



Digitalization in the Technology Industry

Trend report



The Software-driven Company

What is a software-driven company?

Software is an integral element of a business' digitalization strategy.

For example, software-centric technologies form the foundation of new generations of intelligent systems, such as AI and blockchain, that will change industries beyond recognition.

Moreover, many of today's products and services have software as their key component.

Any organization can become a software-driven business, whether they are a technology provider, an enterprise focused on an industry vertical, or a public-sector organization, they share similar characteristics:

Software to Drive Innovation

Leveraging software enables organizations to deliver services, products and new business models to improve the consumer experience.

Software not only acts as a support for business processes, but the creation of innovative software products and platforms helps businesses identify new revenue streams in digital value chains.

Innovation at Digital Speed

A software-driven approach enables businesses to seize new market opportunities, meet customer demands and innovate at digital speeds.

Thus, supporting businesses to adapt to the new speed of business and move away from slow software lifecycles and bottlenecked organizational structures.

Industrialization of Innovation Delivery

The industrialization of software delivery allows businesses to create models that increase the speed of software releases and handle the automatic deployment and scaling of software for any audience.

The state of the software-driven business

The global software industry is attracting significant investment that stimulates its market value, with estimates it will grow [at a CAGR of 11.7% between 2022 and 2030](#).

[Although computer and information technology jobs will grow by 13% between 2020 and 2030](#), the complexity of technology and the specific nuances of an industry requires businesses to find quality software engineers. If there is an imbalance that can lead to a fall in the quality of software-driven products.

Consequently, although there has been significant investment in software development and the skills necessary to compete, it has yet to result in meaningful performance improvements for many businesses.

For example, companies continue to suffer from delays in product or feature launches, [with only 55% of all product launches taking place on schedule](#) and unable to scale promising innovations. For many, software development spending is referred to dismissively as a black box.

Therefore, to improve software development performance, businesses must empower their developers by creating an environment conducive to innovation whilst removing barriers and sources of friction. By doing this, organizations can achieve 'Developer Velocity'.

Establishing conditions that empower the developer, anticipating critical enablers, aligning investments with customer value, and minimizing barriers to productivity will not only improve the speed of innovation but also unleash the potential of development talent.



Technology as a competitive advantage for industries

From forward-thinking tech start-ups to established enterprises, the technology industry has aimed to cement its market position by disrupting other industries through innovation. Today, technology is no longer an industry but a hybrid model with several other sectors.

Below, we explore the trend of EverythingTech. For businesses in different industries, digital technology

enables them to disrupt the norm, reduce operational costs, drive for higher valuations, and aim to deliver innovative services.

Although the technology may be the same, the application varies and depends on sector-specific drivers such as regulations, desire for transparency and customer-centricity.

FinTech

FinTech is transforming the financial industry. From personal banking to cashless payment solutions and investment management, FinTech helps deliver value-adding services that improve the accessibility and ease of digital services for end customers.

RegTech

RegTech supports companies in leveraging technology to solve compliance issues and manage third-party cyber risk within the financial sphere.

In collaboration with financial institutions and regulatory boards, the use of RegTech tools helps solve challenges arising from an increasingly digital economy and the rise in digital products.

For example, RegTech helps track digital transactions and identify and report fraudulent activities that might appear in digital payment solutions.

InsurTech

For customers, InsurTech is creating a more personalized and proactive service.

The creation, distribution, and administration of insurance through digital technology enables businesses to automate processes, improve claims processing, manage online policies, and expand coverage.

HealthTech

Digital health innovations are helping achieve a long-sought-after healthcare industry objective: cutting healthcare costs while improving patient outcomes simultaneously.

Healthcare investors and companies can thrive in the fast-growing digital health space and improve healthcare for patients worldwide as [the combined enterprise value of HealthTech companies grew 4.5x from 379B USD in 2017 to 1.7T in 2021.](#)

ManuTech

ManuTech aims to revolutionize how companies manufacture and deliver higher-quality products to meet consumer demand.

