# Connecting Pharma

How today's pharmaceutical and life science organizations are using technology to improve operations and pioneer life-changing innovations

Digital technology is helping transform the pharma industry

New technology aids the Pharma industry in discovering more effective treatments, conducting more accurate medical trials, and improving manufacturing and distribution techniques. From communication and collaboration tools to Internet of Things and data security solutions, emerging technologies help contribute to more positive outcomes.

This e-Book looks at the challenges and trends in the industry and outlines how AT&T Business can help you digitally transform to overcome obstacles.
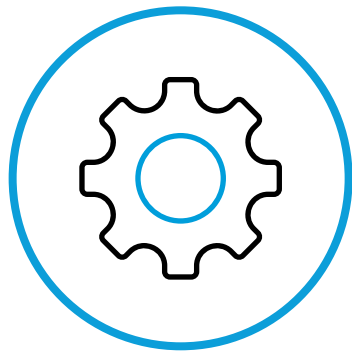
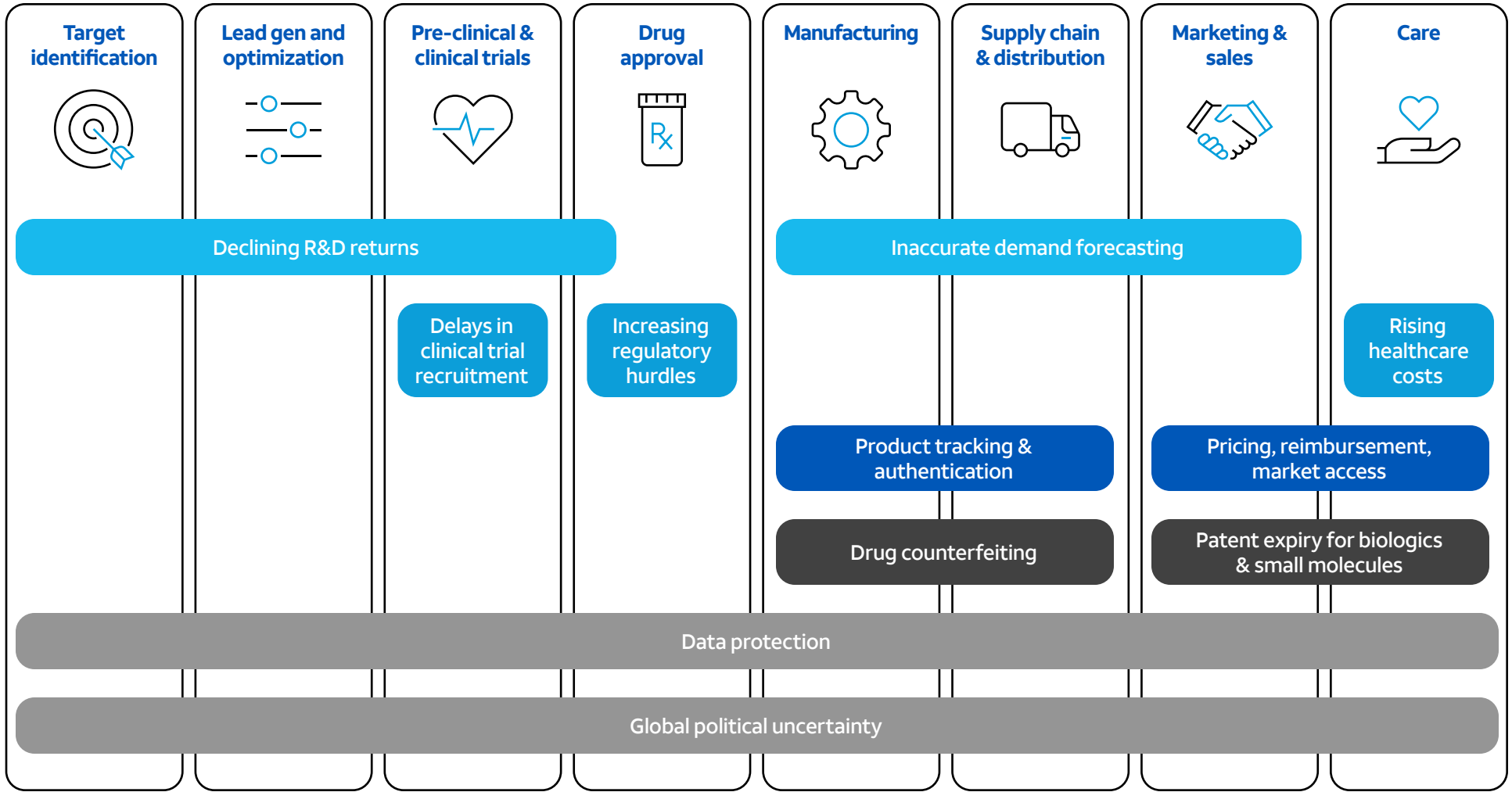**Research and development**

