



# TREND RADAR ENG OUTLOOK 2024

Our Business & Tech leaders discuss current trends and challenges. How can we evolve together?



TREND RADAR / ENG OUTLOOK 2024



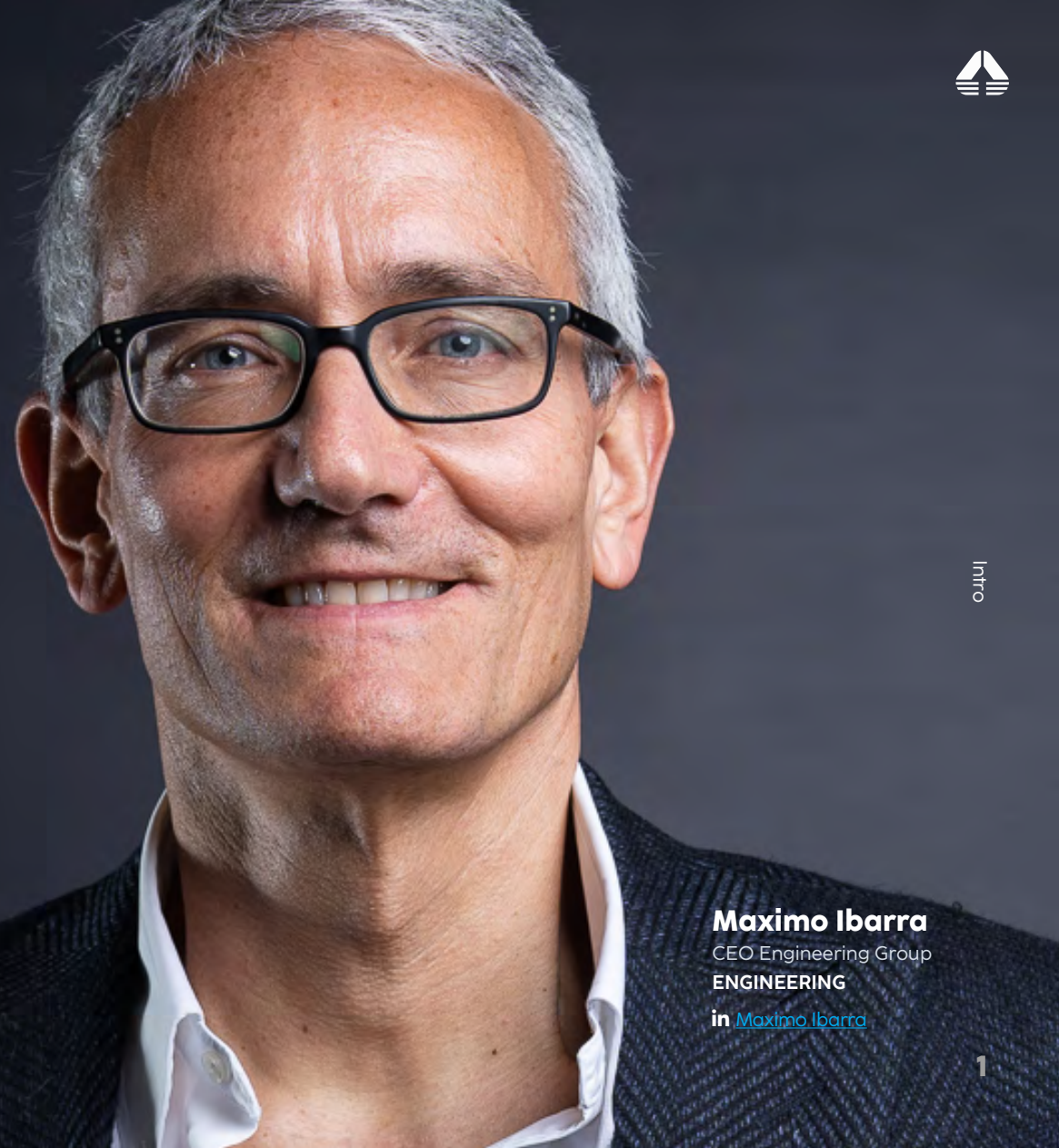
# Summary

# Summary

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“**Sustainability is pivotal in the digital transition, for us and our clients.**”



**Maximo Ibarra**  
CEO Engineering Group  
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Intro



# 01 Intro

Intro

The main challenges of 2024 mainly focus on the **rising importance of Artificial Intelligence**, also in the form of Generative AI. This technology acts like **a true co-pilot** boosting our abilities and helping us to deal with business strategies, political decisions, and solutions and projects for environmental, social, and governance goals.

The increasing impact of AI in everything we do poses two challenges.

The primary challenge lies in technology: it involves effectively **merging Artificial Intelligence with other enabling technologies like Cloud, Digital Twin, Extended Reality (XR), and Cybersecurity**. The latter is becoming increasingly crucial for the security of individuals, businesses, and entire nations.

The second challenge is managerial. It is crucial to **establish closer synergies** among various stakeholders, both **private** and **public**, operating within our ecosystem.

This approach will place digital innovation at the core of competitive policies for our Italy's growth while fostering skill development, especially among the younger generation.

Artificial Intelligence is significantly impacting both business and society. It plays a pivotal role in enhancing capacities across key sectors such as **information, healthcare, industry, energy, climate change mitigation, and disaster prevention**.

The integration with other technologies like **IoT** and **Blockchain** can advance sustainable business models from **environmental and ethical perspectives**, optimizing resource usage and enhancing traceability and transparency.

This integration also involves the collection, management, and analysis of vast amounts of data. All these elements enable stakeholders to make **informed decisions** and devise **innovative solutions** for the benefit of individuals and society.

## We are witnessing a true digital revolution.

ENG can aid diverse stakeholders in this endeavor with

its competencies and knowledge to effectively tackle the challenges of 2024.