Implementing intelligent devices and integrating new technologies across the manufacturing value chain will support businesses in numerous opportunities.

Streamlining production processes, overcoming limitations of traditional production methods, and enhancing cyber-physical systems pave the way for a self-diagnostic and predictive maintenance approach.

BioTech

BioTech involves cultivating technology to discover, alter, and produce novel biomolecules and organisms.

Through bioengineering and technology, businesses can discover new drugs and identify the genes to create new clinical diagnostics and cure diseases.

Trends that will shape the life science industry

As technology becomes more complex and connected, it will increasingly shape our industries and societies.

Here, we will explore some of the technology trends shaping the present and future of industries and consider how companies may implement them.

Dig deeper

Quantum Computing

Artificial Intelligence

Machine Learning

Internet of Things

Augmented Reality

Cloud Computing

Quantum Computing

The advent of quantum computing will allow businesses to utilize the unique properties of quantum mechanics to perform complex calculations and process a substantial range of values concurrently.

In recent years, quantum computing has attracted significant investment, with funding of start-ups focusing on quantum computing increasing, [with \\$3 billion raised by the end of 2021 and estimated to grow upwards of \\$90 billion annually by 2040.](#)

Across numerous industries, quantum computing will help generate simulations and solve problems that may result in significant advances.

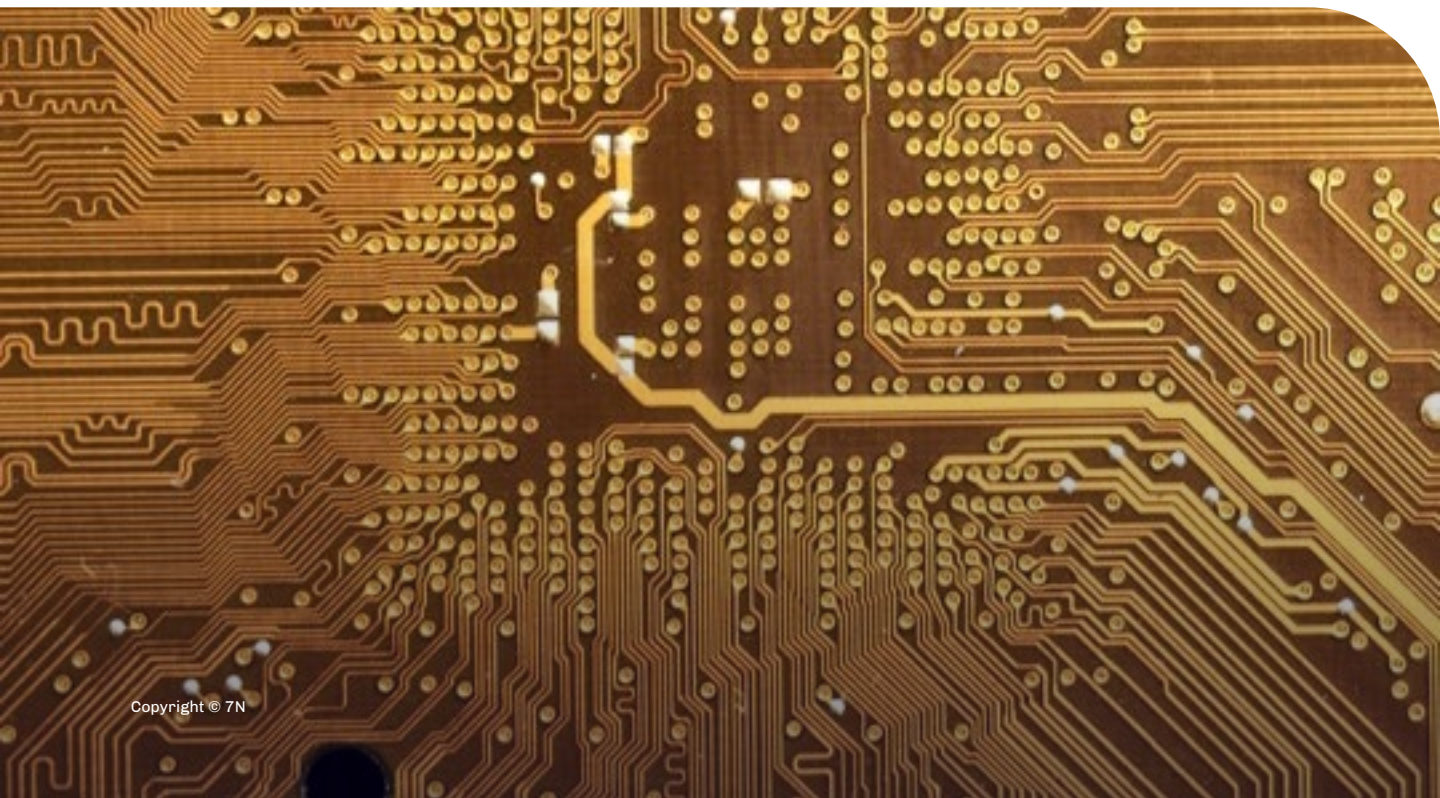
For example, within pharmaceutical and life sciences, it could play a critical role in the molecular simulations necessary to create new materials and identify potential drugs.