Plant and distribution

Marketing and sales

COVID-19 vaccine

Pharma industry challenges

Target identification	Lead gen and optimization	Pre-clinical & clinical trials	Drug approval		Manufacturing	Supply chain & distribution	Marketing & sales	Care

Declining R&D returns

Inaccurate demand forecasting

Delays in clinical trial recruitment

Increasing regulatory hurdles

Rising healthcare costs

Product tracking & authentication

Pricing, reimbursement, market access

Drug counterfeiting

Patent expiry for biologics & small molecules

Data protection

Global political uncertainty

Source: GlobalData Pharma - Disrupt or Be Disrupted Report - May 2020

Pharma industry trends

Big Data and Artificial Intelligence (AI)

Cybersecurity

Cloud

5G, IoT, Collaboration

Blockchain

65% of industry leaders believe Big Data and AI will have the biggest technological impact in 2020[1]

510 Number of major cybersecurity breaches in the healthcare industry in 2019[2]

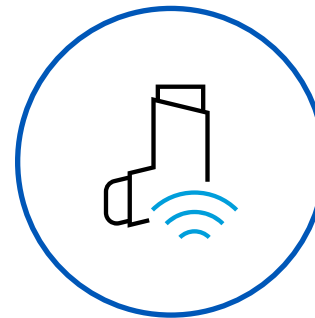**83**% of Pharma using cloud technology today. A strong cloud infrastructure offers the opportunity to improve the integrity of data[3]
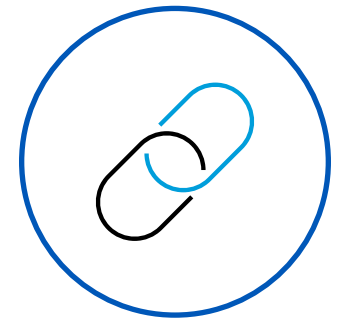
55% of physicians who expect greater use of remote clinical tools such as wearables, smart sensors and devices post COVID-19[4]

71% of Pharma leaders say they are investing in Blockchain as an emerging technology for supply chain automation[1]

[1] GlobalData – Pharma Industry Disruption Report, May, 2020
[2] HIPAA Journal
[3] i2e Consulting
[4] McKinsey

AT&T Business can help

From networking, connectivity and IoT, to voice & collaboration, mobility, cybersecurity, and remote patient monitoring, AT&T Business supports pharmaceutical and life science organizations with technology designed to improve efficiencies and spur innovation.

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ways AT&T Business can help your organization improve operations and drive innovation:

- Connecting research and development

- Connecting manufacturing and distribution

- Connecting marketing and sales

- Connecting the COVID-19 vaccine supply chain

1. Connecting research and development

How innovation is transforming research and development

Today's connected Pharma organizations are taking advantage of digital and network transformation to speed up development of new treatments.

How connectivity fits in

A highly secure ecosystem supports efficient processes—from discovery and virtual clinical trials to the patient experience—with near-real-time insights for R&D opportunities.

How AT&T Business can help

Technology to collect and analyze patient data in near-real time and manage clinical trials—all in a highly secure network environment.

