

**virtco**<sup>®</sup>

**Top  
Strategic  
Digital  
Trends  
2023**



# Where to Focus Your Digital Strategy

Many business leaders expected by now to be focused squarely on postpandemic growth. Instead, most are now staring down the barrel of recession and managing the impact of rampant inflation, as well as dealing with failures of supply chain, energy extortion and missing digital skills.

Even though the economic climate is chaotic, your business must still define and commit to a strategic plan and execute it. Is your goal to save money? Improve productivity? Scale? Pivot to a reinvented business model?

Whatever it is, digital technology is key, but you have to know when and where technology trends will potentially have an impact. To help, Virtco provides an annual list of key digital technology trends that both business leaders and technologists should leverage in the next three years, whatever their business needs.

This eBook provides an overview of the trends and their opportunities, benefits and use cases — and some key actions you can take.



**Grant Crawley**

Founder & Principal Consultant, virtco®

## Top Strategic Digital Trends 2023

### Reflect

- 1 Metaverse
- 2 Digital Twins
- 3 Voice and Audio

### Conceive

- 4 Artificial Intelligence
- 5 Process Automation
- 6 Robotics

### Connect

- 7 Blockchain
- 8 Superapps and 5G
- 9 Cybersecurity

### Sustain

- 10 Green Technology

# Relating Technologies to Strategic Goals

To clarify how these trends can drive value for you, start with your business goals. Below we have identified six potential business goals for the next three years and related how our top ten trends align to them.

Business Goals ↓	Green Technology	Process Automation	Metaverse	Voice and Audio	Superapps and 5G	Cybersecurity	Artificial Intelligence	Digital Twins	Robotics	Blockchain
	Now	2023			2024			2025		
Protect your business	●					●		●		●
Accelerate digital		●			●	●		●		
Grow your brand	●		●	●	●				●	
Increase revenue		●	●		●	●	●			
Attract and retain talent	●		●	●			●		●	●
Extract value from data		●					●	●		

# The World is Changing Rapidly

## Reflect

Technologies that reflect reality are playing an increased role in improving business outcomes by enabling safe collaboration without geographic limitations.

### Related Trends

**Metaverse**  
**Digital Twins**  
**Voice and Audio**

## Conceive

Cognitive enhancement drives business process improvements and helps organisations to conceive new ideas, innovate and enable people to work smarter.

### Related Trends

**Artificial Intelligence**  
**Process Automation**  
**Robotics**

## Connect

Today's world is becoming increasingly well connected, reinventing the way people engage with businesses. That increased connectivity brings new risks which need to be addressed.

### Related Trends

**Blockchain**  
**Superapps and 5G**  
**Cybersecurity**

## Sustain

Spanning all three pillars is the trend towards a more sustainable future employing greener options for digital technology.

### Related Trend

**Green Technology**

# 1 Metaverse

The Metaverse Industry Report confirms that the global market value is \$47.48 billion in 2022, having a robust CAGR of 39.44%, and it is expected to surpass the value of \$678.80 billion by 2030.

Source: Strategic Market Research

## Business Value

A metaverse is a virtual space where a community can meet and interact. In simple terms the metaverse is the next iteration of the Internet, but it's the early days and no single dominant force has emerged and there is no common protocol for them to share, when that protocol is defined the many metaverse services will then start to interconnect.

### New opportunities delivered by the metaverse

Organizations are developing ways through the use of VR (Virtual Reality) and AR (Augmented Reality) to provide better engagement, training, collaboration and connection to their employees through virtual workspaces and the use of internal metaverse experiences called intraverses.

### Supported Business Goals

- Grow your brand
- Attract and retain talent

## Case Studies

**Balenciaga** released a line of virtual gear and apparel in Fortnite together with a physical collection, resulting in a more than 40 percent increase in searches for its brand two days after launch.

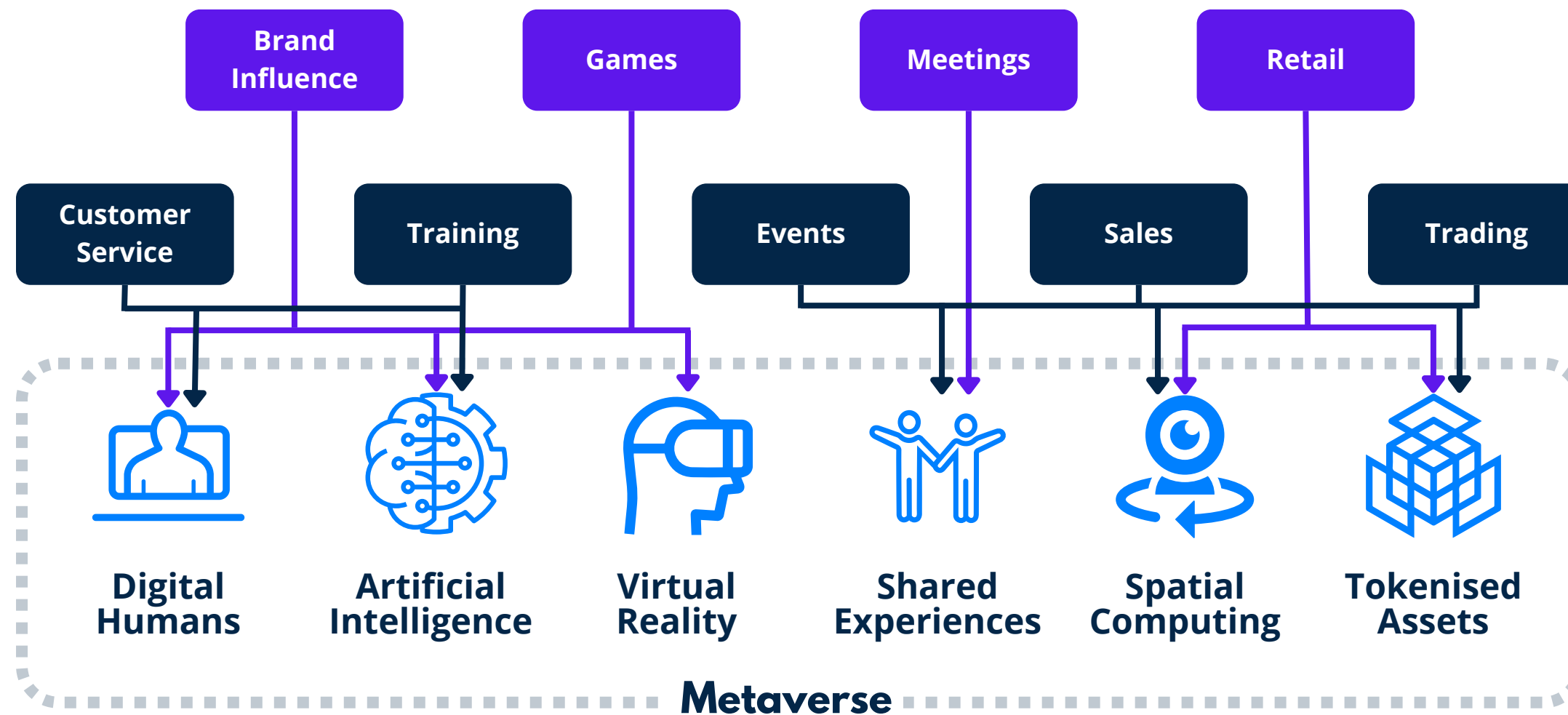
**University of California** at San Diego's Rady School of Management uses a virtual campus for real-time lectures, breakout spaces, and outdoor areas.