Quantum computing provides comprehensive modeling of very sophisticated molecules with complete

chemical accuracy, thus enabling R&D processes to be completed faster and making target identification, drug design, and toxicity testing more efficient.

For businesses, quantum computing will solve computationally intensive problems, hasten development cycles, and lower entry barriers across industries. It promises to disrupt operations across industries' value chains.

Nevertheless, although companies have begun experimentation to explore its potential, general applicability has yet to be established to ensure their workers receive the necessary training and adapt their networks to host upgraded systems.



Artificial Intelligence

Through advancements in Artificial Intelligence (AI) and its sub-segment machine learning, companies are achieving new levels of efficiency in data processing and analysis.

AI applications will augment nearly every aspect of human-machine interaction. It is estimated that AI could add as much as [\\$15.7 trillion to the global economy by 2030](#).

For most businesses, the need for the tools to unlock the value present in data becomes vital. Companies can achieve value across multiple functions through AI and machine learning, from marketing and sales to customer service.

For example, AI algorithms can train machines to detect, interpret, and act on patterns allowing computers to comprehend real-world data, including videos or images, text, and audio.

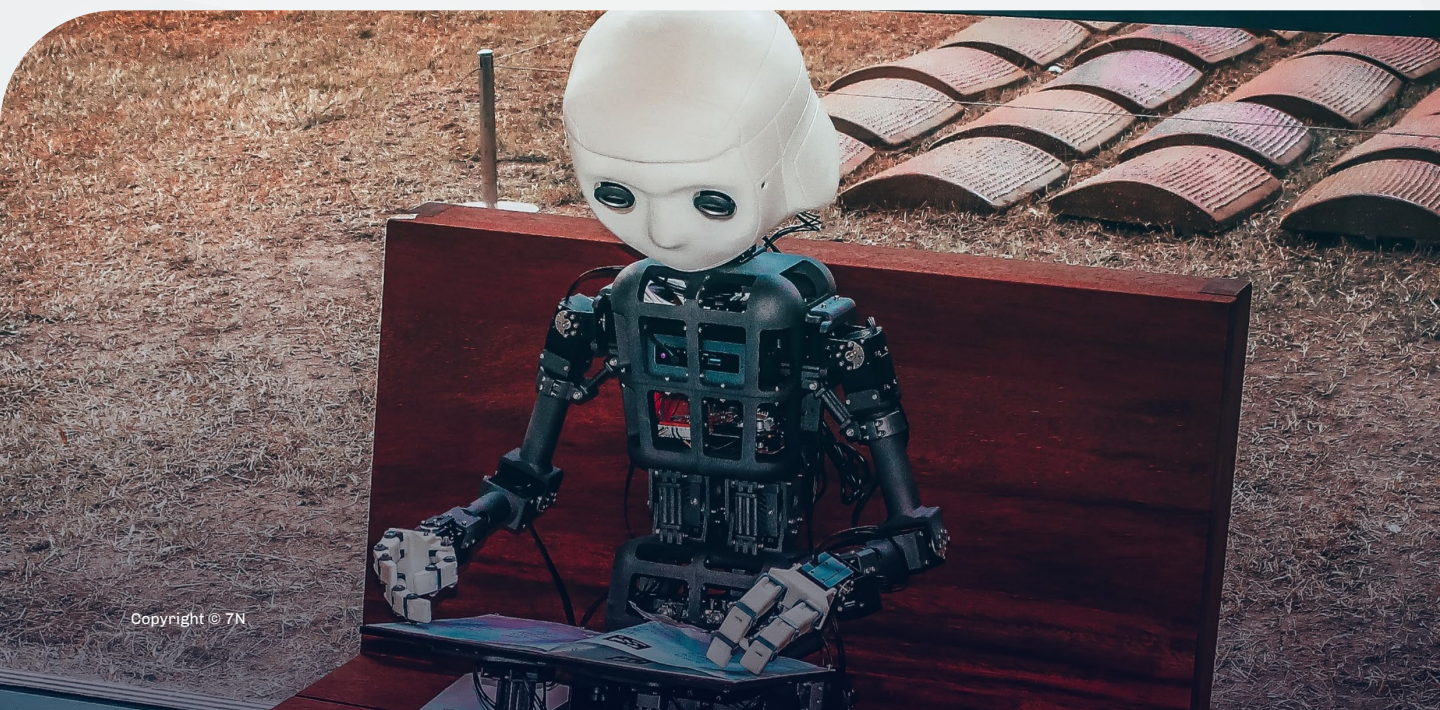
For the retail industry, it will allow businesses to build and personalize a 360° customer view. As a result, it will enable organizations to offer tailored retail experiences, whether the customer is

online, at home or in-store, mediated through human-like virtual assistants.

