the cornerstone of innovation and growth in Life Sciences. And as our leaders attest, companies are increasingly turning to AI, IoT and advanced data analytics as key drivers of transformation.

AI and machine learning are at the forefront of this technological revolution. Their application in drug discovery, for instance, has revolutionized the way researchers approach the development of new medications. These technologies facilitate the processing and analysis of large data sets, uncovering hidden patterns and insights that can lead to the development of more effective and personalized treatments.

Industry leader Sheila Amarnath-Iyer highlights the transformative impact of these technologies, "The integration of digital technologies in our operations has not only streamlined processes but also opened up new avenues for innovation and collaboration."

This sentiment is reflective of a broader industry trend toward embracing digital solutions to drive efficiency and innovation.



Supporting this shift, survey data reveals a strong consensus on the importance of future technologies, with over 70% of respondents in the Life Sciences sector acknowledging the need for investment in these areas. This statistic indicates a significant movement within the industry towards embracing digital transformation.

As Life Sciences companies navigate this path of technological adoption, they face the challenge of integrating these advanced solutions into their existing frameworks. This process requires not only technical expertise but also strategic foresight and a willingness to embrace new ways of working. Collaboration across different sectors and stakeholders will be crucial in harnessing the full potential of these technologies.

The future trajectory of the Life Sciences sector will be shaped by its ability to effectively leverage AI, IoT and data analytics.

## Navigating market disruptions

### Adapting for a resilient future

In the rapidly evolving Life Sciences sector, market disruptions have become a norm rather than an exception. While these disruptions pose significant challenges, they also present unique opportunities for innovation and growth.

To navigate these disruptions, organizations in the Life Sciences sector are adopting multifaceted strategies. Increasing multinational sourcing, building alliances with other companies and fostering partnerships are key approaches to mitigate risks associated with political and market barriers. Enhancing educational programs and developing industry clusters also play a crucial role in addressing the talent shortage and ensuring a continuous pipeline of skilled professionals.

The emphasis on modular design teams, agnostic manufacturing footprints and the implementation of new digital business models are reshaping how the industry responds to these market disruptions. Moreover, cross-company digital integration is emerging as a pivotal strategy, enabling companies to stay agile and responsive in the face of rapidly changing market dynamics.

In the realm of regulatory compliance, Life Sciences organizations are focusing on streamlining their portfolios, improving phase-out strategies and leveraging smarter manufacturing approaches. Collaborative efforts across industries and integrating notified bodies are also being pursued to ensure regulatory adherence.

The choice between global and local ERP systems remains a critical decision in managing these disruptions. A decentralized, modular ERP network offers flexibility and adaptability, essential in today's volatile market conditions. This approach, coupled with cross-network data integration and transparency, is becoming increasingly preferred over centralized systems.

As the Life Sciences sector continues to evolve, the ability to adapt to and leverage market disruptions will define its future trajectory. Embracing change, fostering innovation and adopting a proactive approach will be key to thriving in this dynamic environment.



# Supercharging progress: Seven solutions for accelerating time to market with digital supply chain innovation

## 1. Technological integration and advancements

### Solution overview:

Embracing technologies is crucial for supply chain optimization in Life Sciences. AI and machine learning are transforming drug discovery by analyzing complex datasets to predict outcomes and personalize therapies. IoT technology enhances manufacturing processes, offering real-time monitoring for improved quality control. Together, these technologies streamline operations and foster innovation.

However, it is worth revisiting Sheila Amarnath-Iyer's observation that there is an acute need for acceleration in technology implementation for companies to realize the agility promised by digital technologies. Her insight calls attention to a significant gap between the potential for rapid development and the actual pace of technological deployment, underscoring the urgency of accelerating technology implementation to match the sector's innovative capabilities.

### Action tips:

- Deploy AI for predictive analytics in R&D and supply chain optimization
- Implement IoT solutions for continuous monitoring and predictive maintenance in manufacturing processes
- Integrate execution systems to ensure product traceability and enhance supply chain security
- Regularly assess and update technology infrastructure to keep pace with advancements

### Survey statistic:

Over 70% of industry professionals recognize the critical role of investing in advanced technologies for supply chain enhancement.

In response to Sheila Amarnath's call for faster technology deployment, HCLTech's Supply Chain Segmentation emerges as a strategic, fully integrated solution for those using SAP as their strategic ERP. By offering a streamlined and efficient approach to supply chain management, this innovative solution enables Life Sciences companies to achieve the agility required to navigate the complexities of global markets efficiently, bridging the gap between the potential for rapid innovation and the current pace of technology implementation.