**Havas Group** launched a village within *The Sandbox* that hosts recruitment services for improved candidate and onboarding experiences.

# 1 Metaverse

## Technical Profile and Opportunities

Metaverse technologies allow people to replicate or enhance their physical activities. This could happen by transporting or extending physical activities to a virtual world or by transforming the physical one. Think of metaverses as a combinatorial innovation of VR/AR, Blockchain, NFTs, Web3 and AI, and not a single technology. Implications of emerging metaverse technologies will vary across industries.



## Key Actions

- Explore opportunities where metaverse technologies could optimize digital business or create new products and services.
- Build metaverse products and solutions through a pipeline of innovation.
- Identify metaverse-inspired opportunities by evaluating current high-value use cases.
- Develop technology strategies that leverage the built-in infrastructure and participants.
- Invest in specific emergent metaverses cautiously, as it is still too early to determine which investments will be viable in the long term.
- Protect your reputation by proactively establishing a data governance, security and privacy policy to protect customer and employee data.

# 2 Digital Twins

The global digital twin industry was valued at \$6.5 billion in 2021, and is projected to reach \$125.7 billion by 2030, growing at a CAGR of 39.48% from 2022 to 2030.

Source: Allied Market Research

## Business Value

A digital twin is a digital representation of a physical object, process or system with the objective of understanding the current state, enabling experimentation and responding to changes, improving business operations and adding value. Digital Twins are often closely integrated with IoT devices to provide real-time data to be used in the virtual environment.

### New opportunities enabled by digital twins

When coupled with IoT, digital twins can provide real-time windows into systems, giving a way to identify bottlenecks and adapt to issues rapidly. They enable you test changes to your business processes in the synthetic environment to ensure they don't break other business processes.

### Supported Business Goals

- Protect your business
- Accelerate digital
- Extract value from data

## Case Studies

**Network Rail** use digital twins of key infrastructure components to help train maintenance engineers on how to diagnose and resolve issues and perform what-if actions on those components. All without putting passengers or schedules at risk.

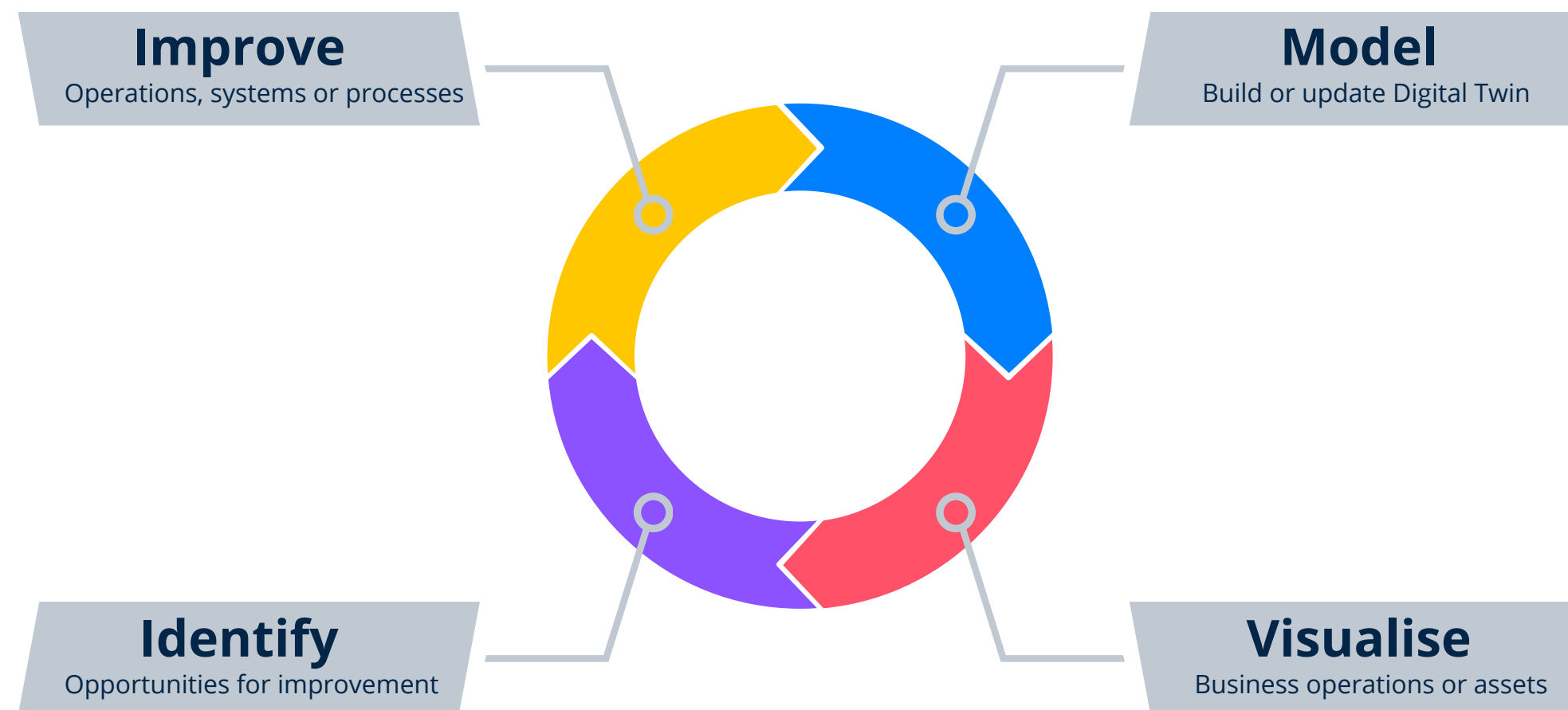
**Vizzio** built a digital twin of Singapore in 2022 to improve sustainability efforts and lessen environmental concerns. For example, Singapore's government committed to deploying at least two gigawatt-peak solar energy by 2030. The digital twin's building model data will help plan solar panels' locations.

**Kraft Heinz** is building a digital twin of its supply chain systems to avoid products getting "trapped" as happened in the pandemic. The twin will provide real-time visibility into plant operations and automation of its supply chain distribution across Kraft Heinz's 85 product categories.

## 2 Digital Twins

### Technical Profile and Opportunities

Digital twins enable you to visualise, test, monitor and experiment with objects, processes and systems in a way never seen before. The hype will have you believe that digital twins always reside in virtual reality, but that's not the case. They can be as simple as a behavioural model of a process with just a few inputs or outputs, or as complex as a whole city. What they allow you to do is perform what-if operations in a synthetic environment to see what the result of an intervention may be, and then build a strategy to either implement that operation or prevent it from occurring depending on the outcome of your what-if test.



### Key Actions

- Identify assets, systems and processes where there are opportunities in your business to implement digital twin models to help understand those processes better and identify areas of improvement.
- Build a digital twin for a relatively simple business process as a minimum viable product which you will develop further.
- Add in more of your business processes to the digital twin so you can visualise how those processes interact with each other.
- Identify bottlenecks or opportunities for improvement and test them in the virtual environment to ensure they will work as planned.
- Implement the improved processes and update your digital twin model to reflect reality. Now use data to validate the digital twin model and adjust as necessary.

# 3

## Voice and Audio

As of 2020, 18% of adults in the U.K. listen to podcasts every week, and over 50% own a smart speaker.

Source: Buzzsprout and Statista

### Business Value

Podcasts deliver a private radio channel that your business controls. You can use it externally to educate, inform and entertain your customers while subtly promoting your brand. Internally you can use it for business communications, training and creating a sense of community. Great for businesses where you have people who are travelling or can't easily access email and instant messaging because of the way they work.