AI will also affect financial services by supporting risk management and detecting credit card fraud.

An example of its utilization is [the Royal Bank of Scotland's launch of a natural language processing AI bot](#).

For customers, it provides swift, AI-driven responses to their queries. In addition, it can perform simple banking tasks such as money transfers and free up human colleagues for more complex problems.



Machine Learning

As computer programs continue to learn and adapt to data without human intervention, organizations that industrialize machine learning successfully can [shorten their production time frame for machine learning applications by 90% and reduce development resources by up to 40%.](#)

Machine learning utilizes data to power algorithms that enable software to solve problems. Therefore, machine learning signifies an opportunity for the manufacturing industry to enhance design and manufacturing processes and enable better resource management.

Furthermore, with access to appropriate data, machine learning algorithms can effectively predict demand and plan future strategies. It can allow businesses to understand how much they should be making of a specific product without overproducing or being unable to handle a surge in interest.

Both AI and machine learning have the potential to revolutionize how companies utilize data to become more innovative and efficient.

However, to achieve impact at scale, businesses must address the technical and organizational changes required to adopt these digital technologies effectively.



Internet of Things

The Internet of Things (IoT) describes physical objects possessing sensors and processing abilities that can connect and exchange data over the Internet without requiring human-to-human or human-to-computer interaction.