## 2. Regulatory compliance and management

### Solution overview:

In the tightly regulated Life Sciences industry, ensuring compliance while fostering innovation is a delicate balance. Implementing integrated systems that seamlessly combine regulatory compliance with operational processes is essential. Specialized regulatory teams can expedite the adaptation to changing regulations. Leveraging technology to automate and streamline compliance processes reduces the risk of non-compliance and enhances operational efficiency.

### Action tips:

- Develop and integrate comprehensive compliance management systems
- Form specialized teams focused on regulatory updates and compliance strategy
- Automate compliance-related processes to reduce manual errors and increase efficiency
- Conduct regular compliance audits and training for staff to stay abreast of regulatory changes



The only real answer is embedding regulations in processes. They exist for a reason.”



### A.K. Karan

Global Senior Director – Digital Transformation,  
Integrated Supply Chain  
Baxter International Inc.

### Survey statistic:

60% of industry professionals acknowledge the pressing need for more robust technologies and practices in compliance management.





### 3. Supply chain agility and responsiveness

#### Solution overview:

In today's dynamic market, having an agile and responsive supply chain is vital. Flexible supply networks, underpinned by strategic risk planning and modeling in early collaboration with major suppliers, enable swift adaptation to market shifts and client demands. Real-time data analytics provide the agility needed for quick decision-making. Strengthening collaboration with suppliers and partners enhances the overall responsiveness of the supply chain, allowing for more efficient and effective operations.

#### Action tips:

- **Build adaptive supply networks** that can quickly respond to changes in demand and supply, underpinned by early risk planning and collaborative modeling with major suppliers to anticipate and mitigate potential disruptions.
- **Utilize real-time analytics** for immediate insights and swift decision-making, ensuring that supply chain strategies are proactive rather than reactive.
- **Enhance collaboration with suppliers and partners** for a more cohesive supply chain response, integrating insights from early risk assessment to streamline operations and enhance efficiency.
- **Regularly review and update supply chain strategies** to incorporate the latest in risk planning methodologies and supplier collaboration practices across development, supply chain, commercial and regulatory functions for an end-to-end approach.



The integration of digital tools in their supply chain has not only automated planning but also enhanced their decision-making capabilities, allowing them to be more proactive in risk management strategies. This collaborative approach with suppliers ensures that they are not only prepared for the challenges of today but also ahead of the curve in anticipating the demands of tomorrow.”



#### Sheila Amarnath-Iyer

Senior Director Supply Chain Planning and Strategy  
A leading pharmaceutical manufacturing organization

#### Survey statistic:

Approximately 85% of respondents have reported significant improvements in supply chain agility due to technological integration.



## 4. Talent management and skill development

### Solution overview:

The Life Sciences industry faces a critical need to bridge the talent gap, particularly in areas like emerging technology and supply chain management. This necessitates a strategic approach encompassing robust training programs, a culture of continuous learning and targeted recruitment. Organizations must focus on upskilling their workforce to handle advanced technologies and complex supply chain challenges. Initiatives could include partnerships with educational institutions, internal mentorship programs and investment in online learning platforms.

### Action tips:

- Launch comprehensive training programs that cover emerging technologies, supply chain management and regulatory compliance
- Create partnerships with universities and institutions for ongoing education and skill development
- Establish mentorship and leadership development programs to cultivate a skilled internal talent pool
- Utilize online learning platforms and resources for continuous employee skill enhancement



Investing in our people's skills, especially in areas like AI and data analytics, is crucial for staying ahead."



**Amitte Gulamhussen**

Global Head Excellence, Digital, Automation  
DSM-Firmenich

### Survey statistic:

Approximately 65% of industry professionals believe that skill development and training are critical for adapting to technological advancements.



## 5. Global vs. local operations

### Solution overview:

Global ERP systems are essential for Life Sciences companies to standardize processes and quickly adapt to market changes. These systems offer a strategic blend of global consistency and local agility, crucial for operational excellence and competitiveness.



The main reasons companies implement ERPs are for end-to-end visibility across all markets and to standardize their processes, bringing discipline to the organization. While flexibility is necessary, too much can lead to chaos. Global ERPs, supplemented with add-ons for specific local needs, support uniform processes during rapid growth, ensuring operational consistency worldwide. This approach mitigates issues related to interfaces and compatibility, crucial for maintaining global coherence as the organization expands.”



