

# Life Science & Technology in 2021

An Updated Industry Outlook

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# Executive summary

This report tackles research and expert insights around the following topics:



The state of Life Science as an industry in 2021

Emerging trends in technology shaping the industry

Opportunities surrounding Life Science technology

The purpose of this document is to provide a concise snapshot of the aforementioned topics, taking into consideration various sources that are referenced throughout this document and extracting the most relevant information from those sources.

All extracts, statistics and images in this report are publicly available and referenced.

# The State of Life Science

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Faced with a global health crisis, Life Science is experiencing rapid changes in demand, market, regulation, and consumer expectations. With the pandemic creating unanticipated and unprecedented market and delivery conditions for stakeholders across the landscape, a number of seismic shifts in dynamics is challenging the industry.

As risks, compliance instructions, and 'new normal' behaviors surrounding COVID-19 instituted an abrupt transition from traditional face-to-face to remote and isolated transactions and processes within the industry, Life Science companies are forced to create new ways to continue business and bridge gaps created by pandemic-enforced 'distancing'. Consequently, a huge impact has been dealt by such developments to market and working conditions as well as consumer behavior.

## Market conditions

Despite the total spending on medicine rising to 428 billion USD and pharmaceutical and biotech products growing dramatically in demand in the past year and coming into 2021, the pandemic has

not been treating the industry's sectors kindly, nor equally [1].

In the early stages of the pandemic, healthcare systems were at great loss due to its primary source of income - in-facility transactions - being intensively limited and reduced.

At least **323.1 billion USD in 2020** to be specific, has been the cost of such challenges. On the other hand, supply chain sectors including pharmaceuticals, CDMOs, and biotechnology were faced with swelling and magnified product demands that were almost impossible to meet at their level of preparedness, despite adjusted production capabilities [2].

This new year, however, the industry is in a road to recovery and creating more possibilities. Learning from experience, more and more companies are finding their footing and seeking more ways to turn the pandemic's challenges into opportunities. Now, more than ever, companies are becoming more aware of the value of preparedness and the intrinsic role and importance of technology in responding to crises.

## Workforce conditions

From health care professionals (HCPs) and biotech developers, to pharmaceutical production lines, the Life Science workforce has been found to have been most exposed to the exigent implications of the pandemic. Taking a huge strain in adapting to rapidly evolving work environments and largely unprepared business process transitions, 88% of employees in the industry were reported to struggle with pandemic-exposed tech gaps [3]. Fortunately however, more and more executives are taking quick action to address the issue and fast-tracking initiatives to put better, more efficient strategies and procedures in place.

According to research, the global pandemic has accelerated new ways of working enabling a speedy transition to customer centricity, digitised interactions, and workforce agility. In record time, business leaders are taking action and mobilising COVID- and remote work-adjusted development. Production and manufacturing, regulation, healthcare, and other industry stakeholders have made substantial adjustments to everything from research to operations and marketing - the majority of which are anchored in technology and already seeing returns in the form of increased employee satisfaction, operational efficiency, and organisational resilience as compared to the beginnings of the pandemic [1].

88%

of service teams say the pandemic exposed their tech gaps

77%

of service agents say their job is more strategic than two years ago

81%

of service decision makers are accelerating digital initiatives due to the pandemic

## 'New normal' consumers

Similarly, the industry's end users are undergoing transformation at multiplying speeds and of great effect. According to Forbes, the coronavirus situation has created a lasting change on the patient and consumer outlook. With enormous strains COVID has caused daily life, consumers across the globe have reportedly developed a new hyper-awareness about the intricacies and risks of what used to be ordinary dealings - ultimately introducing completely different consumer standards, perceptions, and preferences in the new normal [4].

The new and transformed Life Science consumers have been found to have adapted three primary changes in mindset; 71% higher demands in business transparency to gain consumer trust, 52% increased intention to change spending behaviors, and 67% greater preferences for quality customer experience [4]. With the contemporary consumer's outlook heavily impacted by the challenges of the pandemic, only with equally drastic reformations can businesses in Life Science cope and rise to the occasion - and technology is proving most crucial at the forefront of such reformations.

# Life Science & Technology

Over the years, the industry has built a strong, productive relationship with technology. With digital innovations paving the way for better business practices and outcomes, tech integrations have proven largely successful and reliable as solutions and investments. This new year, faced with worldwide pandemic, the said relationship has grown much more valuable and indispensable. Life Science and its stakeholders are dealing with much bigger, time-sensitive, and crucial challenges; and technology is proving to be exactly the bigger,

time-sensitive, and crucial solution they need to overcome them.

Out of necessity, the pandemic's challenges have paved the way for reimagining how businesses in the industry operate during crises and in the future. To align and future-proof the trade, the world is seeing technology lead the way into timely, effective, and data-driven business transformations and development in Life Science as encapsulated in this year's emerging trends.

## Top Technologies

In the abundance of innovation, five technologies have taken the mainstage in Life Science and are reinventing business in the industry.

### ■ AI and Analytics

As we transition into more virtual platforms from face-to-face interactions, AI and analytics are increasingly becoming sought-after for their powerful data channeling capacity, abilities to automate processes, and efficiency in extracting vital, actionable insights. With its impact on clinical trial recruitment, research precision and acceleration, and other processes across the value chain, industry leaders are now ranking AI their top digital priority.

### ■ IoT

For the past three years, IoT has steadily been among the high-demand integrations in the market - and the impetus from COVID-19 is speeding up and further popularising the adoption of this technology.

