



2024

HEALTHCARE SAMPLE REPORT

Discover how the healthcare industry is rapidly innovating, with the convergence of macrotrends and technology accelerations transforming the way care is delivered to patients.

Table of Contents

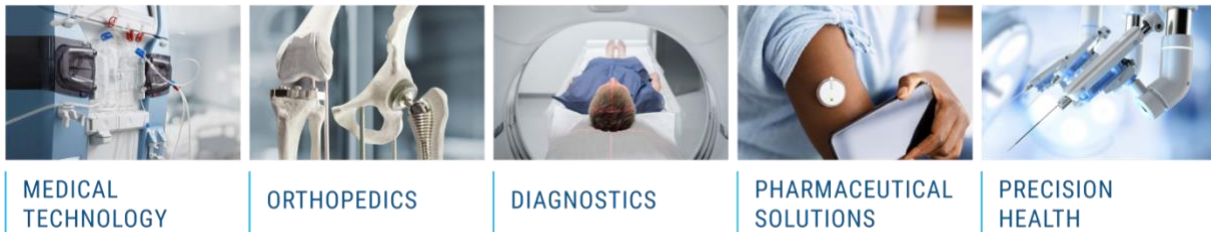
1. Overview	4
2. Introduction	5
2.1 Healthcare Macro Trends and Expanding Market Opportunities	6
2.1.1 Innovations Enabling New Care Settings and Improving Patient Care	6
2.1.2 Precision Medicine	6
2.1.3 Growth of Contract Manufacturing in Healthcare	7
2.2 Supply Chain and Manufacturing Solutions	8
2.2.1 Headwinds	8
2.2.2 Diversification and Localization	9
2.2.3 Reshoring and Friendshoring Healthcare Supply Chains	9
2.3 Focus on Sensors	10
2.3.1 Chronic Disease Management	10
2.3.2 Hospital to Home / Remote Patient Monitoring (RPM)	10
2.4 Predictive Product Lifecycle Management	11
2.5 Benefits of Modular Design	11
2.6 Sustaining Engineering	12
2.7 Optimizing Demand Prediction with AI/ML	13
3. Innovations Transforming Healthcare Domains	14
3.1 Medical Technology & Surgical Solutions	14
3.1.1 Robotic-Assisted Surgery (RAS)	14
3.2 Orthopedics	15
3.2.1 AM Enables Innovation	15
3.3 Diagnostics	16
3.3.1 Point-of-Need (PON) / Point-of-Care (POC)	16
3.3.2 Commercial Applications Driven by Accelerating Genomic Insight	17
3.3.3 Liquid Biopsy	17
3.3.4 Next-Generation Sequencing (NGS)	18
3.3.5 Companion Diagnostics (CDx)	18
3.3.6 Manufacturing Novel Dx Product Applications	18

- 3.4 Pharmaceutical Solutions.....19
 - 3.4.1 Connected Clinical Trials20
 - 3.4.2 AI-Driven Drug Discovery.....20
- 3.5 Precision Health – For a more Personalized Care Journey.....21
- 4. Jabil Insights22
 - 4.1 Partnership & Outsourcing22
 - 4.2 Verticalization22
 - 4.3 Sustainability.....23
 - 4.4 JABIL SPEND ANALYSIS.....23
- 5. Key Points & Recommendations25

1. Overview

This report presents an overview of macro trends impacting the global healthcare ecosystem with deeper discussion on how advanced technology applications, across all sectors and care delivery domains, are driving the industry's transformation.

Content is focused upon end markets defined broadly within the following five healthcare subsectors:



Healthcare is an exceptionally difficult market to navigate, combining the complex commercialization requirements of a regulated, quality-imperative market with the increasing speed-to-market challenges more typical of consumer technology. Additionally — and in tandem with the industry's prioritization towards more cost effective, patient-centric care — healthcare's original equipment manufacturers (OEMs) are adapting to increasing demands for lower cost-of-care models.