### Firat Mericer

VP Supply Chain – Global

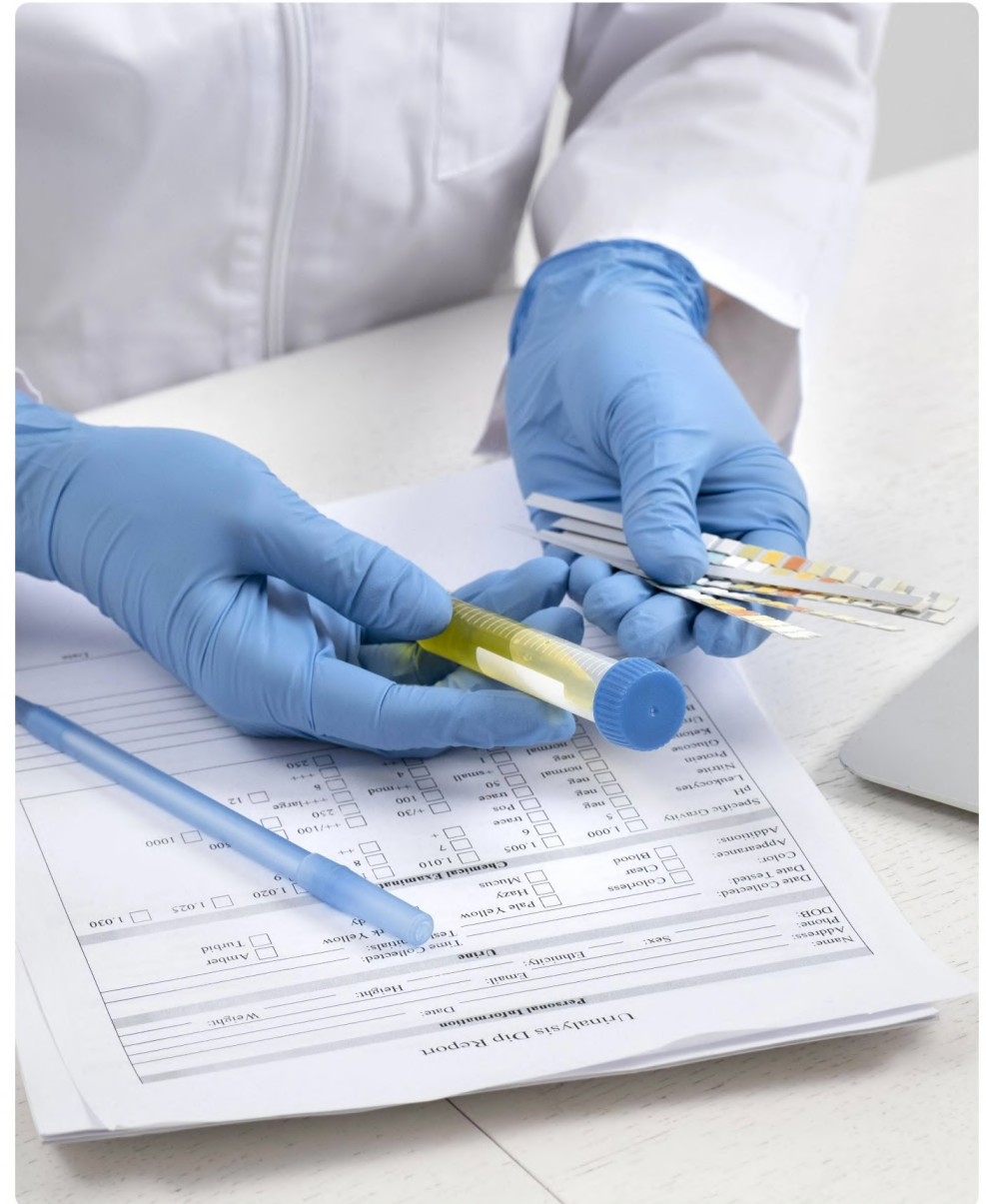
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### Action tips:

- Ensure global standardization while enabling swift local adaptations to meet market demands
- Use modular ERP designs for flexibility in local customization without losing global coherence
- Embed track and trace within ERP to enhance supply chain visibility and responsiveness
- Develop teams that align global strategies with local needs, ensuring seamless operations
- Regularly review ERP systems to adapt to evolving market and regulatory landscapes

### Survey statistic:

53% of respondents have a transformation initiative driven globally, indicating a trend towards global strategies in ERP systems.