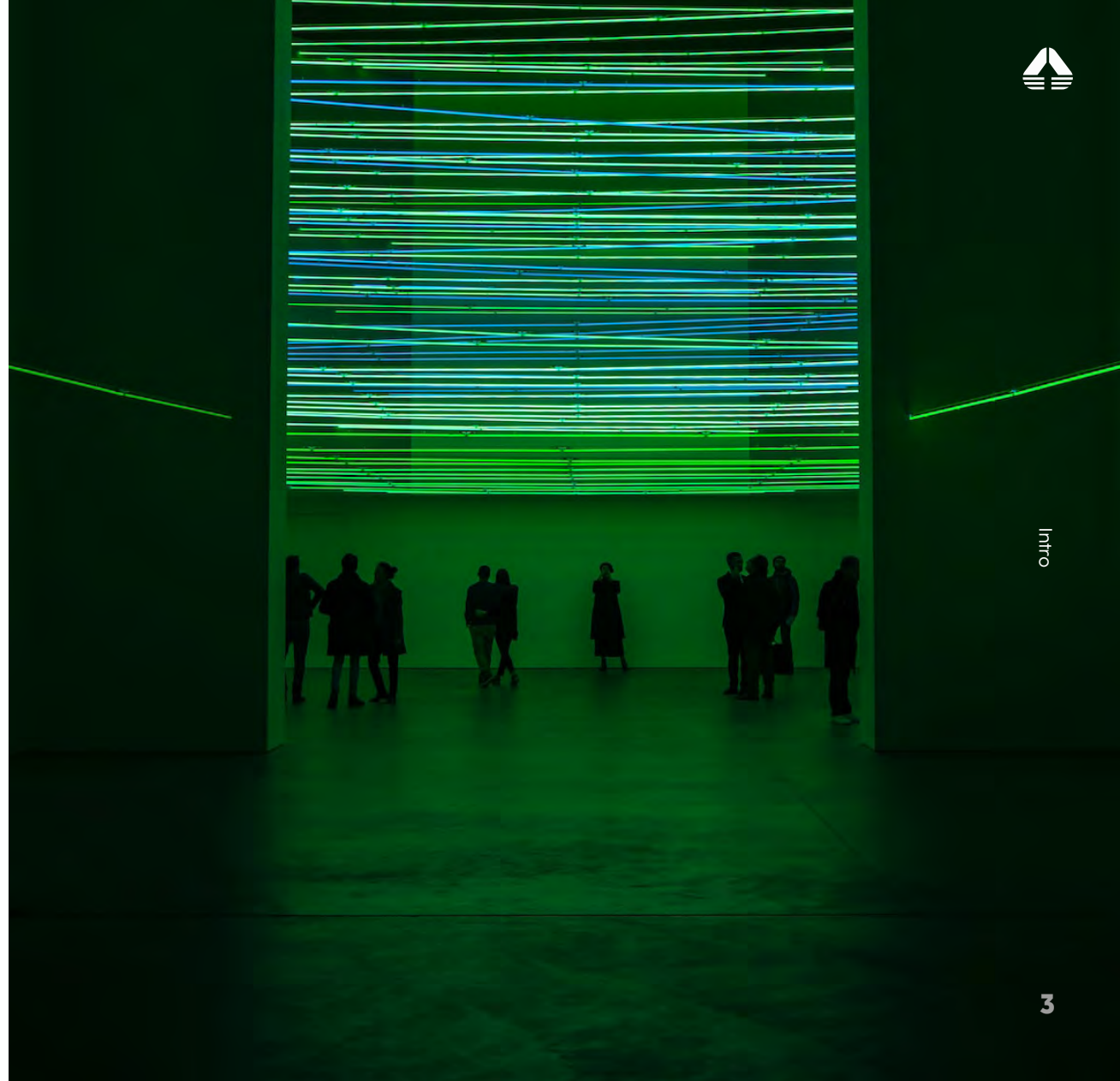
We've established a **new operational model** designed to provide optimal support to all industries and enhance the products and solutions within our portfolio.

Our primary focus is on **Tech Excellence**, and we are dedicated to constantly elevate the skills of our workforce.

In addition, we've implemented an **ESG plan**, leveraging the power of AI. The goal is to **reduce emissions** from our Data Centers, increase the use of energy from **renewable sources**, and integrate **sustainability objectives** into our business plans.

These three strategic directions bring a significant transformation within ENG and have set the stage for our upcoming endeavors: being a **strategic partner for Italy**, assisting it in becoming the European Tech Champion, and playing a pivotal role in the digital revolution.

We actively support innovative projects that aim to drive positive change in our society through our business and technological competencies.





# 02

## E-Health

E-Health



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# Key Trends

**650**

Bn \$

THE GLOBAL DIGITAL HEALTH  
MARKET VALUE BY 2025.

**47**

Bn \$

THE FORECASTED GLOBAL EHR  
MARKET SIZE BY 2027.

**280**

Bn \$

THE ESTIMATED GLOBAL  
TELEMEDICINE MARKET VALUE  
BY 2025.

Source: Statista

E-Health

KEYWORDS

**+ Telemedicine + AI + PNRR + Internet of Medical Things (IoMT)  
+ Territorial Care**



**"Digitalization plays a crucial role in the new paradigm of territorial assistance. Technology must be combined with domain expertise, both at the operational level and within the governance framework."**

#### WHAT ARE THE MAIN CHALLENGES IN 2024?

The primary challenge in the new year is to initiate and ensure the correct execution of all the projects outlined in the **National Recovery and Resilience Plan (NRRP)**.

It will be crucial to closely monitor each phase to ensure its success and contribute to achieving the set goals.

This includes the implementation of Telemedicine, both through the **National Telemedicine Platform** and regional vertical applications.

It also involves the use of **Artificial Intelligence** to enhance and support primary healthcare, extending to the **digitization** of level I and II Emergency Departments.

#### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

The use of technology plays a decisive role in implementing the profound transformation underway in the healthcare sector. Specifically, the scenario outlined by MD77 on the **new territorial care model** has digital as a crucial element, but it needs to be effectively integrated into the **new organizational models** that individual Regions are adopting.

Technology alone risks not producing the desired benefits and effects; however, combined with **domain expertise**, both operationally and in terms of governance, it becomes a winning element in achieving the ongoing transformation goals.