AT&T Business: Connecting research and development

AT&T NetBond® for Cloud

Never leave your private network when connecting to cloud-based research data and applications

Fixed 5G, Mobility, Voice and Collaboration, Webex, IP Flex

Conduct virtual clinical trials; collaborate internally and externally with research staff, clinicians, patients, and others

AT&T SD-WAN, Ethernet, AT&T FlexWare^{SM}

Zero-touch provisioning helps accelerate connecting and managing global operations

AT&T Virtual Care Solutions, WarnerMedia, and AT&T 5G

Clinicians need solutions to monitor data on remote-trial patients; use WarnerMedia content to ease discomfort

AT&T Digital Signage Solutions and AT&T Content Delivery Network

Use digital signage to bring data to life, helping to keep employees informed and engaged
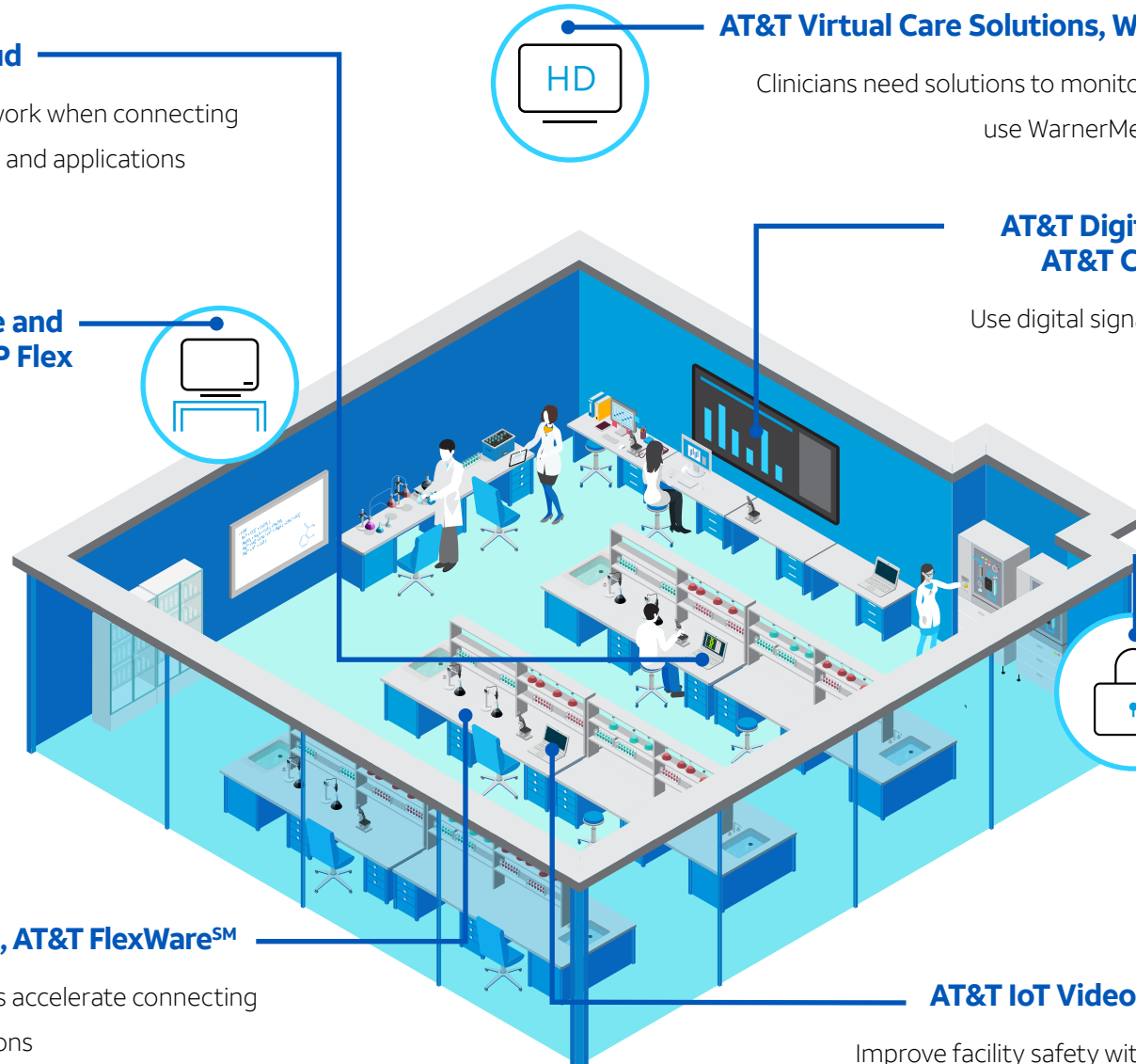
Cybersecurity consulting and AT&T Managed Threat Detection and Response