#### New customers coming from voice and audio

Voice search is growing extremely rapidly, much faster than companies are adapting to deliver voice optimised content. That means there is a gap that business can fill at a low cost.

#### Supported Business Goals

- Protect your business
- Accelerate digital
- Extract value from data

### Case Studies

**Barnet, Enfield and Haringey NHS Trust** successfully used a private podcast feed to engage and inform their highly mobile workforce as part of their change management program when migrating to SharePoint online.

**Domino's** first launched its skill on Amazon Alexa back in 2017. With that skill, users can interact with the pizza company's "personality", a character named Dom, who responds to queries in fun ways. They can also place orders via voice, as long as they first set up an Easy Order profile in the Domino's app.

**Estée Lauder** partnered with Google Home to create a voice-activated skincare expert name "Liv," who answers people's questions about all things beauty related. Rather than being inundated with thousands of results, as would be the case with traditional web searches, Liv gives consumers just one answer, and often recommends Estée Lauder products in her replies.

# 3 Voice and Audio

## Technical Profile and Opportunities

The biggest growth in voice search on smart devices (Alexa, Nest & HomePod) and digital assistants (Siri, Google Assistant & Cortana) has been seen with "How" and "Who" questions, with "How" being the most popular. The opportunity is there for you to create optimised content to serve new customers who are using voice devices to find useful information. Audio articles published as podcasts and smart device skills with detailed long-tail keywords will help audio search customers find your content and business.



## Key Actions

- Start by researching the questions people are asking about the products or services you sell. Don't limit yourself to directly related content, but also include tangential subject matter.
- Create short-form articles that answer questions about the subject matter you identify. Keep it to around 40 words or less, so conciseness is key. Make sure you mention your business. Link those short form articles to long-form content.
- Produce a podcast, releasing regular valuable content covering the subject matter you already identified as important to your customers.
- Develop skills for smart devices such as Alexa that deliver personalised value to your customers on a regular basis. This can often be re-purposed from other content and delivered as a flash briefing for example.

# 4 Artificial Intelligence

The global artificial intelligence market size was valued at USD 93.5 billion in 2021 and is projected to expand at a compound annual growth rate (CAGR) of 38.1% from 2022 to 2030.

Source: Grand View Research

## Business Value

Most AI models go through their initial learning to put them into production, but are then left alone. This is a mistake because the value of operationalised AI lies in the ability to continually learn, develop, adapt and maintain your AI models so they remain relevant and improve over time. It is critical to develop accelerated AI re-engineering workflows or, ideally, build AI models that can evolve in production.

### Improving customer experience with AI powered systems

AI powered customer sentiment analysis can help to drive product recommender systems and deliver best in breed analysis of social media comment or survey responses about a brand or product offering.

### Supported Business Goals

- Increase revenue
- Attract and retain talent
- Extract value from data

## Case Studies

**Equifax**, the credit referencing agency, uses adaptive AI that self-updates over time to continually improve their credit risk, fraud and marketing models.

**Hyro**, offers an adaptive AI-driven chatbot being used in healthcare, real estate and government industries. Hyro automatically scrapes a variety of data sources including websites, databases, application programming interfaces (APIs) and more, and when content is updated, the conversation is also updated. The unstructured data is mapped to a knowledge graph made to be “queryable” by Natural Language Processing (NLP).

**Vodafone UK** is using AI to become truly customer centric, shifting from a traditional product push approach to one-to-one customer engagement system, that delivers the next best action across all customer touch points via one centralized system.

# 4 Artificial Intelligence

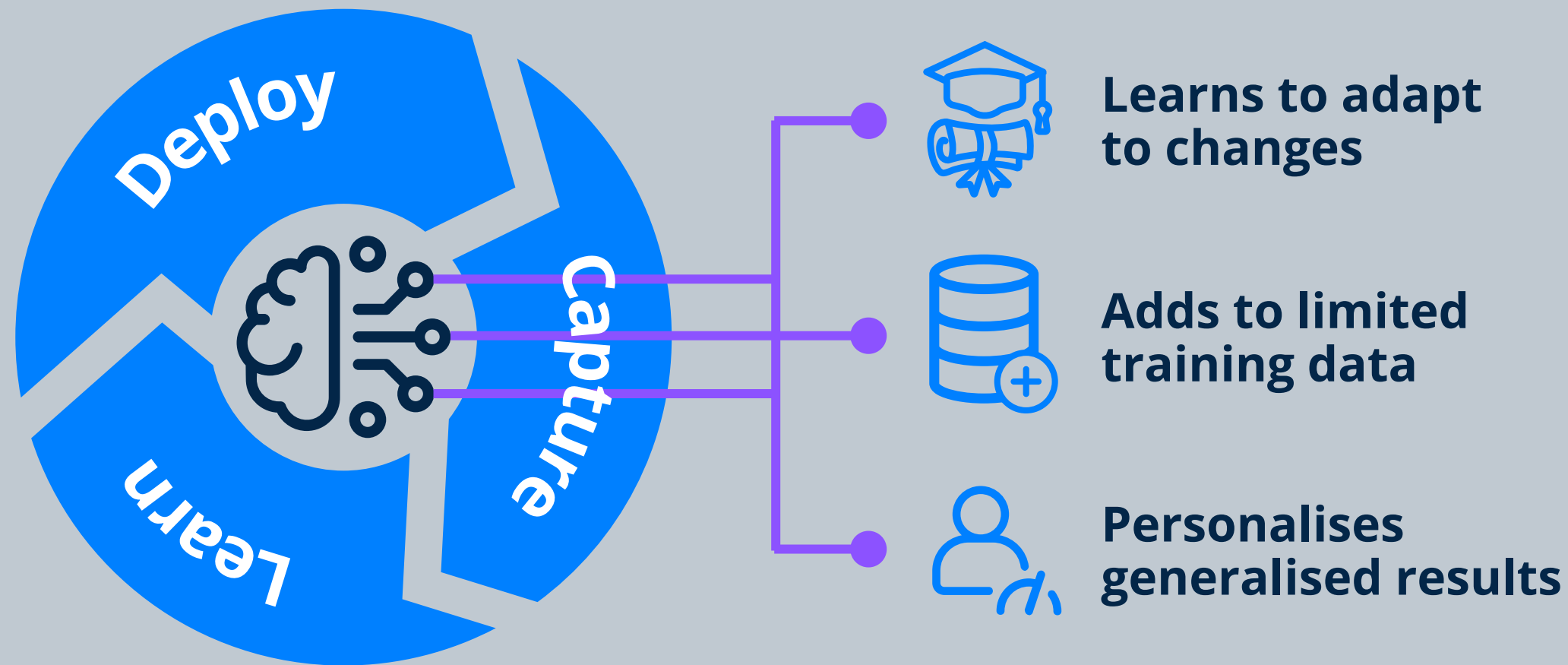
## Technical Profile and Opportunities

AI and machine learning are the use and development of computer systems that are able to learn and adapt without following explicit instructions, by using algorithms and statistical models to analyse and draw inferences from patterns in data. You can use them wherever there is a wide scope of features which may interact in ways that influence an outcome in previously unidentified ways, and then make predictions based on new data.