## E-Health / At a Glance

Facts & Figures

### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

Leveraging our skills, enhanced to better address the new challenges ahead, we commit to providing **cutting-edge solutions** designed to fully capture the potential of frontier technologies.

Additionally, we rely on **multidisciplinary teams** that combine **technical and technological expertise** with a **deep understanding of the healthcare sector**.

Lastly, we offer stakeholders our ability to execute **complex projects** with the necessary agility required in this era. This ensures a comprehensive, success-oriented approach that **prioritizes the needs of patients and healthcare professionals**.

**60%**

OF HOSPITALS USE OUR SOLUTIONS

**1,2M**

ADMISSIONS MANAGED

**80M**

HEALTHCARE APPOINTMENTS MANAGED (YEARLY AVERAGE)

**57M**

LABORATORY TESTS

E-Health



# 03

## Smart Government

Smart Government



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# Key Trends

**17**

Bn \$

THE PROJECTED GOVERNMENT SOFTWARE AND APPLICATIONS MARKET WORLDWIDE BY 2025.

**80**

Bn \$

GLOBAL GOVERNMENT CLOUD MARKET SIZE BY 2030.

**70**

Bn \$

DIGITAL IDENTITY SOLUTIONS MARKET SIZE BY 2027.

Source: data displayed represents our elaboration of data coming from multiple sources

KEYWORDS

**+ AI + Cloud First + Citizen Exp. + Digital Citizenship + Data Governance**



## "AI is a booster for automating operational processes, analyzing data, and providing virtual assistance."

### WHAT ARE THE MAIN CHALLENGES IN 2024?

2024 poses exciting challenges, starting with the urgency to accelerate the implementation of the **National Recovery and Resilience Plan (NRRP)** through further simplification processes.

Fundamental investments to ensure added value in strategic infrastructures and facilitate digital transition.

The introduction of **Artificial Intelligence** into public governance, as in other areas, is undeniably a key element to focus on, obviously used ethically and responsibly.

Agile management of public services, supported by AI, contributes to streamlining procedures and, above all, making responses to citizens more effective, enhancing **digital citizenship**.

The third challenge is linked to two extremely current themes, namely **emergency management and national security**.

Strengthening crisis management systems through technological solutions is essential for acting promptly and ensuring the safety of citizens, as well as supporting strategies and operations in maritime, terrestrial, aerial, spatial, and cybernetic fields.

To achieve all this, it is essential to ensure **data security**, promote the **interoperability of databases**, and adopt **Cloud solutions**.

In conclusion, addressing these challenges will require a holistic strategy, synergies between the public and private sectors, and a constant commitment to innovation.

### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

In a constantly evolving national and international landscape, it is essential to adopt innovative and sustainable approaches, overcoming the rigidity dictated by a past siloed management, favoring the use of **digital platforms designed to be inclusive and scalable**.

Speaking specifically about technologies, AI is a booster to automate operational processes, analyze data quickly, and provide virtual assistance.

In addition to improving user experience, it allows for more informed decision-making, thus transforming how public services are delivered and managed.

IoT, on the other hand, allows monitoring and management of public infrastructure, optimizing operations and improving efficiency. This is the basis for a more reliable and decentralized governance.



## Smart Government / At a Glance

### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

For over 30 years, we have supported Italian public entities in their digital transformation journey, contributing to the creation of a more efficient and sustainable government system; an commitment that embraces all aspects and extends from core processes to the promotion of the new digital citizenship.

We will continue to do so, with constant attention to the opportunities offered by European funds, providing the public service with the most advanced technologies on the market.

We are convinced that an **ecosystemic approach** to public services is essential to respond flexibly to the dynamics of our society in an open, simple, appropriate way for the skills and omnichannel use contexts of the person, with sensitivity to the ethical impacts generated by digitization on the life of all of us citizens-users and on the environment around us.

Leaders  
in  
Public  
Services

90+

CLIENTS IN CENTRAL AND LOCAL GOVERNMENT

1900+

SPECIALISTS

30+

YEARS OF EXPERIENCE

Smart Government



# 04 Augmented City

Augmented City



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# Key Trends

**165,80**

Bn \$

ESTIMATED GROWTH OF THE GLOBAL SMART CITIES MARKET BY 2028.

**43**

Bn \$

FORECASTED REVENUES FROM THE IOT SENSORS MARKET WORLDWIDE BY 2025.

**100**

Bn \$

REVENUES GENERATED FROM SMART CITY INFRASTRUCTURE BY 2024, REPRESENTING OVER 40% OF THE TOTAL GLOBAL SMART CITY REVENUES.

Source: Statista

Augmented City

KEYWORDS

+ AI + Digital Twin + NRRP + Public-Private Partnership + Outsourcing



## "It is the ability to integrate technology into processes and services that makes the difference."

### WHAT ARE THE MAIN CHALLENGES IN 2024?

There are four clear challenges. Firstly, **Artificial Intelligence** is at the center of a revolutionary change.

Municipalities need to understand its impact on work processes, its various applications, and the ethical and security considerations.

Local public administrations must comprehend the potential and practical applications of this technology.

This leads us to the second challenge, linked to the

continuous and rapid **evolution of technologies** in general, becoming increasingly commoditized. The public sector can leverage this evolution to its advantage, emphasizing the crucial role of collaboration with the private sector to guide and implement this transformation, capturing opportunities and benefits for the organization and citizens.

The **National Recovery and Resilience Plan (NRRP)** is another key point. While we anticipate the completion of planned works, focus should also be on their subsequent management. Efficiency here is essential to generate productivity, repay investments, and ensure a positive return.

Finally, **public-private partnerships**, a now consolidated tool for local administrations.

The challenge here is to create a culture that allows for effective implementation and management, overcoming lingering hesitations and distrust still prevalent in organizational structures.

### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

The difference lies not in the technology itself but in how it is used. Its integration into processes and services makes it powerful.