Defend intellectual property as your ecosystem grows larger and more complex

AT&T IoT Video Intelligence and AT&T 5G

Improve facility safety without a massive sensor buildout

2. Connecting manufacturing and distribution

How innovation is transforming manufacturing and distribution

Digital technology and IoT are enabling plants to monitor conditions in near-real time, reduce downtime, alleviate costs, and increase efficiencies for the factory floor and distribution process.

How connectivity fits in

The right connectivity can give you greater insight into delivery statuses, improve plant efficiencies, spot maintenance issues before they hamper production, and help maintain environmental conditions for sensitive materials.

How AT&T Business can help

Our connectivity capabilities—including FirstNet, 5G/LTE-M, Wi-Fi®, In-building solutions—along with Video Intelligence, provide the robust platform needed for digital transformation in Pharma manufacturing.

AT&T Business: Connecting manufacturing and distribution

AT&T Asset Management – Operations Center (AMOC)

Help increase customer satisfaction by providing near-real-time visibility into delivery status of purchases

Dedicated cellular, AT&T Multi-Access Edge Computing (MEC), AT&T IoT Video Intelligence

Deliver low latency, highly reliable network performance, and increased privacy and security for asset tracking, robotics, and monitoring mission-critical conditions on the factory floor

AT&T FlexWare, Ethernet, Cybersecurity consulting

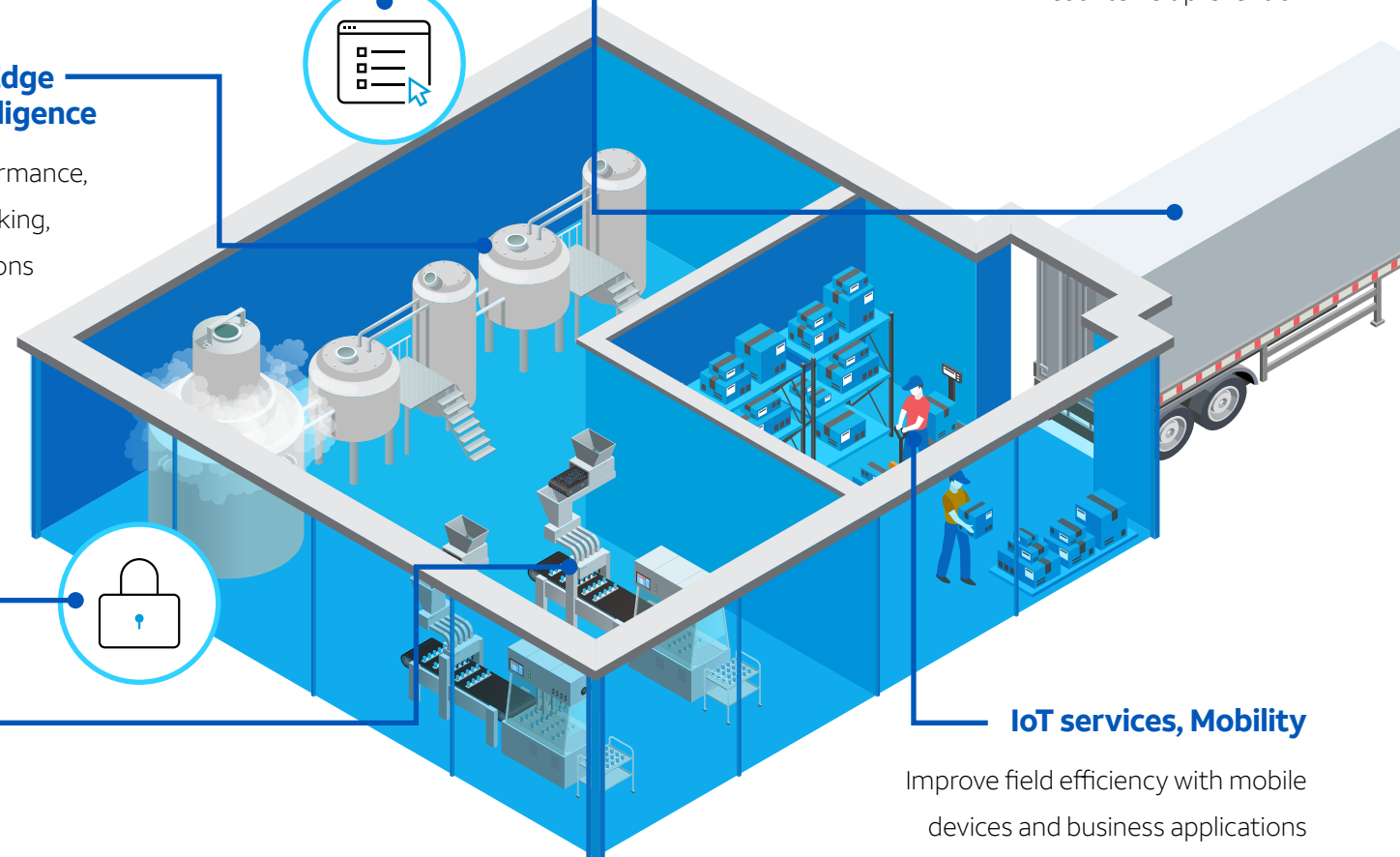Maximize bandwidth for IoT devices while maintaining security and reliability