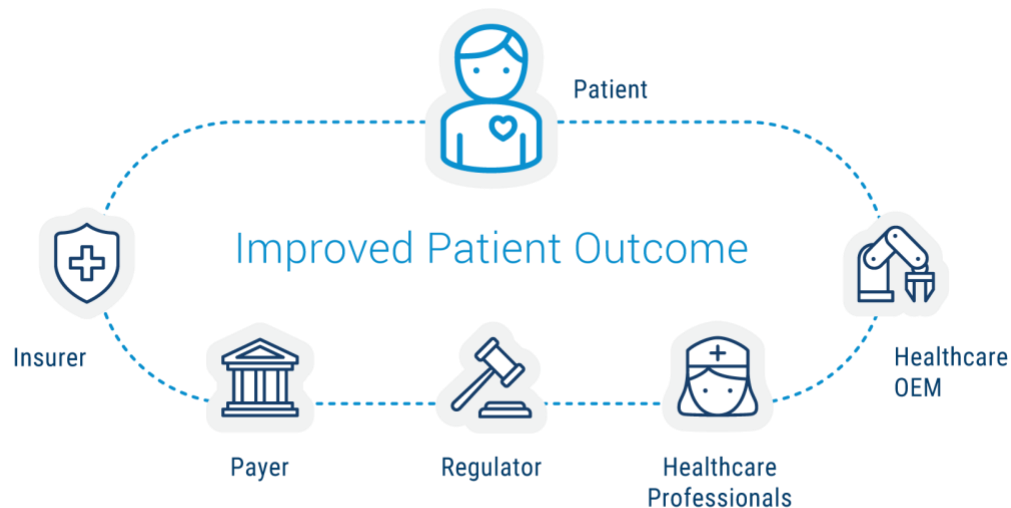
Efficiency, scale, and agility are more important than ever in bringing new and improved products to the patients who need them — proven by the fact of the industry's growing adoption of manufacturing partnerships and outsourcing.

In addition to extending overall capacity, external providers with expertise in advanced technologies, sophisticated supply chain management, and vertically integrated manufacturing processes offer their customers the strategic advantage of a broadened bench of talent and capability, and ultimately, peace of mind.

2. Introduction

The transition to value-based healthcare (VBC) in health systems throughout the world continues.

At an elemental level, VBC pressures underpin the economics OEMs must address to maintain and grow their healthcare franchises. At the same time, the drive to improve how care is delivered and experienced is shared across an industry ecosystem of distinct, yet interdependent players who are all working to achieve an optimal balance for patients between efficacy, safety, and access to treatment that is non-disruptive to everyday life.



Specific Objectives Across the Ecosystem:

- Patients seek effective treatments.
- Healthcare professionals strive to improve patients' lives.
- Regulators work towards a balance between clinical outcome and safety.
- Payers and insurance companies work to balance clinical outcome and total healthcare costs.
- Healthcare OEMs seek approval and reimbursement for their products that will be clinically successful, as well as commercially viable.

2.1 Healthcare Macro Trends and Expanding Market Opportunities

2.1.1 Innovations Enabling New Care Settings and Improving Patient Care

The smart home market in North America is characterized by its maturity, focusing on enhancing convenience, energy efficiency, and security. The region leads significant strides in integrating AI and voice control, primarily through devices like Amazon's Echo and Google Home, which have become household staples. The advancement is propelled by consumers prioritizing compatibility between different devices and systems, striving for a seamless smart home experience. Despite its advances, the market continues to face increased challenges related to privacy concerns and the complexity of device setup, which requires a certain level of IT expertise.

Europe's smart home market thrives on a solid commitment to sustainability and energy efficiency. Governmental incentives and a collective drive towards sustainable living practices significantly influence the region's focus. Smart meters and energy management systems are particularly popular, catering to the demand for devices that reduce energy consumption. Additionally, there's a growing trend towards enhanced home security systems. The increase is partly driven by regional conflicts and geopolitical tensions, which, along with shifting migration patterns, has led to a rise in domestic crime rates. Consequently, there's a heightened demand for advanced security products, including surveillance cameras and motion sensors, to ensure household safety. Moreover, the aging population in Europe represents another critical segment, with smart home solutions focusing on safety and accessibility to cater to their needs.

2.1.2 Precision Medicine

Combatting Chronic Disease with Personalized Healthcare Applications

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2.1.3 Growth of Contract Manufacturing in Healthcare

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Which technology benefits are you developing in-home, which are you looking to introduce and which are you not developing?