## Key Actions

- Begin by cataloguing your existing business processes, tasks and needs.
- Identify tasks where the results are descriptive, predictive or prescriptive. These can most readily be helped by machine learning.
- Rank potential use cases in order of strategic value and impact. Start off with simple tasks and get wins with smaller projects you can implement quickly and economically.
- Consider tangible and intangible value and benefits: Cost reduction, effectiveness, agility, business opportunity and problem solving.
- Look at available sources of data, these can be internal or external. Make sure the data is good quality, this may need some effort to clean up.

### Adaptive Artificial Intelligence



# 5 Process Automation

The global process automation market size is expected to grow from \$9.8 billion in 2020 to reach \$19.6 billion by 2026, at a Compound Annual Growth Rate (CAGR) of 12.2%.

Source: Markets and Markets

## Business Value

By deploying process automation tools, you can streamline operations, bring down costs, remove human errors, and shorten processing time. Use process automation to accelerate your digital journey. Increase revenue by making fulfilment easier and/or quicker and use it to remove human error when transferring data across systems, making that data more valuable to use in other areas of your business.

### Accelerating your digital journey with process automation

Using process automation frees up time taken to perform repetitive tasks and enables businesses to concentrate on areas that deliver value to customers. Implementing process automation also triggers ideas where it can be further used to support the business objectives.

### Supported Business Goals

- Accelerate digital
- Increase revenue
- Extract value from data

## Case Studies

**AMN Healthcare**, uses process automation to automatically process healthcare workers' timecards and key credentials. Ensuring that their healthcare workers can fill "high needs" positions and receive their pay on time, while also reducing workload for the company's back-office staff, allowing them to focus on more value add tasks.

**Fortified Bicycle**, uses digital process automation to automatically send an SMS text message to customers who respond to their Facebook lead generation ads, giving the customer the information they need almost instantly.

**Custom Air Products & Services, Inc. (CAPS)**, a provider of heating, air conditioning, and ventilation (HVAC) solutions use digital process automation for tracking sign-offs during the manufacturing process. The process automation solution has completely replaced their old paper-based sign-off process.

# 5 Process Automation

## Technical Profile and Opportunities

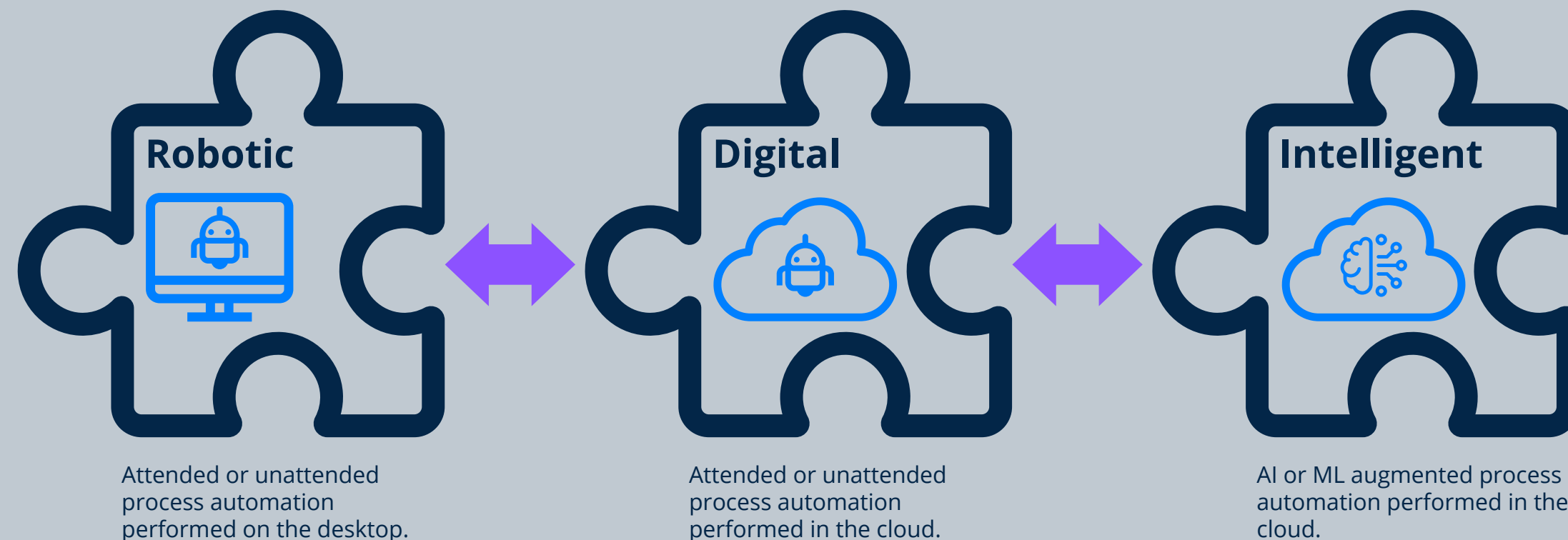
The integration of AI technology makes process automation smarter by offering the ability to digitalise, formalise, optimise, and automate a wide variety of tasks currently performed by skilled human experts. With Artificial Intelligence (AI) or Machine Learning (ML), intelligent process automation continually evaluates data to predict the future and suggest data-driven improvements to enhance operational performance.

## Key Actions

- Identify functions, tasks and processes within your business that could be automated as a quick win to improve productivity.
- Start with simple, no-code digital process automation and pilot a few tasks to get used to the technology. This will start to trigger new ideas about how process automation can be used in your business.
- Strategically select a series of error-prone, resource-intensive tasks to automate and build out more complex process automation systems to deliver those tasks.
- Implement AI or ML capabilities within more complex process automation tasks, where multiple and diverse features are driving decisions within the process. Use those AI models to further drive operational efficiency and increase productivity, enabling your business to scale more easily.

### Process automation technologies work together

Individual process automation technologies can be utilised independently but when used together they elevate process automation to the next level.



# 6 Robotics

The global robotics technology market size was valued at \$62.75 billion in 2019, and is projected to reach \$189.36 billion by 2027, growing at a CAGR of 13.5% from 2020 to 2027.

Source: Allied Market Research

## Business Value

The goal of robotics is to design machines that can help and assist humans and to enhance the performance of an organization. Robots can be used in many situations for many purposes, but today many are used in dangerous environments, manufacturing processes, or where humans cannot survive. Robotics technology finds its wide range of applications in various industry verticals, which include healthcare, domestic, agriculture, and manufacturing.

### Attracting and retaining talent by investing in robotics

Many of the most talented individuals are attracted to organisations investing in robotics because they recognise the value they bring and are intellectually stimulated by the combination of science, engineering and digital technology.

### Supported Business Goals

- Grow your brand
- Attract and retain talent

## Case Studies

**Starship Technologies** from Estonia created advanced autonomous devices that deliver items over short distances. Parcels, groceries and food are directly delivered from stores, at the time that the customer requests via a mobile app. Once ordered the robots' entire journey and location can be monitored on a smartphone.

**South Metro Fire Department**, Denver CO, uses drones fitted with advanced FLIR thermal imaging cameras to assist in search and rescue operations.