Consider, for example, the Digital Twin for cities, allowing the digital recreation of entire urban areas, infrastructures, and services like transportation, water networks, and buildings. It simulates complex situations, enabling more informed decision-making.

AI, IoT, Blockchain are the enabling technologies of the **Digital Twin**, like bricks in a larger structure, components of a solution that integrates them all with an ecosystemic and composable approach. To ensure that such innovations lead to tangible changes, actors and partners capable of using them specifically to meet real people's needs are necessary.





## Augmented City / At a Glance

### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

In a context of growing digitization, ENG already possesses a significant portfolio of **proprietary digital platforms** and will continue to enrich these assets to give clients greater control over technology and the entire production and management chain.

However, our Group goes beyond the role of a technology provider: we are also engaged as consultants, working alongside cities to fully define needs and identify the most suitable solutions, even through public-private partnership solutions.

Moreover, we recognize the importance of interdisciplinarity, which involves not only the diversity of technologies but extends to different areas of expertise. Public administration is not an isolated entity; it is part of an ecosystem that also involves finance and other fields. A cross-sectional perspective allows us to offer **more comprehensive and interconnected solution**.

Facts & Figures

1200

CITIES FOR WHICH, IN OUR HISTORY, WE'VE DEVELOPED PROJECTS & SERVICES

45%

OF THE TOP 100 ITALIAN MUNICIPALITIES USE OUR SOLUTIONS

600+

PROFESSIONALS FROM MUNICIPIA, AN ENG GROUP COMPANY FOR THE DIGITAL TRANSFORMATION OF CITIES

500

CITIES ARE OUR CLIENTS

Augmented City



# 05 Digital Finance

Digital Finance



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# Key Trends

**718**

Bn \$

GLOBAL IT SPENDING FOR BANKING  
& INVESTMENT SERVICES BY 2025.

**750**

Mln

OPEN INSURANCE USERS WILL  
GROW FROM 85 MILLION IN 2024 TO  
750 MILLION IN 2032.

**104,40**

Bn \$

MARKET FOR SMART FINANCE  
TECHNOLOGIES IN EUROPE BY 2026.

Source: Statista

Digital Finance

KEYWORDS

**+ AI + Composability + Automation + Digital Business Model  
+ Wellbeing**



## "Today, cloud plays a pivotal role."

### WHAT ARE THE MAIN CHALLENGES IN 2024?

We operate in a market comprising two profoundly different sectors, not only in their characteristics but also in their maturity and cyclicity. On one hand, **banks** are more susceptible to financial market volatility and overall economic trends, while **insurance** exhibits a slightly more consistent development.

Until two years ago, banks had to reduce costs by improving the efficiency of internal operations because standardized services and low (or zero) interest on loans limited profits. Transaction fees decreased due to the rise of fintech companies, which found fertile ground in an innovative yet lightly regulated sector. The same occurred in trading as well.

In the last two years, the rise in interest rates led to a boom for banks, reducing the urgency of certain projects. However, the upcoming reduction in rates will require reactivation of more strategic projects. Unlike banks, insurance companies haven't experienced

this period of prosperity and find themselves in a delicate situation due to the impacts of climate change, both environmentally and economically.

Today, generative AI is at the heart of discussions for banks and insurance companies, gearing up for substantial investments and contemplating how to best leverage it, especially in **transforming user experiences**. However, the impact of these new technologies is balanced with a characteristic element of the financial sector: the updating of legacy systems and technologies. Particularly in banks, technological platforms like mainframes have been handling massive data volumes since the 2000s. There's a need to redesign processes and streamline costs, where **Intelligent Automation (RPA) emerges as a strategic factor**.

### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

Until a decade ago, the cloud was a taboo in the financial sector due to concerns about data privacy, especially regarding the large data centers of major providers outside the European Union. However, today, the **cloud plays a significant role in transformation**, even for critical processes: the modernization of legacy systems is based on **cloud computing & composability principles**.

The evolution of products and the adoption of technologies like the Internet of Things (IoT) and blockchain for smart contracts are particularly relevant.

IoT has had less impact in banks, while it has found more ground in insurance, with some companies focusing on these business models.

In banking and insurance, AI is still a frontier technology although it provides for multiple use cases, from consultations to advisories to fraud detection and risk management. Even though chatbots have become familiar, it's clear that these tools aim to support users, taking into account their trust. We will see different levels of adoption, but this will change not only how we do business with clients but also how we develop solutions to meet their needs.

### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

We have all the elements required to become digital leaders in banking and insurance.

Our first step is to integrate cutting-edge technologies, like generative AI, into our operational processes, for instance, in automating tests for our products or in customer support. We need to be among the first to adopt such technologies to fully understand their potential.



## Digital Finance / At a Glance

We possess extensive expertise across key technologies enabling digital transformation: we provide cloud services, deeply invest in data, the core of our financial business.

We are leaders in cybersecurity, crucial considering the rising financial crime.

We integrate digital platforms of the main market vendors through our **Advanced Enterprise Platform Center**.

But we also have an extremely valuable proprietary products portfolio we are leaders in the regulatory process with **GRACE**, a reference point for authorities and in reinsurance with **Xlayers**.

Moreover, thanks to **Be Shaping**, we have strongly positioned ourselves on the Life and P&C areas. In 2024, we launch our Composable Banking Platform, **Nova**, through an agreement signed in 2023 with Illimity, focused on banking digitalization in specific sectors.

Besides technological expertise, we have strong consulting capabilities, bolstered by the acquisition of Be Shaping, enabling us to **better respond to customer needs, both in Italy and abroad**.

Our business in other European countries already represents one-third of our turnover.

# Facts & Figures

**4100+**

PROFESSIONALS FROM ENG AND BE SHAPING THE FUTURE, A COMPANY ACQUIRED IN 2022

**1MLD**

RISK & COMPLIANCE SERVICES MANAGED FOR BANK ACCOUNTS (YEARLY AVERAGE)

**6M**

ACTIVE LOYALTY CARDS MANAGED (YEARLY AVERAGE)

**30%**

OF REVENUES ABROAD

Digital Finance



# 05 Digital Industry

Digital Industry



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# Key Trends

**2,5%**

GLOBAL INDUSTRY PRODUCTION INCREASED BY 2.5% OVER THE LAST DECADE.