For businesses, the flexibility of IoT technologies and embedded devices make them vital in various applications and environments. [By 2025, more than 50 billion devices shall be connected to the IoT.](#)

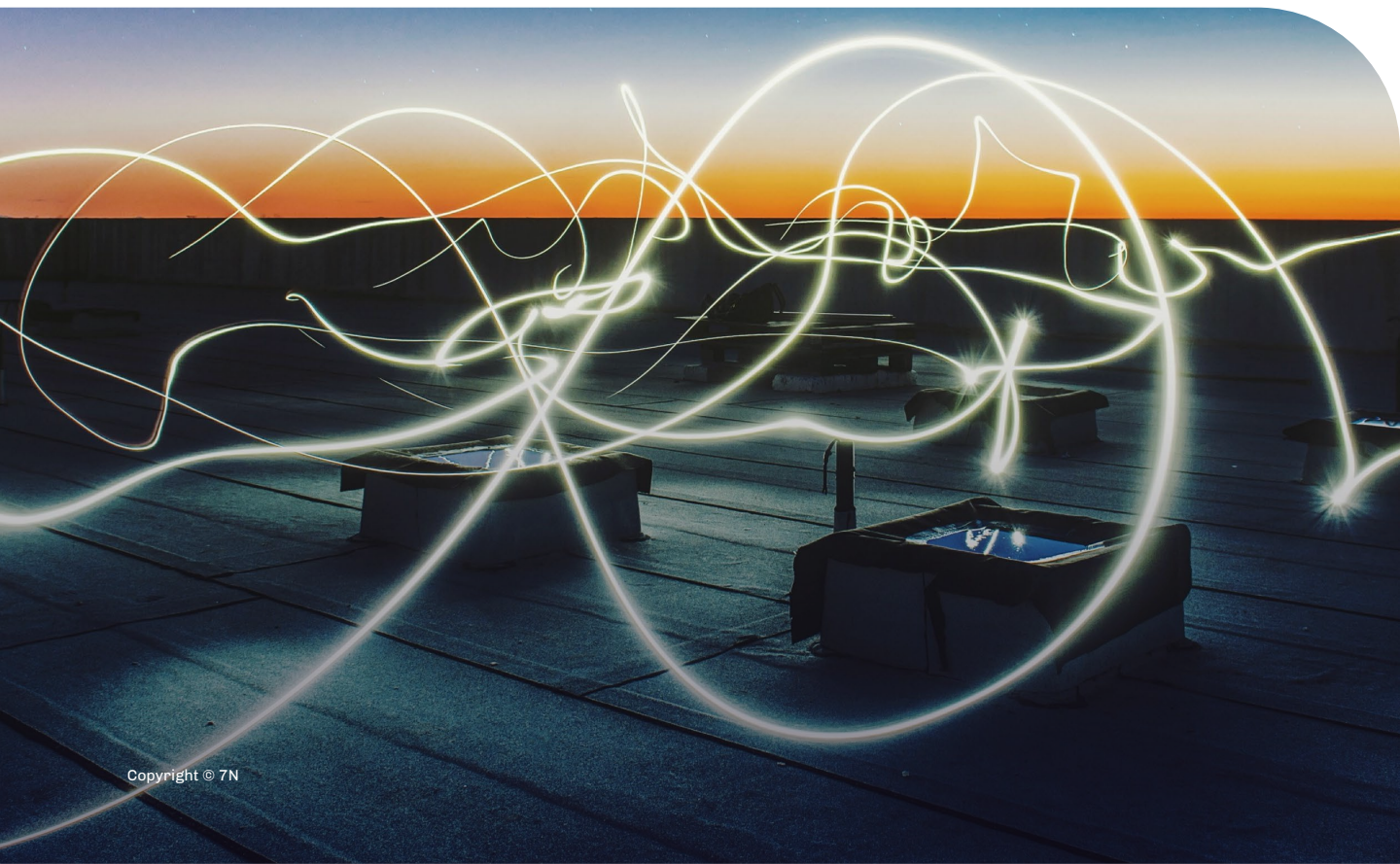
Many industries are integrating IoT technology into their business processes today.

IoT technology can help reduce the energy sector's challenges in managing power plants. Sensors can support the automation of industrial processes and provide enhanced supervisory control monitoring equipment. Thus, helping to detect failures and reducing the risk of loss of production or blackouts.