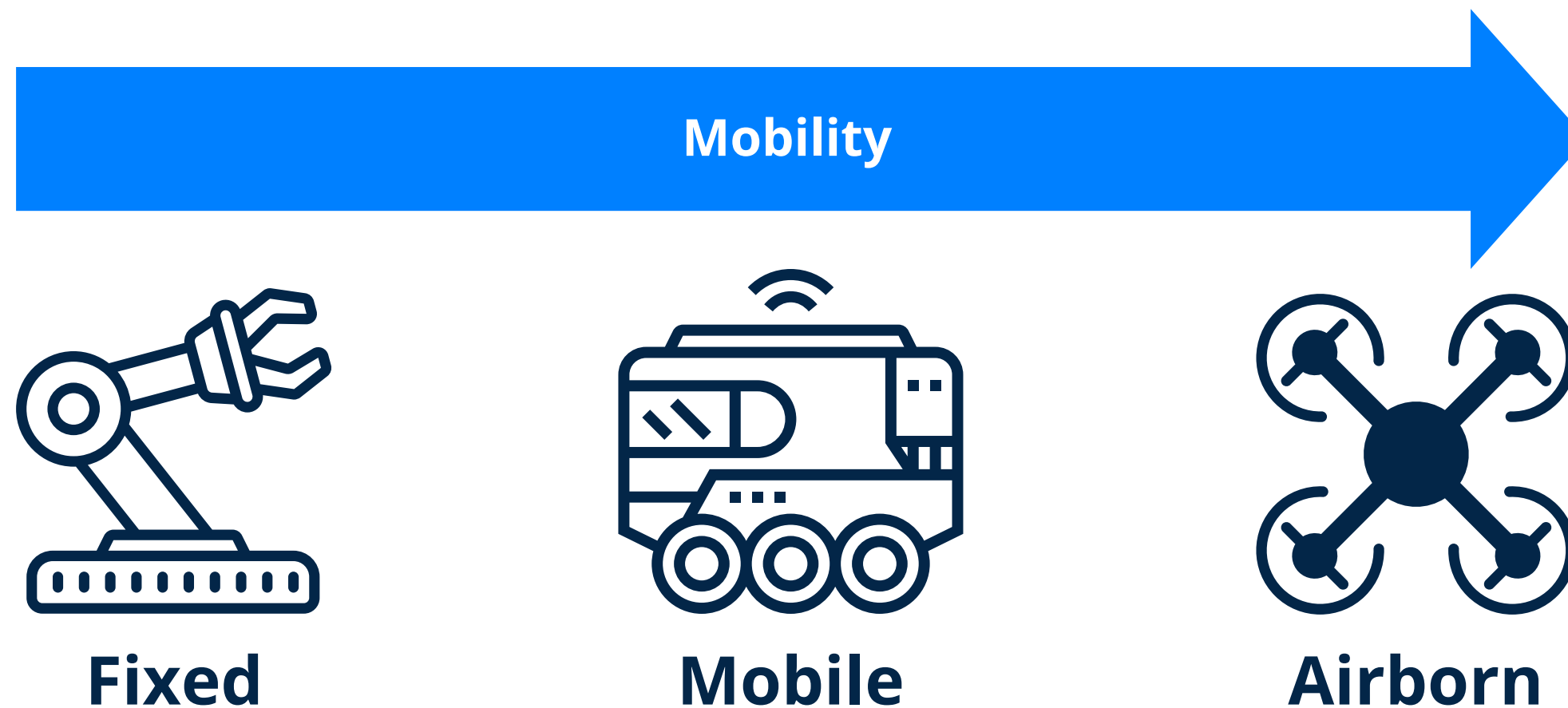
**Tesla** has the world's most highly automated automotive assembly line, with literally hundreds of industrial robots for manufacturing and final assembly of electric vehicles.

**Pudu Robotics** produces tableside and building-wide delivery robots for food and other small items.

# 6 Robotics

## Technical Profile and Opportunities

Robotics can be utilised to provide a wide range of augmentation functions, ranging from manufacturing robots that load parts or perform repetitive tasks, to parts delivery robots carrying out shop-floor logistics functions to ensure that components are where they need to be when they're needed. With the increased power and flexibility of drones there are now new opportunities opening up for medium range delivery services and high resolution aerial photography.



## Key Actions

- Identify tasks performed in your business that are repetitive, unskilled or hazardous that could be performed by a robot instead of a person.
- Prioritise those tasks in order of impact or importance and then score them based on perceived complexity.
- Choose low complexity, but high impact tasks and then think about what kind of robotics would be most suited to performing those tasks and at what cost.
- Decide whether a bespoke solution is required or if there is an off-the-shelf solution already available.
- Train the people currently performing those tasks to manage and control the robots that will be performing the tasks in the future.

# 7 Blockchain

Worldwide spend on blockchain solutions is forecast to reach \$17.9 billion by 2024 and will grow at a compound annual growth rate (CAGR) of 46.4%.

Source: IDC

## Business Value

There is a lot more to blockchain than cryptocurrencies. Blockchain is a decentralized, distributed electronic ledger built on the model of offering absolute security and trust. Using cryptography, transactions are recorded chronologically and publicly, each one time-stamped and linked to the previous one.

### Protect your business transaction data with blockchain

One of the key advantages of blockchain technology is that it is highly secure. The decentralized nature of the technology, combined with the use of cryptography, makes it extremely difficult for attackers to alter or tamper with the data stored on the blockchain. This can provide a business with a high level of security and confidence that their data is safe and protected.

### Supported Business Goals

- Protect your business
- Attract and retain talent

## Case Studies

**Medikit**, a Ukrainian healthcare tech startup, launched in 2017. Working with Ukraine's National Ministry of Health built an ecosystem of medical interaction between patients, doctors and all other participants in the medical market. In 2018 Medikit launched a telemedicine platform and a unified EHR system on the blockchain.

**Microsoft** launched Entra in May 2022, their decentralised digital verified identity platform, built on blockchain technology. The Entra platform will help provide secure access to everything for everyone, by providing identity and access management, cloud infrastructure entitlement management, and identity verification.

**Damien Hirst**, a UK born Artist has released "The Currency", a collection of 10,000 NFTs which correspond to 10,000 unique physical artworks. The works are now brought to life through their launch on the blockchain.