**30/50%**

AI CAN REDUCE FORECAST ERRORS IN PRODUCTION BY 30-50% AND OVERALL INVENTORIES BY 20-50%.

**25%**

ARTIFICIAL INTELLIGENCE ALGORITHMS USED IN EQUIPMENT FAILURE DETECTION ENABLE INSPECTION COSTS TO BE REDUCED BY UP TO 25%.

Source: Statista

Digital Industry

KEYWORDS + **AI** + **Cybersecurity** + **Sustainability** + **People** + **Behaviours**



**"In many fields, AI cooperates and changes standard and traditional technologies, increasing their effectiveness. We could say: AI Everywhere, given its applicability to every sector and in combination with any technology."**

#### WHAT ARE THE MAIN CHALLENGES IN 2024?

One of the biggest challenges in 2024 will be to take a further step towards and complete the true Digital Transformation. Until now, many companies have approached Digital Transformation by focusing on Technology and placing little emphasis on Processes and People. Here, then, the challenge in 2024 will be about People and how effectively we can use enabling technologies to capture those behaviors that can help us identify unfamiliar or unmapped procedures, behaviours and processes.

We need to develop **our ability to do Discovery of unwritten processes**, to get out of the logic of AS IS - TO

BE and continuous improvement and to observe people's behaviors that can allow us to trace and infer what they need. Even relying on tools that analyse, trivially, meeting transcripts, or tools that collect feedback between colleagues or gather other unstructured information that could be the missing link. There are many issues that people solve independently every day without the use and support of an information system: we should be able to bring this knowledge into a kind of process modeller.

Another key issue is to **make enabling technology applicable to ESG issues**. Let me explain: IoT is a technology that allows you to do energy monitoring, you put a temperature sensor, a meter, a presence sensor so if the person is in the room you turn on the heating, if not you turn it off. The challenge is to be able to **measure the impact, in terms of benefits**, of behaviours aimed at achieving ESG goals to make projects viable, creating awareness of the importance of sustainability in every business context.

#### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

The use of technology, as we said, allows us to measure its effectiveness in a more general framework of sustainability and ESG goals. In addition to everything that can be done in the area of energy and resource savings in the manufacturing world with IoT and Digital Twin, one can

give an example by thinking of the food chain, knowing that the UN dictates a series of prescriptions regarding food sustainability: technologies such as blockchain can ensure that traceability, and verification of compliance with the conventions, is implemented throughout the food chain. In an increasingly sustainability-oriented environment, therefore, the main challenge in the agri-food industry is to embrace end-to-end traceability. Through the strategic use of QR codes and an advanced track and trace platform, efficiency can be optimized, waste reduced and business integrity consolidated. The real ambition is to go beyond mere real-time traceability, enabling every stakeholder in the chain to concretely demonstrate their commitment to sustainability and turn sustainable development goals into a tangible competitive advantage.

I would also like to draw attention to a technology mentioned earlier because it deserves due consideration: if one thinks of improving production efficiency in the most diverse sectors of the digital industry, digital models are of great support and a sure trend for the coming years, because they make it possible to combine business and environmental objectives.

AI was until a few years ago a topic relegated to R&D, then it started to be used more and more, and today it is used in a 'cooperative' manner. Let me give some examples: in RPA, it is possible to insert 'automata' in the decision-making process that enormously increase the effectiveness in carrying out activities, or AI applied to cybersecurity can serve to neutralize new sources of attacks promptly,



or supply chain issues, such as Sales Operation Planning (the way I approach sales and production) allows optimization and capturing deviations from forecasts. AI is not an end but co-operates with and changes 'standard' and established technologies, increasing their effectiveness and can be used in many areas: logistics, production, marketing and customer service. For logistics companies, the use of AI allows them to optimize delivery routes and reduce waiting times, while manufacturing companies can use it to improve supply chain efficiency and reduce waste, again improving their contribution to environmental sustainability. One could therefore coin the slogan 'AI Everywhere', which represents the fact that it can be well applied to any sector and in combination with any technology.

#### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

At ENG, we try to apply a socio-technical and multidisciplinary approach in our projects that considers not only technological but also social and human aspects. An approach based on the adoption of principles of sustainability and centrality of the human being, characteristic of Industry 5.0.

We work every day, permanently, side by side with our customers to support them in their digitization journey, considering their business objectives also through the continuous search for the most efficient development models and the collaboration of a solid ecosystem of partners.

## Digital Industry / At a Glance



Facts & Figures

250+

PROFESSIONALS

500+

CLIENTS

40+

YEARS OF EXPERIENCE

100+

BUSINESS SPECIALISTS



# 06

## Smart Energy & Utilities

Smart Energy & Utilities



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# Key Trends

**1,29%**

Annual growth

ELECTRICITY PRODUCTION IN 2023 IS APPROXIMATELY 27 TRILLION KWH AND IS EXPECTED TO HAVE AN ANNUAL GROWTH RATE UNTIL 2028 OF 1.29%.

**3,91%**

Renewables

ELECTRICITY PRODUCTION IN THE RENEWABLE ENERGY MARKET IS 7,013.00 BILLION KWH IN 2023 AND AN ANNUAL GROWTH RATE TO 2028 OF 3.91% IS EXPECTED.

**2000**

Bn \$

THE GLOBAL RENEWABLE ENERGY MARKET, VALUED AT \$856 BILLION IN 2021, WILL CONTINUE TO GROW IN THE COMING YEARS, REACHING OVER \$2 TRILLION BY 2030.

Source: Statista

KEYWORDS

**+ Circular Communities + IT/OT Security + Composable Platform  
+ Smart Grid + Artificial Intelligence**



## "Generative AI: the bridge between analog and digital solutions."

### WHAT ARE THE MAIN CHALLENGES IN 2024?

The now constant **geopolitical turbulence**, which is rapidly transforming our reality with repercussions on any economic sector, cannot but strongly influence the Energy & Utilities sector as well. **Instability** affects the accessibility of primary resources, generating increasing pressure on **costs** and final tariffs.