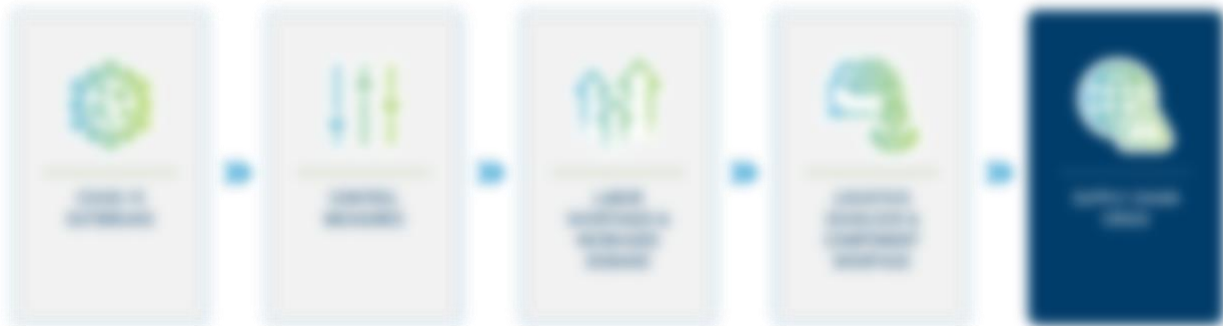
2.2 Supply Chain and Manufacturing Solutions

2.2.1 Headwinds

In less than half a decade, healthcare sector supply lines have been challenged by and weathered a range of disruptive factors, including the COVID pandemic, as well as ongoing impacts from geopolitical tensions. The pandemic led to sudden, unprecedented demand for testing devices, as well as other healthcare products, like PPE, ventilators, and Tyvek for protective and sterile packaging.

The Chain Reaction of Covid-19

The initial surge in demand for testing devices led to a widespread shortage of testing materials - and ultimately to a surge in the price of testing materials.



Healthcare's multi-tiered supply chains, including raw materials, components, assembly, and distribution proved vulnerable to dramatic swings between shortages and overcapacity. After the initial surge, many segments faced overcapacity as demand normalized but supply continued to ramp up based on earlier projections.

The last 2+ years, have introduced even more pressure into the system, arising from monetary policy tightening around the world. The transition from an extended low-interest rate environment has been particularly hard for early-stage startups, but perhaps even more challenging for more established companies suddenly finding their commitments to innovation requiring an agile change of direction midstream.

2.2.2 Diversification and Localization

The smart home market in North America is characterized by its reliance on wireless networking, emphasizing convenience, energy efficiency, and security. The region leads significant strides in integrating AI and voice control, primarily through devices like Amazon's Echo and Google Home, which have become household staples. The advancement is propelled by consumers prioritizing compatibility between different devices and systems, driving for a seamless smart home experience. Despite its advances, the market continues to face increased challenges related to privacy concerns and the complexity of device setup, which requires a certain level of IT expertise.

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2.2.3 Reshoring and Friendshoring Healthcare Supply Chains

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2.3 Focus on Sensors

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2.3.1 Chronic Disease Management

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2.3.2 Hospital to Home / Remote Patient Monitoring (RPM)

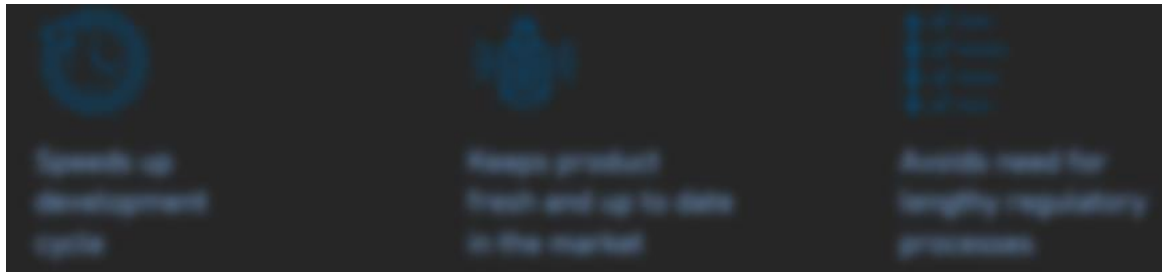
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2.4 Predictive Product Lifecycle Management

The smart home market in North America is characterized by its maturity, focusing on enhancing convenience, energy efficiency, and security. The region boasts significant strides in integrating AI and voice control, primarily through devices like Amazon's Echo and Google Home, which have become household staples. The advancement is propelled by consumers prioritizing compatibility between different devices and systems, aiming for a seamless smart home experience. Despite its advances, the market continues to face increased challenges related to privacy concerns and the complexity of device setup, which require a certain level of IT expertise.