## 6. Client-centric approaches

### Solution overview:

Embracing client-centric approaches involves a deep understanding of patient needs and preferences, facilitated by data analytics. Life Sciences companies are adopting strategies to personalize medicine, focusing on delivering tailored treatments and services. This shift towards personalized care requires innovative delivery models and enhanced patient engagement platforms, ensuring that every patient receives care that is specifically suited to their unique health profile.

### Action tips:

- Leverage advanced data analytics to gain insights into individual patient needs, preferences and health outcomes
- Develop and implement personalized medicine strategies that cater to the unique health conditions of individual patients
- Enhance patient engagement and communication through digital platforms, offering accessible and tailored health information and support



Understanding and addressing patient needs is at the heart of our strategy. Our data-driven approach allows us to tailor treatments effectively, enhancing patient experiences and outcomes.”

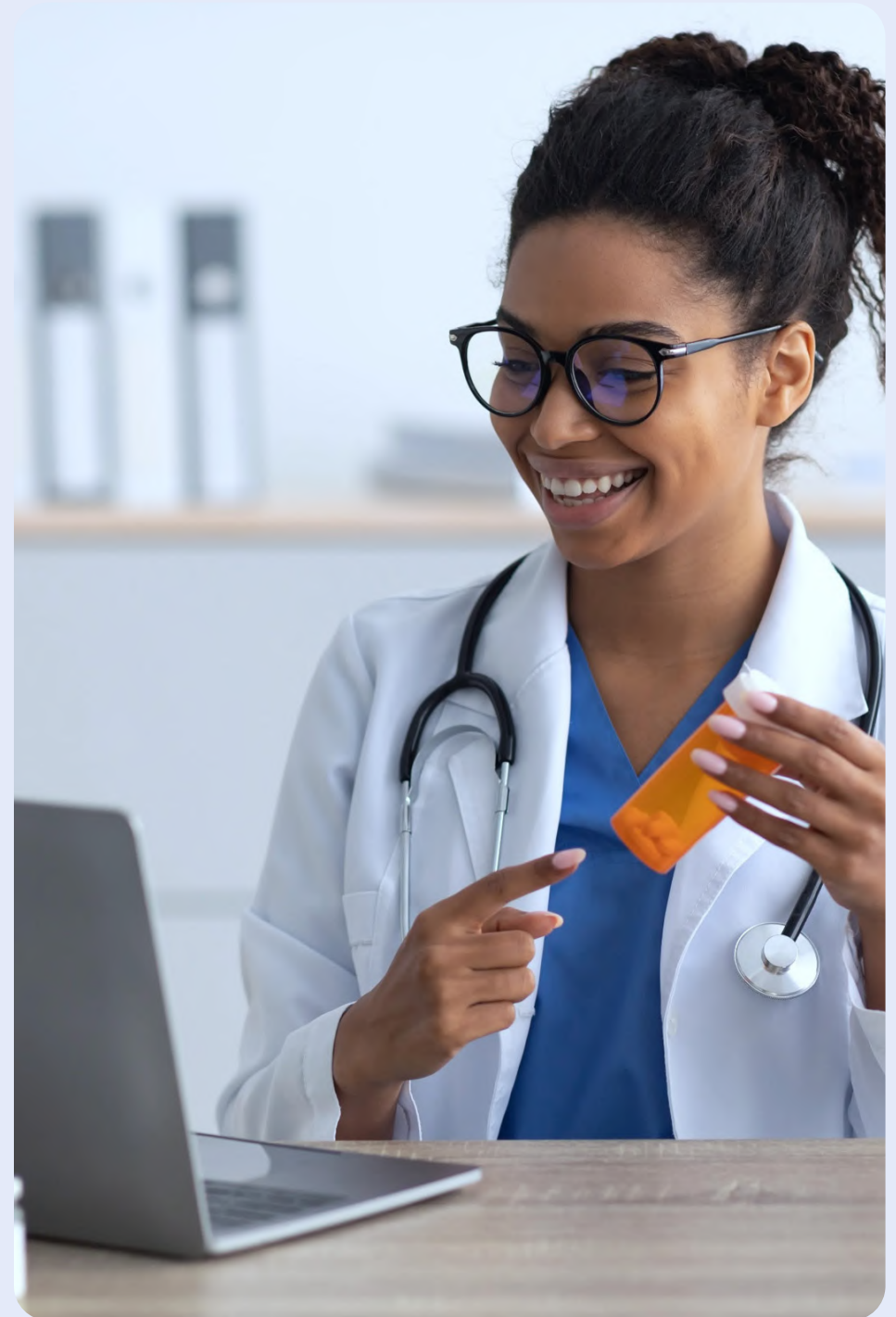


**Amitte Gulamhussen**

Global Head Excellence, Digital, Automation  
DSM-Firmenich

### Survey statistic:

A survey revealed that 78% of Life Sciences organizations are prioritizing client-centric strategies, with a focus on personalized medicine and digital patient engagement platforms.