A pressure that needs to be mitigated, for example, through more effective **management of strategic assets**, with an approach that is not limited to routine maintenance but is increasingly geared towards **enhancing the value of investments**.

At this juncture, one of the great challenges for the industry is to implement a **new economic model capable of reconciling opposing forces**: increasing investment (under pressure from stakeholders) with profitability (under pressure from investors), competitive pressure and the demand to contain tariffs for those working in regulated markets (transport, distribution, integrated water cycle). We will therefore witness the continuation of the **market**

**concentration process**, driven by the search for synergies, critical mass for investments and effective management of financial leverage, with the consequent need to **rationalize and renew one's IT map**.

For many operators, moreover, national integration will be accompanied by **international expansion**: a process in which it will be essential to converge the IT maps present in Italy and the legacy ones present in the countries. **IT security** will also be of paramount importance and will have to accompany the evolution of platforms and the automation of supply chains.

**Sustainability** and the energy transition are other aspects to be governed by the impacts along the **value chain**: from energy generation to transport and distribution, up to sales channels; without neglecting the methods of use (e.g. electric car recharging) or the evolution of the production model that integrates traditional sources with renewable sources and the 'prosumer' model.

### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

One of the challenges of digital is to make it accessible to those who are 'digital' not by age or vocation.

In these respects, GenAI can be seen as the **bridge between analog thinking and the digital solution**, extending to the entire EC and improving accessibility and inclusiveness.

GenAI can support the growth of the operational efficiency of the workforce, to maintain the competitiveness of E&U operators in a context of transition challenges, an aging workforce and a skills gap.

With GenAI, we will see a quantum leap in **anti-fraud models**, the **personalization of campaigns**, and the **prevention of errors and/or inefficiencies**.

AI models are also able to support **supply chain optimization** by predicting demand with increasing accuracy, optimizing production and inventory. It will be necessary to apply an enhancement approach to asset management: this means **enhancing the control and automation of the production chain** through investments in Operational Technology, but also IoT and Digital Twin as tools to manage and optimize production, with a focus on the circular and production chain, especially renewables.

OT evolution and IT/OT convergence are also a key factor in grounding ESG strategies. However, this exposes the OT network and all devices to the **threats** of cyber-attacks and creates new vulnerabilities. Cybersecurity technologies and skills cannot therefore



## Smart Energy & Utilities / At a Glance

be missing in an evolutionary plan for **IT/OT platforms**, WFM, FSM and GIS remaining central for those managing field services, as well as ADMS platforms, crucial for those managing smart network deployment.

Finally, **modular platforms** will support the operation of energy communities, a key element of the ecological transition process and ESG strategies.

### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

First, with the ability to **reconcile technologies and platforms with a unique and vertical knowledge of the E&U market**, its processes and regulations: we have the knowledge and critical mass to manage **any mission-critical transformational project** and to assist our customers in platform maintenance and evolution services.

We are a partner **capable of realizing digital transformation without losing sight of the valorization of investments** through a concrete and customizable approach, supporting the client in the path of **technological evolution and process renewal**, through the realization of **scalable solutions** capable of increasing 'long-term competitiveness' in the market, making Operations and IT Security more efficient, and concretely exploiting the paradigm of composable architecture and eco-systems.

Smart Energy & Utilities  
Factors & Figures

200M

ENERGY BILLS ISSUED  
(YEARLY AVERAGE)

1100+

SPECIALISTS

300+

CLIENTS

15+

COUNTRIES WHERE WE  
DELIVER PROJECTS

Smart Energy & Utilities



# 07 Smart Agriculture

Smart Agriculture



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# Key Trends

7

Bn \$

THE VALUE OF THE EARTH  
OBSERVATION DATA & SERVICE  
MARKET BY 2030.

4,7

Bn \$

ESTIMATED VALUE OF AI IN THE  
GLOBAL AGRICULTURAL MARKET  
BY 2028.

4

Bn \$

MARKET SIZE OF SMART CROP  
MONITORING BY 2027.

Source: Statista

Smart Agriculture

KEYWORDS

**+ Sustainable Food Production + Earth Observation + Climate Change  
+ Resource Efficiency + Digital Twin Earth**



## "Technology improves efficiency by reducing environmental impact and the use of pesticides."

### WHAT ARE THE MAIN CHALLENGES IN 2024?

There are several critical fronts to address. Firstly, intensifying efforts to make **food production more sustainable**, adapting it to evolving environmental needs, producing more while wasting less.

Simultaneously, making traceability systems more innovative and transparent is crucial; a **secure supply chain** to protect consumers regarding product origins.

Additionally, providing support to agricultural businesses to be more resilient in facing the increasing uncertainty

resulting from the effects of **climate change** is fundamental. Regarding this last point, a concrete example is the implementation of advanced solutions for water use and conservation, crucial in response to increasingly frequent drought events.

Thanks to **Earth Observation Data**, field sensors, and **Geospatial Advanced Analytics**, localized data is used to improve the efficiency of the irrigation system, reducing losses in the network and optimizing water use in agriculture.

### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

In the context of **Sustainable Food Production**, integrating data from Earth Observation and geospatial technologies with terrestrial IoT data offers significant possibilities.

**Precision Agriculture**, using intelligent sensors and automation systems, allows for careful monitoring of crop health and soil quality. This approach aims to **reduce the use of pesticides and chemical fertilizers**, contributing to improving the environmental sustainability of agricultural businesses.

It is evident from these examples how the implementation of these technologies allows for more efficient management of agricultural resources overall, optimizing decision-making processes, reducing environmental impact, and promoting sustainable, resilient, and cutting-edge agricultural practices.

### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

ENG can provide all the digital technologies to help companies in their Digital Transformation journey, for instance, through the use of **Predictive Analysis** based





## Smart Agriculture / At a Glance

on **Artificial Intelligence** algorithms, allowing farmers to anticipate and promptly manage any unforeseen events such as plant diseases and adverse weather conditions.