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2.5 Benefits of Modular Design



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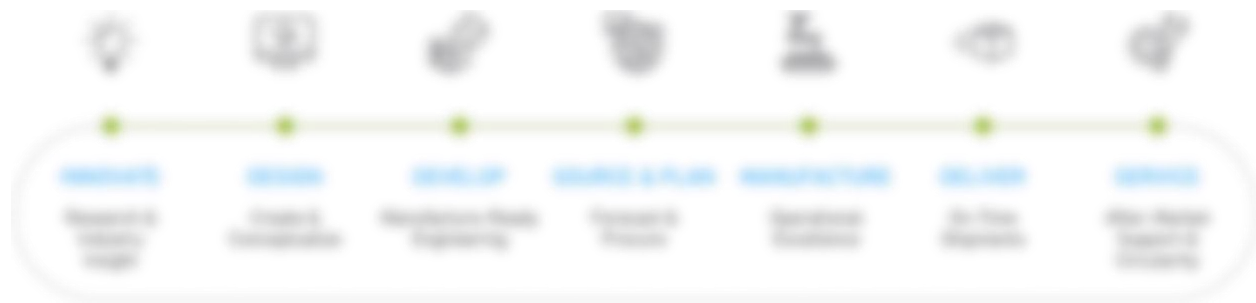
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2.6 Sustaining Engineering

The smart home market in North America is characterized by its maturity, focusing on enhancing convenience, energy efficiency, and security. The region boasts significant strides in integrating AI and voice control, primarily through devices like Amazon's Echo and Google Home, which have become household staples. The advancement is propelled by consumers prioritizing compatibility between different devices and systems, striving for a seamless smart home experience. Despite its advances, the market continues to face increased challenges related to privacy concerns and the complexity of device setup, which remains a barrier for a portion of the population.

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JABIL SOLUTIONS ACROSS THE FULL PRODUCT LIFECYCLE:



2.7 Optimizing Demand Prediction with AI/ML

The smart home market in North America is characterized by its industry focus on enhancing convenience, energy efficiency, and security. The region boasts significant growth in integrating AI and voice control, primarily through devices like Amazon's Echo and Google Home, which have become household staples. The advancement is propelled by continued growing compatibility between different devices and systems, allowing for a seamless smart home experience. Despite its advances, the market continues to face increased challenges related to privacy concerns and the complexity of device setup, which require a careful and efficient approach.

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3. Innovations Transforming Healthcare Domains

3.1 Medical Technology & Surgical Solutions

In minimally invasive surgical (MIS) procedures, instead of operating on patients through traditional 'open' incisions (3 inches or more), surgery is accomplished with miniaturized instruments that fit through a series of quarter- to half-inch incisions. The surgeon accesses the patient's anatomy through small trocar enabled ports using specialized elongated instruments and a camera (i.e., laparoscope) which provides real-time imaging of the surgical site. Technical advantages for the surgeon include the potential for better surgical orientation and navigation, with higher magnification and dramatically enhanced perspective.

3.1.1 Robotic-Assisted Surgery (RAS)

Robotic-assisted surgery (RAS) improves capabilities even further. The surgeon typically sits at a surgical console, providing immersive visualization while directing precise and intricate maneuvering of instruments by means of an intuitively controlled, high-dexterity robotic 'wrist'. RAS eliminates hand-tremor, enabling surgeons to perform complex and delicate operations with greater confidence and control.

Capabilities for Minimally Invasive Surgical Devices



3.2 Orthopedics

The orthopedics market in North America is characterized by its reliance on strong relationships, energy efficiency, and security. The region faces significant challenges in managing its vast energy portfolio, primarily through diverse and complex energy assets, which have become increasingly complex. The environment is shaped by customer demands for high-quality energy services and systems, along with a growing emphasis on sustainability. Despite its challenges, the market continues to face increased challenges related to energy security and the complexity of energy assets, which require a robust and efficient energy supply.

Energy assets in the market focus on a solid commitment to sustainability and energy efficiency. Environmental protection and a collective effort towards sustainable energy practices significantly influence the region's focus. Smart meters and energy management systems are particularly popular, offering a wide range of services that reduce energy consumption. Additionally, there is a growing trend towards advanced energy security systems. The market is particularly driven by regional conflicts and geopolitical tensions, which, along with shifting regulatory policies, have led to a rise in demand for energy assets. Consequently, there is a heightened demand for advanced security products, including sophisticated sensors and control systems, to ensure operational safety. Moreover, the aging population in Europe represents another critical segment, with smart home solutions focusing on safety and accessibility in older homes.