## 7. Collaborative ecosystems

### Solution overview:

Collaborative ecosystems in the Life Sciences sector are pivotal, especially as companies approach product launches. These networks of partnerships and alliances extend beyond traditional boundaries, emphasizing the importance of early and comprehensive planning. This approach not only facilitates the sharing of knowledge, resources and best practices but is also critical in mitigating risks across the supply chain. By fostering a culture of openness and proactive collaboration, companies can tackle common challenges more effectively and drive sector-wide advancements.

### Action tips:

- Establish strategic partnerships with other companies, suppliers and industry groups well ahead of product launches and should encompass all aspects of the supply chain, from key ingredients to packaging, ensuring that all elements are aligned and potential delays are mitigated.
- Actively participate in industry forums and consortia to share insights, learn from peers and collaboratively plan and execute supply chain strategies, boosting your organization's readiness and response to market demands.
- Create a culture of openness and collaboration within the organization, encouraging teams to engage with external partners and share information freely, enhancing your company's ability to respond flexibly and swiftly to changes in the supply chain.
- Adopting advanced planning, manufacturing and supply chain execution systems is essential. These systems support robust collaboration and integrated supply chain management, enabling companies to start their supply planning earlier and more comprehensively, thus avoiding unforeseen delays and ensuring all elements are thoroughly planned.



The strength of our supply chain lies in collaboration. By forming strategic alliances and sharing knowledge, we can overcome challenges and drive sector-wide advancements more effectively."



**Michael Shanno**

Head of Digital Transformation

A multinational pharmaceutical company

### Survey statistic:

Survey data indicates that 80% of Life Sciences companies are actively engaging in collaborative ecosystems, significantly improving innovation and problem-solving capabilities.





# Embracing the future of Life Sciences

As we conclude our exploration of the Life Sciences sector's digital transformation journey, it's evident that the industry stands at the cusp of a revolutionary change. The challenges and solutions discussed in this eBook reflect a sector that is not only adapting to but also pioneering the use of digital technologies in navigating market disruptions to accelerate its ability to get new products and therapies to market.

The future of Life Sciences is marked by a commitment to innovation, agility and patient-centricity, with digital technologies playing a pivotal role. The journey ahead requires a harmonious blend of technological advancement, regulatory compliance and a culture of continuous improvement and collaboration.

In this transformative era, HCLTech emerges as a crucial player, especially with its innovative segmentation solution for SAP S/4HANA.

As the Life Sciences sector strives to accelerate time-to-market globally, HCLTech's characteristic-based segmentation solution integrates seamlessly into the SAP S/4HANA environment, offering a simplified approach to manage regulatory restrictions, compliance checks and validations within integrated finance and supply chain management processes.

As we look forward, the Life Sciences sector is uniquely positioned to lead in a world where technology and human ingenuity converge to enhance patient care and drive operational excellence. HCLTech stands ready as a committed partner to support this purposeful journey of digital transformation. The insights and strategies outlined here are not just a roadmap for navigating current challenges but also an inspiration for shaping a resilient, innovative and health-focused future.



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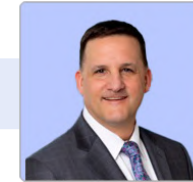
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# Further thoughts

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Maintaining regulatory compliance requires integrated regulatory strategies across development, supply chain, and commercial functions through end-to-end thinking and tight collaboration.

**Sheila Amarnath-Iyer**  
Senior Director Supply Chain Planning and Strategy



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Today, using local ERPs is unjustifiable, save for specific regulatory or country-based requirements unmet by standard systems. Organisations vary in maturity; many possess legacy systems, making change challenging and transformational.

**Sérgio Dias**  
SVP IT Partner at CMC Development



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Digital transformation is essential for business modernization, leveraging automation, transparency, infrastructure, and analytics. However, more than new technologies is needed; success hinges on people working together and embracing the change. Effective change management ensures seamless integration and lasting success.

**Amitte Gulamhussen**  
Global Head Excellence, Digital, Automation at dsm-firmenich



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Limited supply and demand may lead to counterfeiting or diversion; track and trace ensures product integrity.