AMOC, Asset management

Help reduce plant costs and enhance product quality with predictive maintenance

Fleet Management, Asset management, LTE-M

Monitor material and product conditions using IoT devices for cold chain temperature control and counterfeit prevention

IoT services, Mobility

Improve field efficiency with mobile devices and business applications designed to meet staff needs

3. Connecting marketing and sales

How innovation is transforming marketing and sales

Digital technology is equipping Pharma's marketing and sales with the tools needed to win in the marketplace.

How connectivity fits in

Upgrade inefficient legacy systems to better manage your network. Cost-effectively expand your reach to non-traditional sites. Seamlessly integrate targeted marketing with front, middle, and back-office insights.

How AT&T Business can help

Connect employees with clinicians and integrate resources with cloud-based applications, AR and VR data visualization, Voice and Collaboration solutions, and remote-access resources to provide greater flexibility and information access.

![AT&T Business logo]

AT&T Business: Connecting marketing and sales

AT&T Business Wi-Fi, Mobility, 5G AR/VR kits

Equip field sellers when connecting to cloud-based data and applications to share with clinicians offsite

AT&T Business Wi-Fi, Mobility, data analytics

Macro insights on patient/clinician data enables effective results with analytics-based marketing and sales

Voice and Collaboration

Provide employees the ability to easily engage with clinicians in other locations; enhance the customer experience by reducing the amount of time it takes to respond to customer queries

AT&T FlexWare, Ethernet

Access and manage network applications more efficiently as you connect previously siloed environments and better manage network applications