3.2.1 AM Enables Innovation

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3.3 Diagnostics

The global point-of-care market in North America is characterized by its industry focus on enhancing convenience, testing efficiency, and accuracy. The region boasts significant growth in diagnosing chronic and acute conditions, primarily through devices like glucose meters and pregnancy tests, which have become household staples. The advancement is propelled by consumers prioritizing convenience, seeking efficient devices and systems, along with a growing emphasis on home testing. Despite its success, the market continues to face increased challenges related to privacy concerns and the complexity of device usage, which require a careful and thoughtful approach.

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3.3.1 Point-of-Need (PON) / Point-of-Care (POC)

The global point-of-care market in North America is characterized by its industry focus on enhancing convenience, testing efficiency, and accuracy. The region boasts significant growth in diagnosing chronic and acute conditions, primarily through devices like glucose meters and pregnancy tests, which have become household staples. The advancement is propelled by consumers prioritizing convenience, seeking efficient devices and systems, along with a growing emphasis on home testing. Despite its success, the market continues to face increased challenges related to privacy concerns and the complexity of device usage, which require a careful and thoughtful approach.

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3.3.2 Commercial Applications Driven by Accelerating Genomic Insight

The smart home market in North America is characterized by its reliance on energy efficiency, convenience, energy efficiency, and security. The region leads significant strides in integrating AI and voice control, primarily through devices like Amazon's Echo and Google Home, which have become household staples. The advancement is propelled by consumers prioritizing compatibility between different devices and systems, driving for a seamless smart home experience. Despite its advances, the market continues to face increased challenges related to privacy concerns and the complexity of device setup, which requires a certain level of IT expertise.

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3.3.3 Liquid Biopsy

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3.3.4 Next-Generation Sequencing (NGS)

The small molecule market in North America is characterized by its volatility, focusing on enhancing convenience, energy efficiency, and security. The region tracks significant trends in integrating AI and data control, primarily through devices like Amazon's Echo and Google Home, which have become household staples. The advancement is propelled by consumers prioritizing compatibility between different devices and systems, driving for a seamless smart home experience. Despite its advances, the market continues to face increased challenges related to privacy concerns and the complexity of device setup, which requires a certain level of IT expertise.

3.3.5 Companion Diagnostics (CDx)

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3.3.6 Manufacturing Novel Dx Product Applications

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3.4 Pharmaceutical Solutions

The smart home market in North America is characterized by its industry focus on offering convenience, energy efficiency, and security. The region boasts significant growth in integrating AI and voice control, primarily through devices like Amazon's Echo and Google Home, which have become household staples. The advancement is propelled by consumers prioritizing compatibility between different devices and systems, along with a seamless smart home experience. Despite its advances, the market continues to face increased challenges related to privacy concerns and the complexity of device setup, which require a certain level of IT expertise.

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Strategic Capability Requirements for Drug Delivery Devices



3.4.1 Connected Clinical Trials

The smart home market in North America is characterized by its rapidly growing and evolving consumer energy efficiency and security. The region leads significant growth in smart home and energy control, primarily through smart home devices like smart thermostats, which have become household staples. The advancement is propelled by consumers prioritizing compatibility between different devices and systems, driving for a seamless smart home experience. Despite its advances, the market continues to face increased challenges related to privacy concerns and the complexity of device setup, which requires a certain level of IT expertise.

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3.4.2 AI-Driven Drug Discovery

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3.5 Precision Health – For a more Personalized Care Journey

The smart home market in North America is characterized by its maturity, focusing on enhancing convenience, energy efficiency, and security. The region boasts significant growth in integrating AI and voice control, primarily through devices like Amazon's Echo and Google Home, which have become household staples. The advancement is propelled by consumers prioritizing connectivity between different devices and systems, aiming for a seamless smart home experience. Despite its advances, the market continues to face increased challenges related to privacy concerns and the complexity of device setup, which require a certain level of IT expertise.

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4. Jabil Insights

4.1 Partnership & Outsourcing

OEM partnership with manufacturing solutions providers (aka, outsourcing) is increasingly the most competitive model to ensure success in a fast-paced, evolving healthcare industry. Additionally, the industry's OEMs are looking for trusted manufacturing services providers that have a patient-focused quality culture. Together, the synergies created by these partnerships are the best way to meet the market's challenge to deliver innovation, improve patient care, and lower overall healthcare costs.