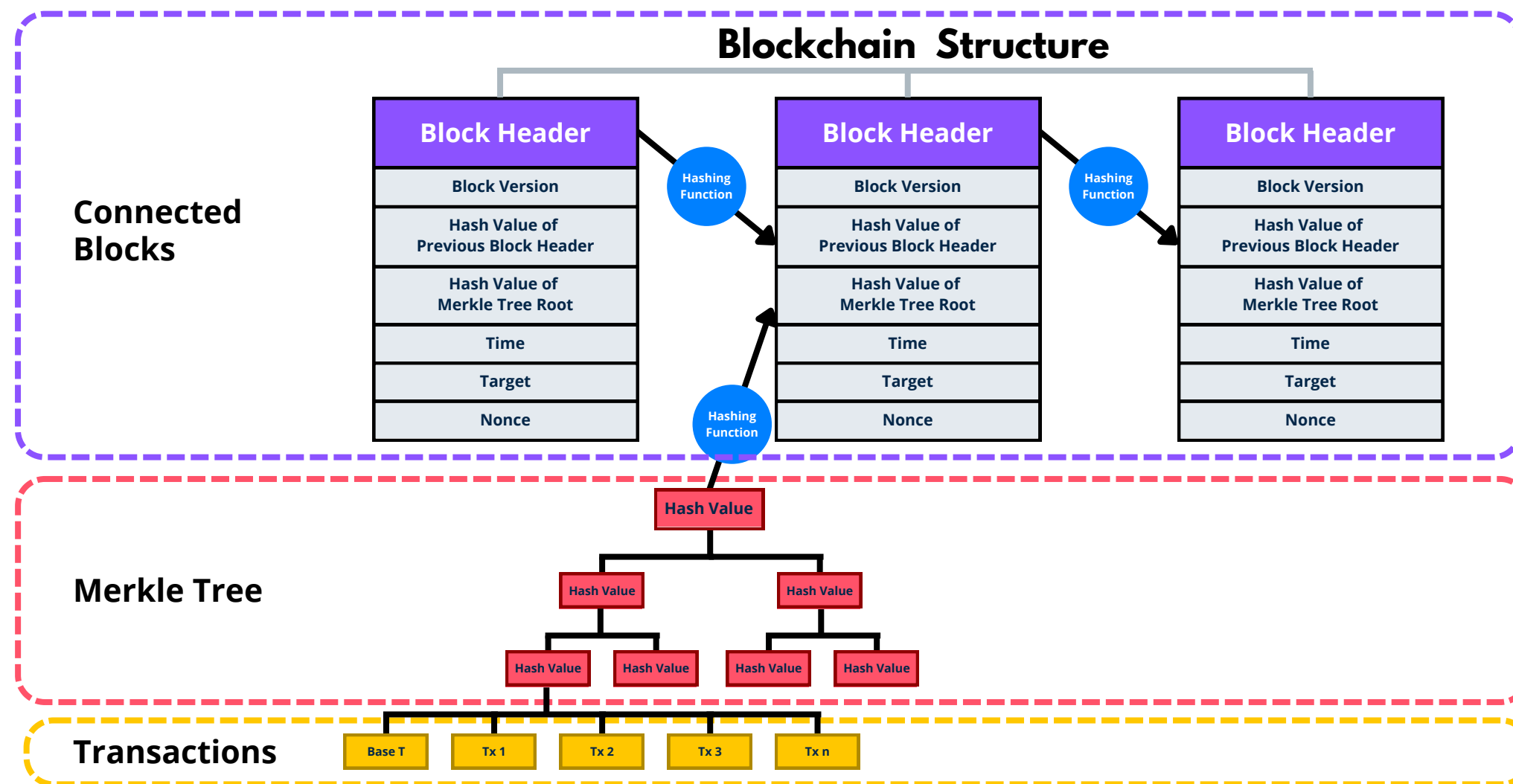
# 7 Blockchain

## Technical Profile and Opportunities

Blockchain technology typically involves the use of cryptographic techniques to secure and verify transactions, as well as algorithms to ensure the integrity and chronological order of the data recorded on the blockchain. Some of the potential opportunities include enabling more secure and transparent record-keeping for transactions in various industries, such as finance, supply chain management, and healthcare. It can also be used to create decentralized applications that are not controlled by any single entity.

## Key Actions

- Identify specific areas within your business where blockchain technology could provide value, such as improving supply chain transparency, enabling more secure and efficient financial transactions, or enabling new business models.
- Developing a strategy for implementing blockchain technology, setting clear goals and objectives, and establishing a timeline for deployment.
- Investing in the necessary technology and infrastructure to support the use of blockchain, such as building or acquiring blockchain-based applications and systems, and training staff to use them.
- Engaging with the broader blockchain community to stay up-to-date on industry developments and best practices, and to identify potential opportunities for collaboration and partnership.



# 8 Superapps and 5G

By 2027, more than 50% of the global population will be daily active users of multiple superapps

Source: Gartner

## Business Value

A superapp is an app that provides end users (e.g., prospects, customers, partners or employees) with a set of core features, along with access to independently created mini-apps. The superapp is built as a platform to deliver consistent and personalized app experiences.

5G and its ability to support around 1 million devices per square kilometre (4G supports around 4,000) is the game-changer enabling superapps and IoT.

### How superapps deliver enhanced user engagement

Users can discover and enable their own set of apps within the main app, providing a highly personalized and contextualized digital experience.

### Supported Business Goals

- Accelerate digital
- Grow your brand
- Increase revenue

## Case Studies

**WeChat** the Shenzhen, China based superapp is the first commercially successful superapp. Providing advanced payment systems, taxi services, food deliveries, online shopping as well as text/voice/video chat capabilities and social media. Businesses of all sizes from micro entities up to multinational organisations are able to leverage the platform to sell and serve their customers.

**Grab**, the superapp from Singapore changed the banking rules in the city state and became the country's first digital bank. The app specialises in taxi services, food deliveries and fintech. But don't expect them to stop there.

**Revolut** is a UK based fintech superapp disrupting traditional financial services. It offers digital banking services for consumers and has expanded its ecosystem into businesses, where small and midsize businesses and freelancers can offer services in the superapp.

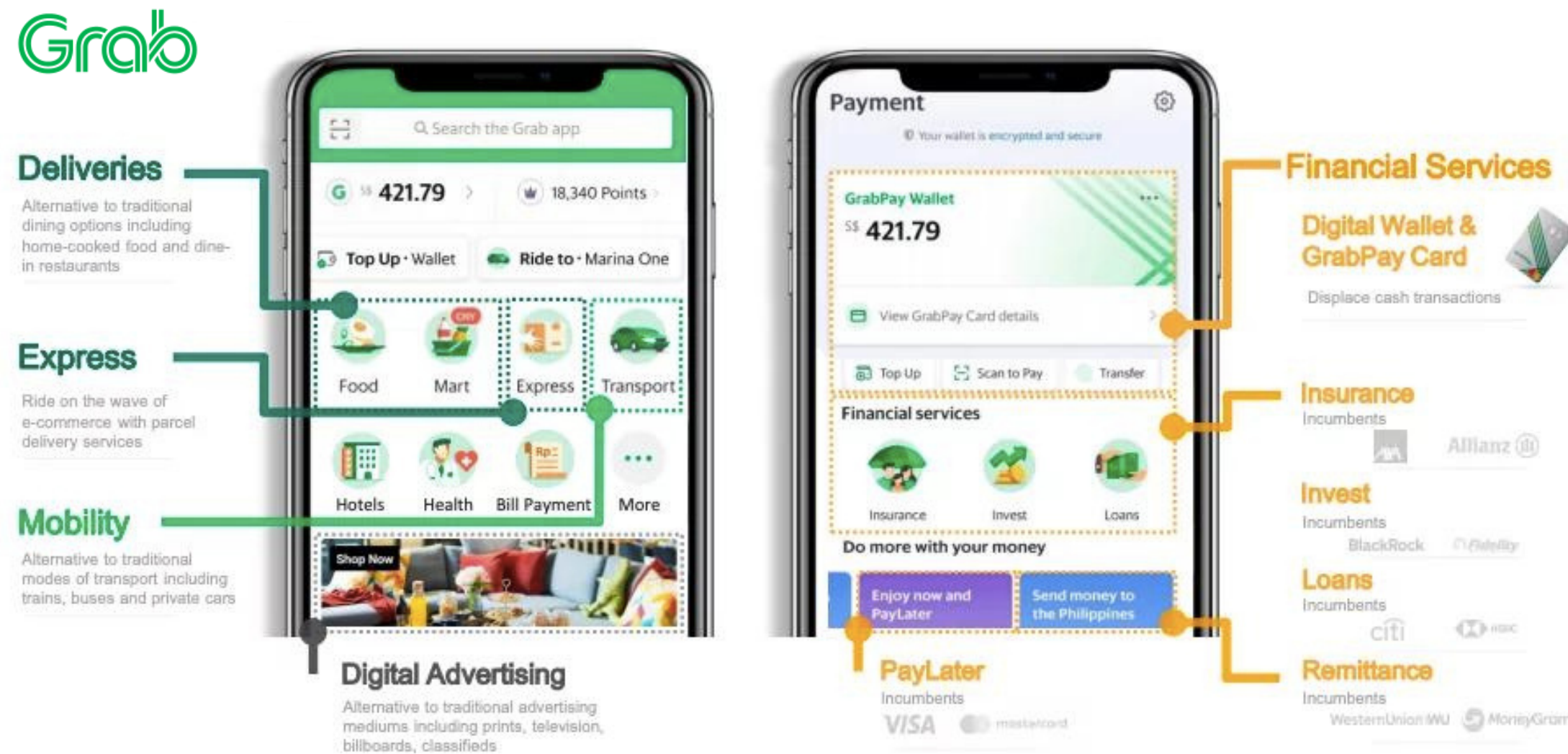
## 8 Superapps and 5G

### Technical Profile and Opportunities

A superapp is more than a composite application or portal that aggregates services, features and functions into a single user interface. A superapp represents the ultimate manifestation of a composable application and architecture.