Webex, AT&T Content Delivery Network

Enable remote employee access over high bandwidth; make it easier for those in the field to get the training they need in a timely manner to keep up with compliance requirements
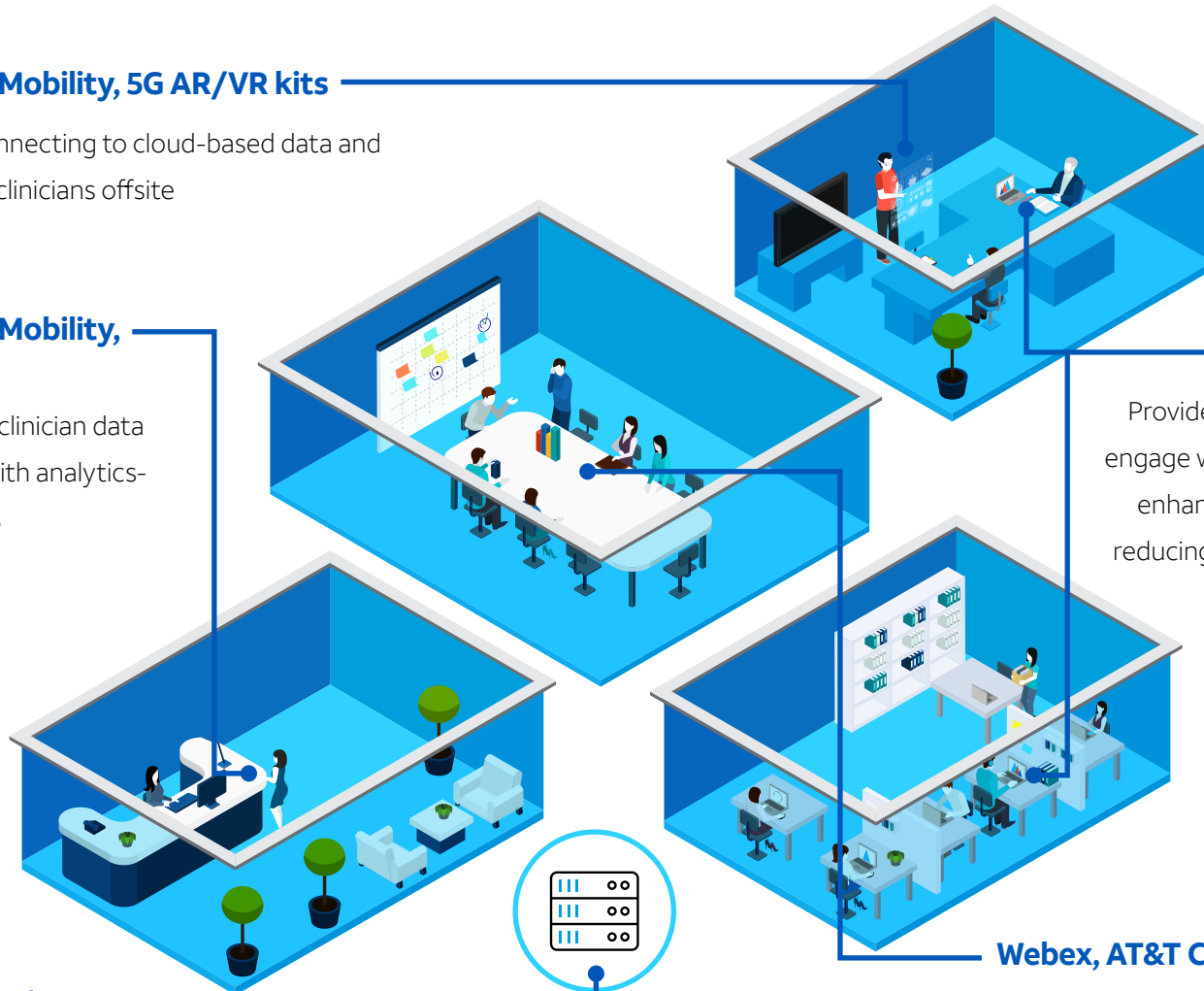
4. Connecting the COVID-19 vaccine supply chain

How innovation is transforming the vaccination process

Greater oversight of vaccine production and supply chain metrics can help ensure vaccines safely reach the intended patient population.

How connectivity fits in

Remote monitoring resources can observe patient vital signs and provide data insights from a larger virtual trial participant pool. Location tracking helps keep tabs on vaccinations in transit to distributors & patients.

How AT&T Business can help

Increased monitoring of every stage of production and transportation, from location tracking to temperature & cold storage monitoring for continuous visibility on environmental status of the vaccine.