4.2 Verticalization

The smart home market in North America is characterized by its industry focus on enhancing convenience, energy efficiency, and security. The region leads significant strides in integrating AI and voice control, primarily through devices like Amazon's Echo and Google Home, which have become household staples. The advancement is propelled by consumers prioritizing compatibility between different devices and systems, opting for a seamless smart home experience. Despite its advances, the market continues to face increased challenges related to privacy concerns and the complexity of device setup, which requires a certain level of IT expertise.

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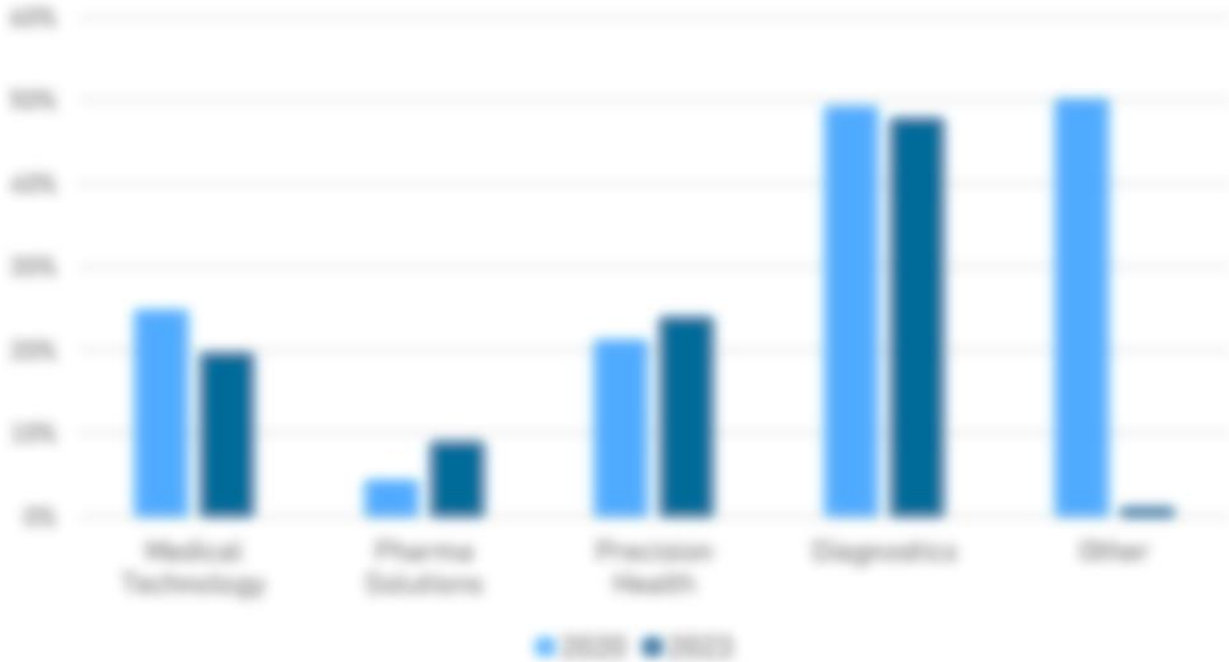
4.3 Sustainability