Moreover, smart meters within homes can deliver a more granular recording of a household's energy consumption, allowing utility companies to bill customers for electricity consumption accurately.

IoT promises opportunities to move beyond traditional business models and generate new revenue.

The businesses that understand the significance of IoT and act on its potential will stand to benefit. Yet, as more devices collect and share information, secure data handling, and protection become critical.



Augmented Reality

Augmented reality (AR) deepens the interaction between computer-generated information and the world, achieved through digital visual elements, sound, or other sensory stimuli.

It is a growing trend among industries, as seen by the provision of [\\$4 billion of funding from Venture capital investors to AR and VR start-ups in 2021](#).

Whether delivering improved means for customers to shop, with users able to see clothing in a 3D format, AR can help to engage audiences and improve user experiences visually.

For manufacturing businesses, immersive-reality technologies enable users to simulate product designs, analyze quality and productivity issues, facilitate maintenance on plant floors, and guide repairs.

As products and processes become more complex, AR can support complex assembly tasks. For example, to assemble a multitude of components with extreme precision and

under time constraints. Through AR, workers can produce products without interruption, which correlates with [the increase in enterprise spending on AR glasses forecasted to be over \\$12 billion in 2024](#).

Furthermore, visualization will also support the optimization of product development. It allows manufacturers to project 3D images through wearables enabling stakeholders to see how the final product will look whilst superimposing virtual layers, which may connect wearers with real-time data..

AR is changing how businesses connect and interact by providing an enhanced version of the world around us to benefit production and efficiency across operations.



Cloud Computing

Cloud computing delivers services over the Internet that offer faster innovation, flexibility, and economies of scale. In addition, the on-demand availability of centralized computer system resources allows for significant computing and storage capabilities.

Connected through high-capacity network, cloud computing helps to combine information from multiple data sources and deliver resilience against data loss for businesses as their services grow broader and more prosperous.

For businesses, [cloud computing could create more than \\$1 trillion in earnings](#), reducing the time to value for innovative applications, increasing productivity, risk reduction, and the hyper scalability of workloads.

Although the nature of traditional banking systems is intricately structured and functionally siloed, cloud computing can help bridge the gap. It allows enterprises to seamlessly offer core services to global customers, simplifying organizational processes, and increasing accountability.

Cloud computing enables businesses to offer customer-centric web applications that deliver autonomy and flexibility for users and allow instant control of their finances. In addition, whilst ensuring the security of financial information, cloud computing provides high resilience through security architecture.

Today, [87% of enterprises plan to accelerate cloud migration by 2025](#). As data flows into the cloud, it helps companies boost their speed, reduce complexity, and strengthen their cybersecurity defenses.

Additionally, as traditional sectoral boundaries blur, and ecosystems continue to grow in significance, cloud computing can help businesses reimagine their future.



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Blockchain

Blockchain is a foundational technology, showing promise across many industries to reduce cybersecurity's operating and capital expenditures and improve transactions' cost-efficiency.

As a digitally distributed, decentralized ledger, blockchain uses complex algorithms and encryptions as the foundation of each transaction. It provides a structure for verifying the trustworthiness of devices as data flows across networks, APIs, and applications.

Blockchain may signify a new future for businesses by bringing a higher quality of transparency, simplicity, and efficiency to every aspect of operations.

For supply chains, it has the potential to deliver multi-tier visibility. Blockchain provides permanent transparency through smart contracts and digital identities to

minimize disputes and allow the sharing of data between partners through permissioned blockchain solutions.

As blockchain ensures the validation of transactions shared by multiple supply chain providers, all transactions are permanent and verifiable. It is then easy for the owner and customer to view each record.

However, as innovation drives businesses forward, regulation must catch up swiftly. But unfortunately, the lack of legal guidelines slows its incorporation, as seen within financial services, meaning that blockchain implementation on a broader scale takes longer than desired.