### Key Actions

- Increase superapp delivery model effectiveness by designing for people-centric products, processes and services.
- Identify core, high-engagement features in your superapps that will drive a critical mass of end users.
- To attract and support development partners, ensure a mutually beneficial business model and dedicated organizational enablement and success resources.
- Offer an easy developer experience and convenient developer tools for partners to build, test, register and submit miniapps for potential monetization.
- Define security and data protection requirements for miniapps by establishing ecosystem governance reinforced with shared platform capabilities



# 9 Cybersecurity

In 93 percent of cases, an external attacker can breach an organization's network perimeter and gain access to local network resources, taking an average of two days.

Source: Positive Technologies

## Business Value

Companies that have a well-implemented cybersecurity program can reduce their risk of data breaches, ransomware attacks, and other malicious cyber activities that can cost millions of dollars in damages, reputational damage, fines and legal fees. Good cybersecurity also helps protect customer data, maintain regulatory compliance, and improve operational efficiency.

### Protect your business by implementing simple measures

Ensuring strong passwords are used everywhere and enabling multi-factor authentication wherever possible are the two most effective ways of protecting your business from cyber attack.

### Supported Business Goals

- Protect your business
- Accelerate digital
- Increase revenue

## Case Studies

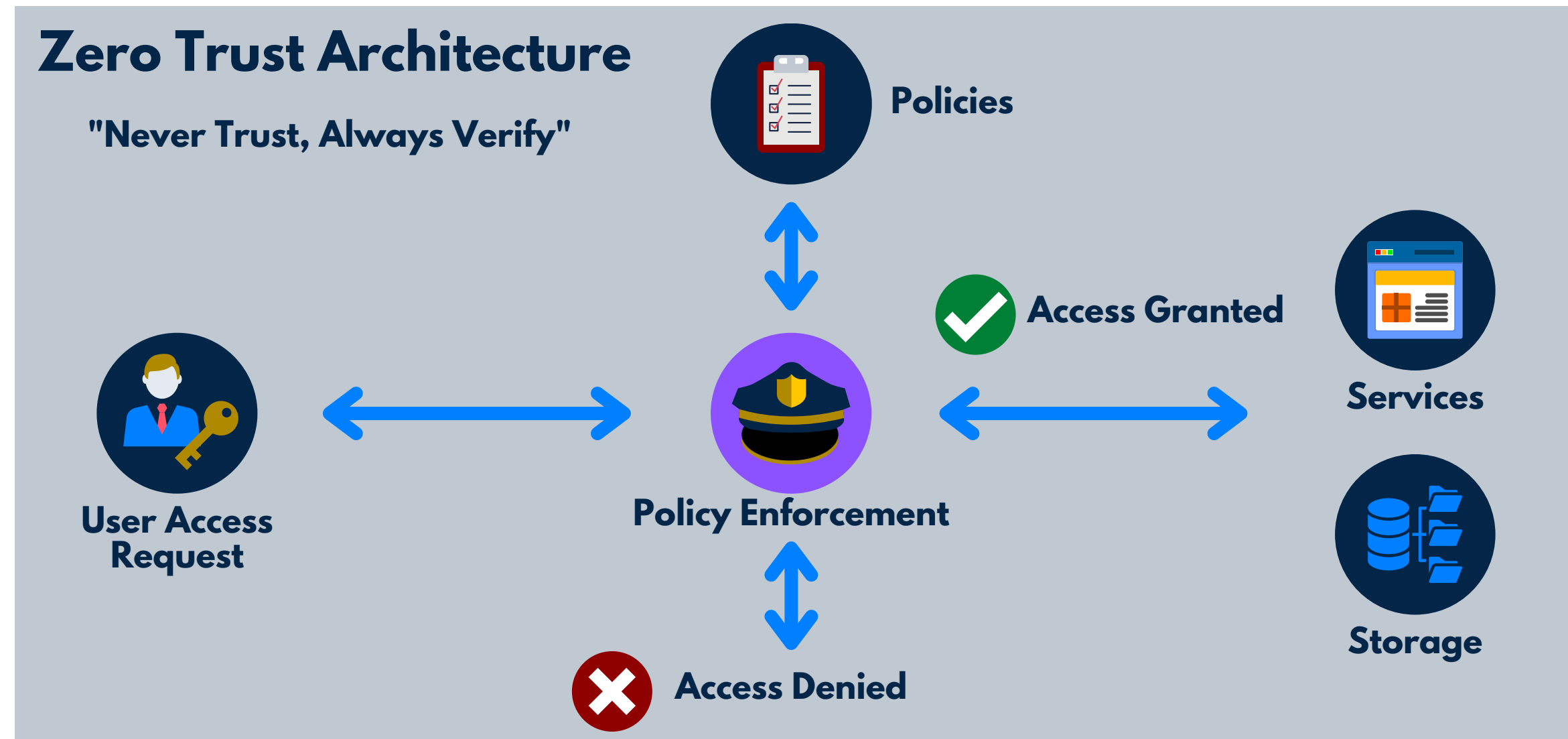
A financial services firm based in the United Kingdom experienced a significant data loss due to a malicious cyber-attack. To prevent similar incidents from occurring, the company implemented a comprehensive cybersecurity strategy. They invested in zero trust networking to protect their systems from malicious actors. They also implemented regular staff training sessions to ensure that all employees were aware of the risks posed by cyber-attacks and the steps they could take to protect the company's data.

A retail chain based in the United States had experienced a data breach due to employees using their personal mobile devices to access company data. The company implemented a comprehensive mobile device security policy requiring all employees use two-factor authentication when accessing company data and implemented mobile device management software to ensure that all mobile devices were encrypted and secure.

# 9 Cybersecurity

## Technical Profile and Opportunities

Zero Trust Architecture (ZTA) focuses on “never trust, always verify”, assuming internal and external actors are malicious until verified. This reduces the attack surface and increases the security posture of organizations by preventing malicious actors from easily gaining access to systems and data. ZTA helps organizations become more compliant with GDPR, HIPAA, and PCI.



## Key Actions

The number one thing business owners can do to improve their cybersecurity is to implement strong access control and authentication processes. Even consider moving to a passwordless system with multi-factor authentication.

Then implement a zero trust architecture with robust security policies and procedures, network segmentation, and strong encryption.

If your business is not cloud-only then make sure you install firewalls and intrusion prevention systems to protect any local area networks and on premises servers. Consider migrating your storage to the cloud where it will be better protected and more resilient.

Ensure your employees receive regular security awareness training and education.

Install endpoint protection and device management everywhere, on every device.