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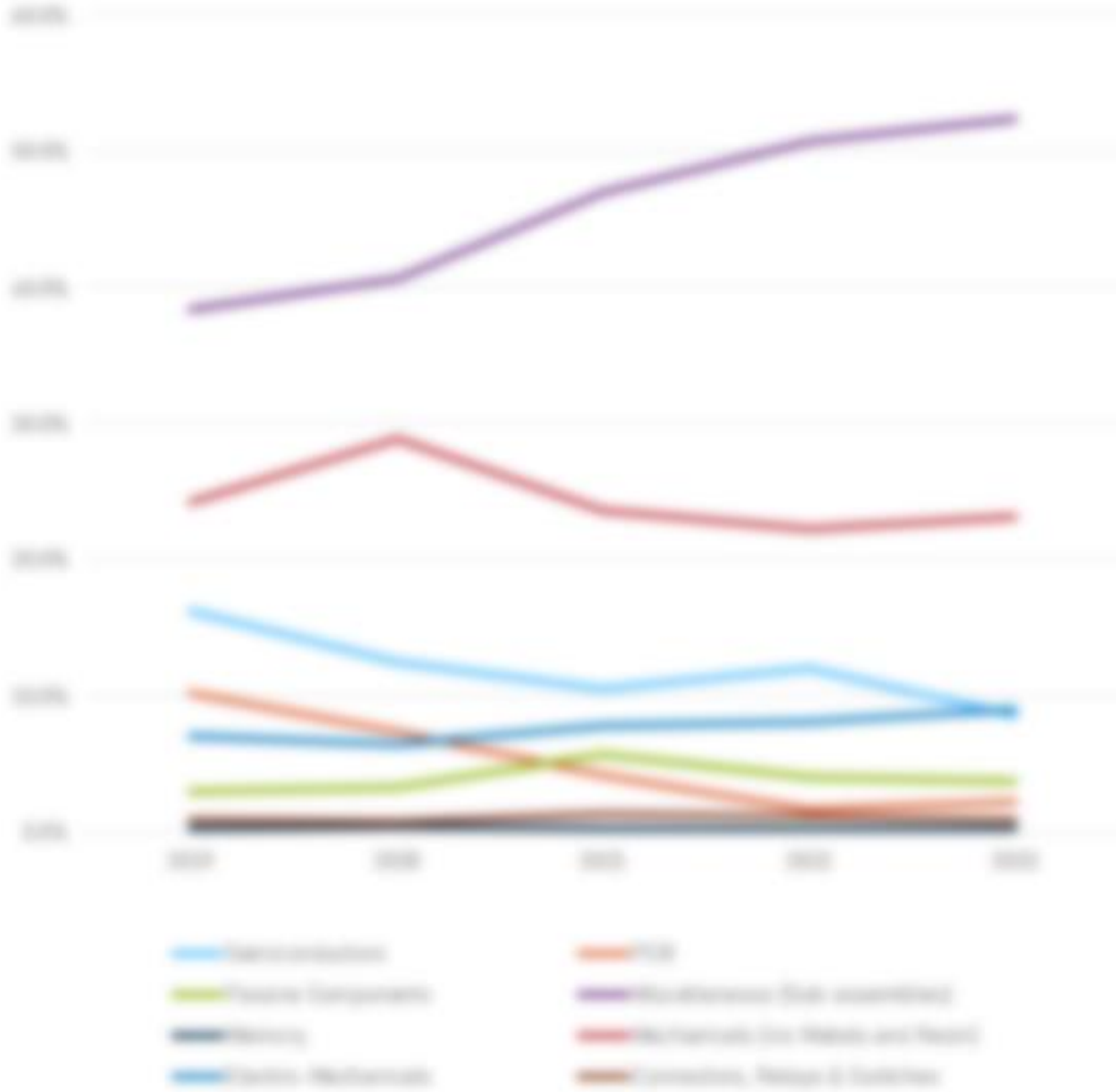
4.4 JABIL SPEND ANALYSIS

JABIL SPEND ACROSS HEALTHCARE SECTORS (2020 vs 2023)



Data based on Jabil's historical spend data for the Healthcare Segment

JABIL SPEND TREND WITHIN THE PHARMA SECTOR BY CATEGORY



Data based on Jabil's historical spend data for the Healthcare Segment

5. Key Points & Recommendations

The report notes that in both areas a characteristic of its industry, focusing on efficiency, effectiveness, energy efficiency, and security. The report notes significant work is being done in and across critical systems through the use of the Internet of Things and Cloud. While these areas remain important, the environment is complicated by continued increasing complexity between different devices and systems, along with a number of other factors. Despite its advances, the market continues to face increased challenges related to privacy concerns and the complexity of device integration, which require a careful and thoughtful approach.

Despite what some might think of as a solid commitment to sustainability and energy efficiency, environmental practices and a collective effort towards sustainable living practices significantly influence the report's view. Smart meters and energy management systems are particularly notable, along with the demand for devices that reduce energy consumption. Additionally, there is a growing trend towards enhanced home security systems. The market is particularly strong in regional markets and geographic segments, which, along with existing regulatory policies, has led to a rise in demand across the country. Consequently, there is a regional demand for enhanced security products, including surveillance cameras and motion sensors, to ensure residential safety. However, the aging population in Europe represents another critical segment, with smart home solutions focusing on safety and accessibility in older in their needs.

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