This not only ensures efficiency and stability in the food supply but also represents a significant step towards more sustainable agricultural production.

In the field of traceability and food safety, by integrating RFID, IoT sensors, and QR codes, we optimize **Farm-to-Table** traceability.

**Blockchain** technology in the AgriFood supply chain ensures complete traceability, while the **Digital Twin** prevents real-time waste, promoting collaboration between farmers and processors.

This guarantees reliable information flow and optimizes qualitative management throughout the entire supply chain.

Smart Agriculture  
Facts & Figures

**30+**

YEARS OF EXPERIENCE

**50+**

CLIENTS

**15+**

TECHNOLOGICAL PARTNERS

**100+**

PROFESSIONISTI

Smart Agriculture



# 08 Smart Transportation

Smart Transportation



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# Key Trends

**377**

Bn \$

THE PROJECTED GLOBAL SMART TRANSPORTATION MARKET SIZE BY 2030.

**14**

Bn \$

AI MARKET VALUE IN TRANSPORTATION BY 2030.

**190**

Mln

GLOBAL ELECTRIC VEHICLE FLEET TO REACH 190 MILLION BY 2030.

Smart Transportation

Source: Statista

KEYWORDS

**+ Sustainability + Security + Intelligent Mobility + Shared Mobility + Simulation**



"For the mobility ecosystem, data is, and will increasingly be, an indispensable tool for decision-making, implementation and prevention."

#### WHAT ARE THE MAIN CHALLENGES IN 2024?

**Ecological transition and decarbonization** are two of the key challenges for the future of society and the planet, and the **infrastructure and transport sector (roads, railways, ports, airports) plays a key role in this process**, as it is responsible for a significant share of greenhouse gas emissions and other environmental impacts.

To address them, it is necessary to promote the development of innovative and sustainable solutions that reduce the sector's carbon footprint and promote **smart and integrated mobility**.

Some examples of these solutions are the use of renewable and low-impact energy sources, optimization of energy consumption and efficiency, adoption of **smart management and monitoring systems, digitization of services and processes, enhancement of existing infrastructure** and its **adaptability** to climate change, promotion of **multimodal and shared transport models**,

and raising user and operator awareness of sustainable mobility. These solutions require a strategic vision and **collaboration among the different actors** involved including public institutions, private companies, civil society organizations, research and innovation institutions, citizens and consumers.

This will make it possible to achieve effective and efficient ecological transition and decarbonization while contributing to the collective welfare and competitiveness of the country.

Another important challenge concerns the **security of transportation infrastructure**: national and European regulatory guidance now tends increasingly to associate the concepts of physical security with logical (or cyber) security within the domain of **infrastructure resilience** against kinetic threats, whether natural or man-made, intentional or unintentional, including those of a terrorist nature. Increasingly frequent calamitous events have caused complete or partial collapses in the world's infrastructure networks and, in some cases, even suboptimal and/or outdated design of these networks raises serious questions about their resilience and security.

The infrastructural characteristics and capacity of a given area also apt to cope with events and threats are highly dependent on the sustainability, vulnerability and resilience aspects of the same: in fact, under adverse conditions, the public transportation infrastructure system is crucial for the well-being of communities as it provides the possibility of evacuation, management of rescue operations and restoration of services.

#### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

Regarding the issue of decarbonization, just to give one example, the **use of drones and AI-powered digital systems** in the airport environment for inspection and calibration of landing guidance systems can save up to 90 percent CO2 compared to traditional methods.

These systems improve the efficiency and safety of airport operations by ensuring accuracy and speed in technical inspections.

For infrastructure safety and resilience, it is first necessary to **monitor** and **predict** phenomena, **simulate** possible scenarios, and **plan** interventions in a targeted, timely, and contextualized manner. Just as an example, **geo-referenced Digital Twins**, integrated but also with other classical management systems, can help from the conception phase up to the post-construction and training phase, providing impact analysis and sizing tailored to specific needs.

**Another key aspect concerns data**. The European Commission is implementing a strategy to create a **single data market** that can combine data sovereignty with Europe's competitiveness and has imposed a strong acceleration on their exploitation through the creation of **European data spaces**.

This includes the creation of a dedicated mobility data space, the **mobility data space (MDS)**. Through this sharing model it will be possible, for example, to trigger hazard alerts on roads, identify predictive models for maintenance or develop multimodal logistics models.

**Data is, and will increasingly be, an indispensable tool for decision-making, implementation, and prevention throughout the mobility ecosystem.**

Finally, addressing the current challenges also requires adopting a **regenerative perspective**, moving from the idea of isolated elements to a broader vision to create a **creative, agile and sustainable digital infrastructure**.

#### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

In the transportation ecosystem (roads, railways, ports, airports) we have the ambition to bring relevant benefits in terms of **sustainability** and **safety**: we improve **people's travel experience**, ensure **efficient movement of goods**, development of **smart and safe mobility**, and **resilient management of transportation infrastructure**. We do this through dedicated solutions and with our deep knowledge of core processes and enabling technologies.

We contribute to the reduction of emissions and environmental impact through route optimization, efficient use of resources, smart and connected mobility, and resilient infrastructure.

# Facts & Figures

## Smart Transportation / At a Glance



150+

PROFESSIONALS

15+

TECHNOLOGY PARTNERS

15+

YEARS OF EXPERIENCE

30+

CLIENTS



# Digital Media & Communication



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# Key Trends

**1,6**

Tn \$

THE GLOBAL COMMUNICATIONS SERVICES MARKET REVENUE OF USD 1.4 TRILLION IN 2022 WILL INCREASE TO USD 1.6 TRILLION BY 2028.

**8,5**

Bn €

THE CUMULATIVE COSTS OF 5G DEPLOYMENT IN ITALY ARE EXPECTED TO REACH EUR 8.5 BILLION BY 2025.

**679**

Bn \$

THE GLOBAL PUBLIC CLOUD COMPUTING MARKET CONTINUES TO GROW AND IS EXPECTED TO REACH USD 679 BILLION BY 2024.