Big Data

Data permeates every aspect of our lives and creates endless business possibilities, from assisting companies in making intelligent decisions to predicting user patterns and analyzing trends.

Today, a significant percentage of business activity travels through the Internet. Consequently, the amount of online and offline data companies record and store rises exponentially.

The collection of structured, semi-structured, and unstructured data flowing from many sources can become a significant source of capital for businesses to drive innovation, analyze, and assess production, anticipate consumer demand, and deliver regulatory reporting faster.

Big data captures and channels customer insight for the insurance industry to create tailored product offerings.

For example, the analysis of customer behavior derived from social media or GPS-enabled devices helps insurers to better assess risk and make highly personalized offers whilst improving proactivity regarding loss prevention.

[By 2026, the global Big Data market is expected to reach USD 268.4 billion.](#)

Nevertheless, increasing volumes and greater velocity requires businesses to possess processing software to manage the influx of data. As a result, companies must ensure the technology for data storage maintains pace to store the resource effectively.

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Cybersecurity

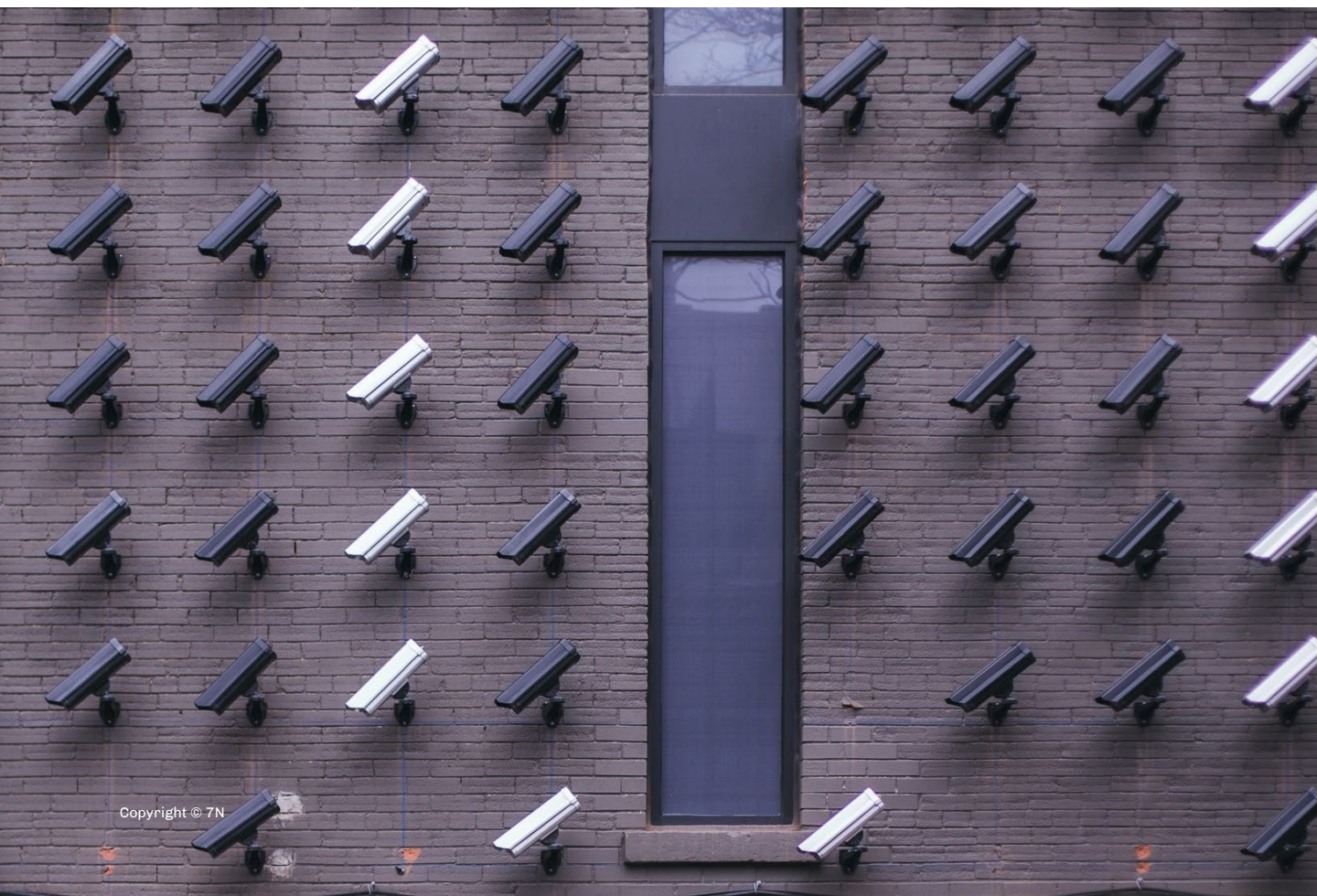
The data density nature of businesses and reliance upon devices for personal and professional use means that systems are susceptible to attacks that could result in financial loss or reputational damage without effective cyber defense plans.