AT&T Business: Connecting the COVID-19 vaccine supply chain

Vaccine location tracking

Tracking solutions allow you to identify the location of the vaccine, at rest or in transit, from production to patient

Vaccine temperature monitoring

IoT solutions assist with ensuring the required temperature of the vaccine is maintained throughout the vaccine's transit

Cold storage monitoring

Maintain virtually continuous visibility by monitoring the environmental status at distribution points to ensure required temperatures are consistent

AT&T Virtual Care Solutions

Monitor patients and their vitals (i.e., temperature/blood pressure) between and after vaccine doses; connect patients to telehealth care, if needed

Contact Center Solutions

Communication platform to provide patient reminders, SMS notices, voice calls, and interactive voice response (IVR) services to manage call volumes; a full spectrum of metrics and analytics

Temperature-screening kiosk

Control access to facilities based on user-defined requirements around temperature screening and questionnaire responses

COLONAVIRUS 2019-nCov

AT&T 5G and pharma

5G networks will cover 40% of the world by 2024.* AT&T Business provides 5G connectivity to promote pharmaceutical science research, manufacturing, and supply chain logistics.

AT&T Business 5G use cases include:

- **All departments:** Fixed 5G for virtual connectivity with remote workforce, and transmission of large files and data.

- **IT:** Backup failover to keep critical applications operating and reduce costly downtime.

- **Manufacturing:** Robotics for filling, packaging, quality control, and autonomous vehicles on factory floor.

- **Supply chain:** Collaboration between business units and separate facilities in dispersed supply chains, and asset tracking for cold chain inventory control and counterfeit drug prevention.

- **R&D:** Enable Artificial Intelligence for faster, more accurate research and development, and remote-patient monitoring of virtual clinical patients.

- **R&D, Sales, and HR:** Artificial Intelligence and Virtual Reality for clinical patient comfort, data visualization, and employee and customer training.
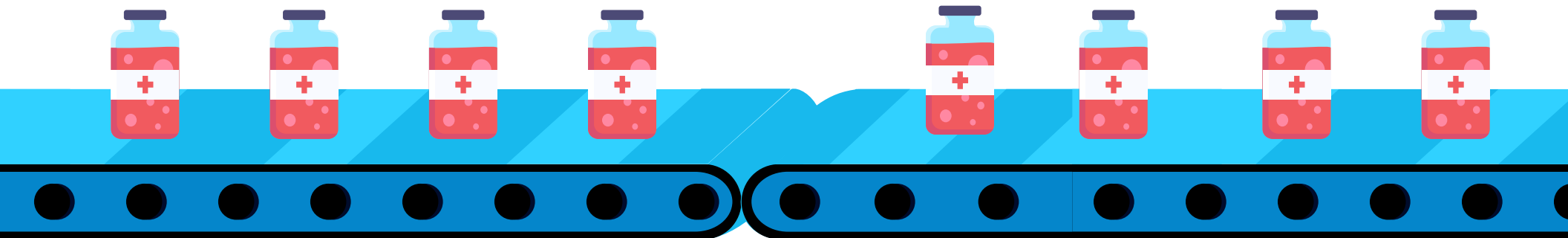
*Source: "Five 5G Statistics You Need to Know," VXCHNGE, April 10, 2020

AT&T Business

Why AT&T Business

>423.5PBs
Data traverses the AT&T network daily,
equivalent to streaming 80+ HD movies

>400M
People covered by 4GLTE
in North America

8
Security Operation Centers
monitored 24/7/365

$40B
Investment to deliver FirstNet

>110B
Vulnerability probes daily

76M
Connected internet devices

15K+
Public safety agencies across the U.S.
using FirstNet services

8
Nobel Prizes

AT&T Business accolades from Frost & Sullivan:

- Company of the Year Award – Global Cellular Internet of Things (IoT) Industry Excellence in Best Practices – November 2020

- 2020 North American Digital Health Company of the Year

Source: Frost & Sullivan

*Source: 1Q20 AT&T Superlatives

Let's take care of business℠

Technology is complex and changes quickly. It can be difficult to know if you're making the right communication and connectivity choices. If you want helpful guidance and advice that's fit to your business, we're here for you.

Discover

Review AT&T Healthcare solutions online.

Explore

Engage

Contact AT&T today to get started.

Call AT&T: 844.972.3578