# 10 Green Technology

The global Green Technology and Sustainability market is expected to grow from USD 17.8 billion in 2022 to USD 60.7 billion by 2027 at a Compound Annual Growth Rate (CAGR) of 27.8%

Source: Research and Markets

## Business Value

Environmentally responsible digital technology, also known as "green technology," refers to the use of digital technology in a way that is environmentally sustainable. This can include using technology to reduce energy consumption, minimize waste, and decrease pollution.

### Grow your brand reputation by going green with technology

The use of green technology can provide several benefits to businesses, including cost savings, improved brand reputation, and the ability to tap into new markets. For example, implementing sustainable business practices can improve a company's reputation and make it more appealing to consumers who are concerned about environmental issues.

### Supported Business Goals

- Protect your business
- Grow your brand
- Attract and retain talent

## Case Studies

**Microsoft**, one of the leading software providers, is reducing its environmental impact and simultaneously helps other companies go "green". Azure cloud computing has increased accessibility of serverless and open-source software minimizing cooling processes, ventilation, and air conditioning in fewer data centers.

**Ørsted**, a well-known wind technology and bioenergy provider from Denmark, owns more than a thousand offshore wind turbines equipped with sensors that seamlessly generate valuable data. Advanced predictive analytics and AI technology is driving their digital strategy of sustainable data transformation for saving time and resources.

**Walmart** patented an autonomous drone for pollinating crops equipped with cameras and sensors. Making it possible to detect agricultural problems and get better control over the food supply chain that, consequently, minimizes food waste.

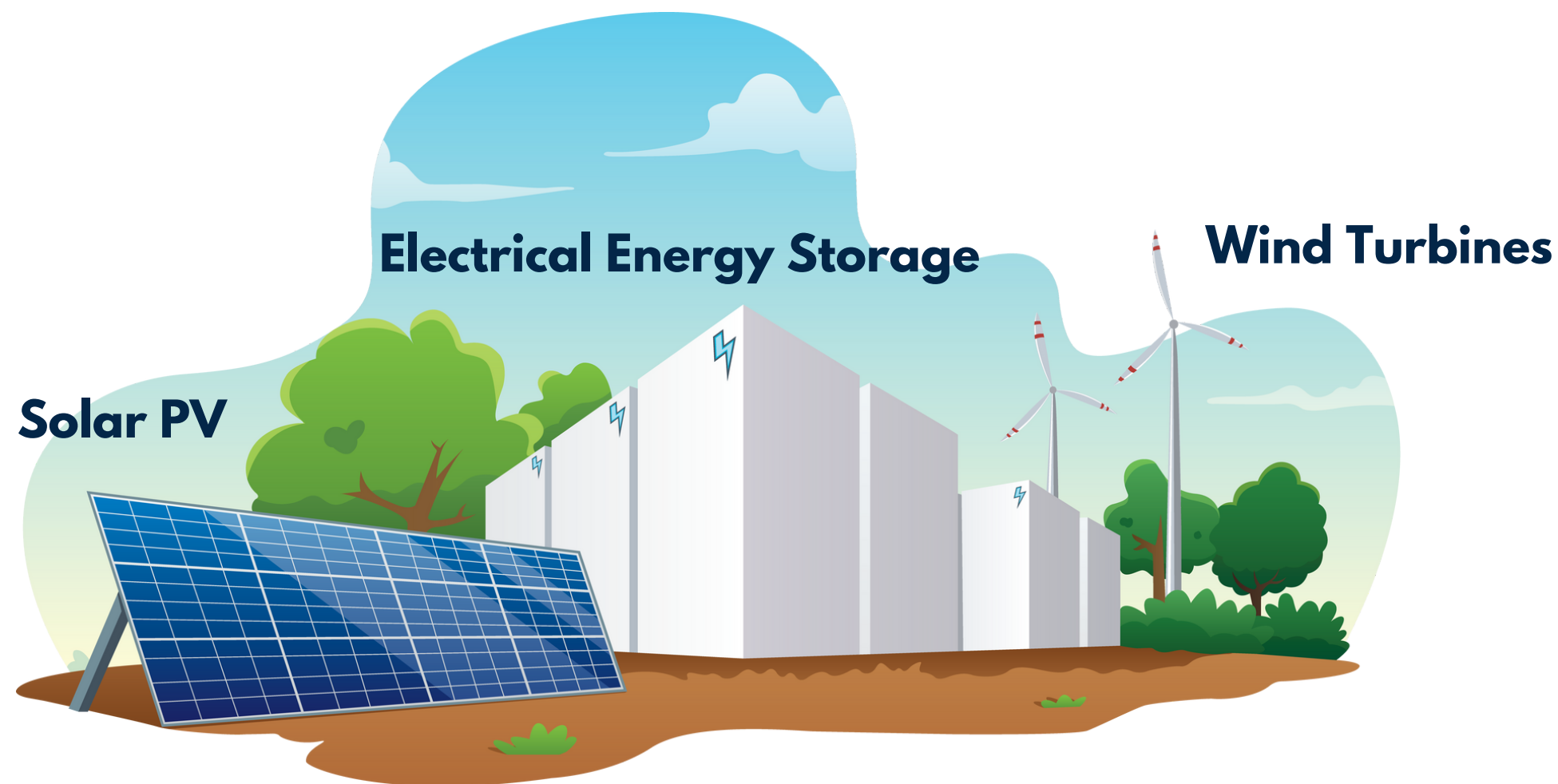
# 10 Green Technology

## Technical Profile and Opportunities

Examples of green technology include renewable energy sources such as solar, wind, and hydropower; advanced energy storage systems; energy-efficient building materials and design practices; and waste reduction and recycling technologies. The use of advanced energy storage technologies can help improve the reliability and stability of the electric grid, and the use of energy-efficient technologies can help reduce energy costs for both individuals and businesses.

## Key Actions

- Increase the energy and material efficiency of IT infrastructure and workplace services.
- Prioritize technology investments based on the sustainability issues most material to your enterprise strategy.
- Embrace cloud services to raise utilization rates of shared resources and reduce environmental impacts.
- Enterprise greenhouse gas emissions management software to facilitate collection, analytics and reporting of past, present and future emissions data.
- Digital twin modelling of supply chains to enable hypothesis testing to deliver efficiency savings and reduce carbon footprint.
- Supply chain blockchain to protect, verify and trace transactions, for example, to ensure ethical sourcing



# How Does Virtco Select the Top Strategic Digital Trends?

**Virtco continually analyses the latest digital technologies and trends. If a strategically important trend meets these criteria it is then mapped against business outcomes:**

- ✔ Cause a significant technological change
- ✔ Require action to be taken by digital or IT strategy decision makers
- ✔ Pose a threat or risk if action is not taken in the next 3 years

Virtco expects these trends to create an imperative to act among at least 50% of our consulting clients, making them broadly applicable to digital, IT and technology leaders and the strategic ambitions of many business owners, entrepreneurs or CEOs.

Individual trends will impact businesses in different ways, so first evaluate which of these trends present opportunities and risks to your strategic direction. This will help you develop relevant roadmaps to enable reliable and sustainable business growth and outperform your competition.

# virtco® Consulting

Hopefully you have found this eBook to be informative, objective and actionable.

Our mission is to give business leaders the knowledge and skills they need to enable their staff to be more productive in the modern digital workplace.

Our expert guidance and personal service enable faster, smarter decisions and stronger performance.

Contact us to become a client:



To learn more about digital workplace technology and the strategies to embed modern ways of working in your business head over to the Digital Workplace Podcast, hosted by our CEO, Grant Crawley.

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