**Firat Mericir**  
VP Supply Chain - Global at DECIEM | THE ABNORMAL BEAUTY COMPANY



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Digital transformation does not come without its risks. But if transformation is applied correctly, it can be done in alignment with the company's core mission and objectives and actually controlled from within the corporation quite well.

**Richard Durina**  
Vice President, Information Technology at Illumina; formerly with Merck & Glend



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The Life Sciences Industry has been a gradual adopter of technologies like bots, AI, and blockchain, but I see immense potential in using them to ensure full supply chain transparency. This will help companies take accountability for sustainability and demonstrate ESG values.

**Christopher Calabretta**  
Vice President Supply Chain



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I believe agility, particularly in the supply chain, has truly been the pivotal element. A synchronized rhythm is crucial for fostering this agility.

**Priti Jauhari**  
Head - Supply Chain Business Technology Leader Asia Pacific



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It is now clear that customization of traditional systems like manufacturing execution systems or ERP is not economically viable. Now, low code/ no code apps are easily customizable at a local level, and the use of these is rising.

**Thembani Togwe**  
Senior Director Digital Manufacturing, Data & Automation at Johnson & Johnson



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Moving forward, we should adopt decentralised ERP networks, ensuring it remains modular. While standardization is essential, centralization can lead to inflexibility.

**Christian Jahn**  
Director IBP, Supply Planning & Order Management



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The ultimate goal of digital transformation is to improve how our products, therapies and solutions are seamlessly delivered to our patients at the highest quality, effectiveness and safety possible. This means transforming legacy processes using the portfolio of new technologies available at our fingertips.

**Michael Shanno**  
Head of Digital Transformation, Global Quality



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Integrating every participant in your supply chain into a single system is challenging. Nonetheless, assimilating all, including raw material and API suppliers, would mark a significant shift, offering extensive benefits across the supply chain and representing the optimal solution.

**Stephen Kravec**  
Director, Supply Chain and Customer Service at Fresenius Kabi Canada



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How do you change your schedules? How do you change your distribution networks? And how do you make use of new technology to meet customer demands? It's all about integrated systems and making use of the power of Cloud.

**A.K. Karan**  
Global Senior Director - Digital Transformation, Integrated Supply Chain at Baxter International Inc.



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## About HCLTech: Supply chain segmentation

As a leading global technology company, HCLTech is redefining the landscape of the Life Sciences sector through innovative digital solutions. With its unique approach to addressing the challenges of digital transformation, HCLTech has established itself as a key player in empowering Life Sciences companies to accelerate their time-to-market and thrive in a dynamic business environment.

At the heart of HCLTech's industry offerings is the Material Segmentation Extension for SAP S/4HANA. This solution epitomizes the commitment to simplicity and efficiency in supply chain management. By seamlessly integrating regulatory compliance checks into supply chain processes, HCLTech's solution leverages characteristic-based segmentation to optimize execution while ensuring regulatory compliance.

This approach is particularly beneficial in the Life Sciences sector, where managing differentiation in supply chain and regulatory compliance is a complex task. Traditional ERP systems often lack smart differentiation capabilities. HCLTech's solution addresses this gap by allowing for smooth integration of compliance checks, ensuring that products meet regulatory requirements such as country of origin, shelf life and manufacturing facility standards.

The Material Segmentation Extension automates processes across the entire supply chain, from planning to order fulfillment. By aligning supply with client attributes and market demands, HCLTech's solution eliminates complexities and optimizes resources. This streamlined process not only reduces risk but also enhances overall productivity.

Furthermore, HCLTech's solution is designed to be implemented smoothly, even in existing SAP S/4HANA environments. This adaptability makes it an ideal choice for companies undergoing digital transformation, whether they are transitioning to SAP S/4HANA or seeking to enhance their current systems.

HCLTech's approach is not just about technological solutions; it's about a partnership in digital transformation. The company's SAP practice works in tandem with its digital consulting, engineering services, IoT WoRKS™ and cloud infrastructure practices. This collaborative approach ensures the design, implementation and support of integrated, intelligent solutions that address today's challenges while paving the way for future advancements.

Discover how HCLTech can help you supercharge progress: [www.hcltech.com/sap](http://www.hcltech.com/sap)





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By featuring in content programs shared widely within their sector and participating in follow-on virtual roundtables and workshops, TechPros.io interviewees learn from and connect with industry peers solving similar business challenges.

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