This technology has created sizable improvements in virtual healthcare and the clinical development feedback cycle - directly correlating to the prompt of an estimated one billion virtual healthcare transactions in the last 12 months and ultimately enabling accessible, personalised healthcare.

## ■ Data Management Platforms

As the COVID-expedited digital migration takes place, massive amounts of real-time data created and collected for every individual is taxing businesses critically. Dealing with the challenge of creating value with such wealth of data, Life Science companies are pursuing data management initiatives that allow them to make sense of and take action on relevant data.

According to a recent Accenture report, nearly half of all healthcare and pharmaceutical organisations have or are currently integrating at least one data platform, and the majority of Life Science CIOs are now looking to drive change in their data management initiatives this year.

## ■ Cloud Services

A recent Reuters study discovered that almost 80% of Life Science organisations are reinventing their business processes with a new cloud-driven strategy. In fact, 35% have already migrated their processes into the cloud in the past year. Although initial transference of regulated content was reportedly challenging, companies are embracing the cloud and content management in creating content workflows and integrating complete systems effectively.

In fact, Amazon Web Services (AWS) was able to exploit cloud services in completing an estimated thirty-nine years' worth of computational chemistry in just 9 hours - all under a cost of less than 5,000 USD.

## ■ Cybersecurity Integrations

Reported as the second least prepared industry for cybersecurity attacks in 2019, Life Science is creating an active effort to build more secure systems and make the right proactive integrations.

In time for a rise in cyberattacks brought about by the competition and race for an effective vaccine to the novel coronavirus and by personal data piracy, cybersecurity has made its way to the top 5 integrations in the industry's IT agenda.

## Top Business Drivers

According to research, a pattern can be observed in the intentions behind the emerging trends in Life Science technology integrations. As the 'new normal' is changing consumers and human resources alike, most businesses are utilising technology to gain a better understanding of such stakeholders and their data, and to create value accordingly [5].

### Top Business Drivers

- To understand customers better – 73%
- To improve products & services – 72%
- To improve the management of existing data – 47%
- To create revenue systems – 41%
- Due to business model necessities – 40%
- To monetise existing data – 35%
- To become leaner – 35%
- To find & exploit new data sources – 34%
- For better management of governance, risk & compliance – 29%
- To improve the detection & prevention of fraud – 20%

Reported by Axtria Insights

## Top Tech Use Cases

Similarly, reported top tech uses reflect the same pattern and prioritisation of data and its value [5]. The highest-ranking tech integration use cases in the industry are initiatives that allow Life Science organisations to maximise their wealth of data.

### Top Life Science Tech Integration Use Cases

- Data governance
- Knowledge, content management & information portal
- Data visualisation & democratisation
- Reinvent master data & reference data management
- Predictive analytics
- AI/ML-based analytics
- Metadata-driven applications
- Data quality
- AI/ML-driven operations

Reported by Axtria Insights

# Opportunities

Amidst the struggles and difficulties Life Science must endure, pandemic-driven changes also offer the industry a chance to introspect, improve, and reimagine success. Enumerated below are some opportunities created by such developments.

## Optimise your data strategy to maximise data

By placing more emphasis and investments in connected data technologies, Life Science businesses can expedite processes across the value chain and adapt to market, workforce, and consumer changes better. By creating a digital process streamlining data, analysing relevant sets, and turning insights into initiatives, companies can more effectively turn what used to be an overwhelming data overload into a profitable asset.

## Support your employees extensively for stability and efficiency

By responding to the changing needs of your workforce and creating a safe, accessible, collaborative work environment with technology, you can empower your workforce to continue being satisfied and productive members of the organisation. Providing them the correct tools and keeping their well-being in check through innovative means can reduce administrative challenges and encourage a smooth workflow.

## Explore your tech options and extend your capabilities

Integrating new technologies can unlock a new level of productivity and capability that initiatives in your comfort zone may not offer. Scale your capabilities and create development continuity throughout your organisation by investigating and adopting smart technologies that suit your goals and vision for your company's future.



# Key Takeaways

The changes brought about by these innovations remind us that technology is a vital enabler of Life Science development. Industry leaders will greatly benefit from pushing its frontiers forward.

It is crucial that organisations in the industry are proactive and prepared. Learning from the disorientation of new challenges, leaders have an opportunity to establish better crises responses, uphold higher standards, and actively pursue opportunities that continuously improve and future-proof business practices moving forward.

Life Science companies must remember that challenges can be overcome and even turned into opportunities. With the right strategic technologies, many triumphs await Life Science.

## Endnotes:

- [1] Linchpin SEO, "Trends Transforming The Life Sciences Industry Outlook in 2021"
- [2] American Hospital Association, "New AHA Report Finds Losses Deepen for Hospitals and Health Systems Due to COVID-19", 2021
- [3] Salesforce, "State of Service Report", 2021
- [4] Forbes, "Customer Experience Mindset In A Post COVID-19 World", 2020
- [5] Atria Insights, "Emerging Technology Trends In The Life Sciences Industry", 2020

## Other references:

- BluVoyant Reports, "Attacks on biotech and pharmaceutical industry escalate", 2020
- Deloitte, "Life science compliance considerations and challenges amidst COVID-19", 2020
- Opentext, "Top 5 digital technology trends in Life Sciences in 2021"
- Reuters, "Survey results: Accelerating digital transformation during COVID-19", 2021