As a multi-layered and ever-growing phenomenon, the challenges posed require constant reassessing and flexible control systems to manage cyber risk in an increasingly digitized business model.

As Industry 4.0 blurs the boundaries between the digital and the physical worlds and how systems flow across industries, the possibility of thousands of different devices and networks interacting with each other amplifies the type of threats businesses face.

To accommodate the challenges faced by Industry 4.0 systems end to end, standardized regulatory policies and reworked cybersecurity frameworks need to be set in place for this initiative to succeed.

Inaction is not an option regarding the data security of businesses. Therefore, organizations must seek to employ proactive cybersecurity policies and leverage technology as security solutions to remain a step ahead of those who wish to cause harm.



The 7N Way: The flexible IT consultancy

A global network of extraordinary IT people – delivering on clients' objectives and beyond

Sector expertise drives the digital transformation

In recent years, macro events have increased the pace of innovation, development cycles, and competition, while creating an ever-changing risk landscape. Armed with knowledge of these trends and their implications on the business, our agents and consultants can help mitigate risk and identify opportunities in our clients' business cycle.

Over decades, 7N has been part of several waves of digitalization. Today, our consultants work across industries and geographical borders to deliver the projects that define the new digital realities.

We offer clients a highly specialized portfolio of IT services and solutions delivered by the top 3% of IT professionals. Our expertise spans across many industries providing digital transformation across all phases of the IT project life cycle.

By engaging early with 7N, our clients already benefit from our expertise when defining project scope and strategic needs, and they always gain flexibility to adapt and accommodate changing demands while retaining control and maintaining ownership of IT development in-house.

How we deliver high-performance IT

Delivering with high efficiency shouldn't lead to higher workload. We build efficient teams, where expertise and experience accelerate more than headcount and capacity. In doing so, we help form small, highly efficient teams, staffed to maximize client impact.

A tailored recruitment process refined over 30 years

We have a sophisticated our best-of-breed approach to identifying and quality-assuring top 3% IT professionals. Our model is designed to identify personal capacities, professional skills, and drive to deliver to our clients. For all clients, we have dedicated recruitment teams with extensive local knowledge and global reach for candidate sourcing. We tailor our recruitment process to each client's technical and cultural needs.



Connect with our advisors

Schedule a meeting and hear more about how we can help you assess your possibilities and overcome your challenges.

GET IN TOUCH



7N Group is an elite IT consultancy agency with more than 20 years of market experience in serving all aspects of critical IT projects both within the public and private sector.

We have dedicated ourselves to finding the right match between our consultants and the companies we serve – we believe that is how the best results are created. At 7N, we have built a professional community of extraordinary people. A community dedicated to achieving professional and personal development. A place where the best gets to play with the best.

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