Source: Statista

Digital Media & Communication

KEYWORDS

**+ AI-Based Network Management & Operations + Cloud Continuum  
+ Copper Switch Off + Edge Computing Applications + 5G**



## "AI is a priority in 2024 and is one of the main investments drivers for improving customer management and making production processes more efficient."

### WHAT ARE THE MAIN CHALLENGES IN 2024?

The Telco market in Italy has lost around EUR 11 billion in revenues over the last 10 years due to two contrasting effects: on the one hand, the increase in production costs and investments, and on the other, the continuous reduction in service prices, especially for the consumer segment.

The continuous growth in traffic volumes mainly due to the digital services of Technology Companies, such as Apple, Google, Amazon, Netflix, on both mobile and fixed networks is generating an **increase in operating costs and investments** for operators.

In 2024, the **need to invest in the evolution of the 5G mobile network**, still not deployed in stand-alone

technology, and the development of the fixed broadband network infrastructure continues, with a % weight on revenues of around 25-30% compared to 10-15% for Energy & Utilities operators. In addition, the increase in the cost of energy has had a very negative impact on results in recent years. In contrast, **service prices continue to fall** due to strong market competition (5 mobile operators in the market) and strong regulatory pressure.

In Italy, prices are lower than in all other countries. In this context, the lines of action and challenge for operators are basically three:

- **monetise core business assets;**
- **evolve and transform business capabilities to maintain and grow the customer base;**
- **reduce operating costs by streamlining all business processes to increase competitiveness.**

### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

In 2024, operators will focus on **adapting their IT infrastructures** to enable the separation of network

functions, turning them into independent businesses. This will impact several application areas that support business functions, such as CRM, Billing, revision of service and Network Assurance processes and applications, and Fulfilment, as well as the ERP function.

The **exploitation of data remains** a priority, both to support operational reporting and to support real-time processes of campaign management, marketing and customer experience, exploiting data analytics and artificial intelligence techniques integrated in customer data platform solutions.

**Artificial Intelligence is a priority in 2024 and is one of the main investment levers to improve customer contact and management processes, as well as to make production processes more efficient.**

In the area of 'application & infrastructure operations,' it will enable the implementation of use cases for the automation of incident & problem management processes, aimed at identifying problems and implementing automatic remediation procedures (AIOps).

In the context of networks, the complete end-to-end automation of network and service management has become an urgent necessity to provide services with agility and speed, while ensuring economic sustainability.



The goal is to enable autonomous networks, guided by high-level policies and rules, capable of self-configuring, self-monitoring, self-healing without human intervention.

This requires a new end-to-end, horizontal and vertical architecture framework designed for closed-loop automation and optimized for data-driven machine learning and artificial intelligence algorithms.

#### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

ENG aspires to become a relevant partner in the achievement of operators' medium and long-term strategic objectives, supporting them in this intricate and crucial transformation path.

We strive to be distinctive in the implementation of new application infrastructures, leveraging the most suitable technologies not only during the implementation phase, but also in the design and selection of solutions.

**We cover the full spectrum of digital evolution, from customer experience and marketing solutions, to sales operations and revenue management, to 'operational excellence' solutions for integrated business asset management.**

# Facts & Figures

## Digital Media & Communication / At a Glance



Digital Media & Communication

500+

PROFESSIONALS

40+

CLIENTS

35+

YEARS OF EXPERIENCE

50+

TECHNOLOGY PARTNERS



# 10

## AI & Advanced Analytics

AI & Advanced Analytics



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# Key Trends

**2**

Tn \$

THE GLOBAL AI MARKET BY 2030,  
WITH A CAGR OF 24.40% FOR  
GENERATIVE AI.

**650**

Bn \$

THE GLOBAL BIG DATA ANALYTICS  
MARKET BY 2029.

**41,52**

Bn \$

THE GLOBAL PREDICTIVE ANALYTICS  
SOFTWARE MARKET BY 2028.

Source: Statista

AI & Advanced Analytics

## KEYWORDS

**+ Artificial General Intelligence (AGI) + Explainable AI (XAI)**  
**+ Ethics AI + AI-powered Cybersecurity + AI for Sustainability**



## "Organizations must adopt a comprehensive strategy to integrate AI seamlessly into existing processes and services."

### WHAT ARE THE MAIN CHALLENGES IN 2024?

The year 2024 emerges as pivotal for organizations embracing Artificial Intelligence and data analytics.

The rapid evolution of these technologies not only opens new horizons but also poses complex challenges. In this ever-transforming landscape, finding a **balance between necessary innovation and the ensuing responsibility becomes paramount.**

Two fundamental pillars emerge: effectively managing **risks associated with AI and promoting best practices** in its use. For AI to become a successful driver for organizations, it is imperative to address challenges such as inaccurate data, lack of maturity in data management capabilities, and difficulties in integrating data from diverse sources.

**The quality, management, and fairness of data for**

**AI become crucial aspects**, requiring a particular commitment to the accuracy and relevance of information, guided by highly qualified teams.

A noteworthy step toward the future is represented by the **growing adoption of the "Bring-Your-Own-AI" approach**. Adopting personal AI tools brings its challenges, particularly in managing Shadow AI (the unauthorized or ad hoc use of Generative AI within an organization outside of IT governance), which may lead to potential issues related to regulatory compliance and data protection. Furthermore, **ensuring transparency in decision-making systems** is a priority in 2024. There is an expected increase in interest in **AI Ethics** education, with a growing emphasis on ethical considerations in research and development.

### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

The **creation of modern and robust data infrastructures** emerges as a top priority, streamlining the integration, standardization, and efficient analysis of information. This constitutes the essential foundation for meticulous management and an ethical approach to data analysis.

In response to the escalating threat of cyber attacks,

**AI itself will take a leading role in strengthening cybersecurity.** Machine Learning algorithms will become increasingly capable of identifying and mitigating threats, ensuring advanced data protection.

These technologies will be able to detect patterns, correlations, and anomalies in data, contributing to more efficient management.

A significant opportunity lies in leveraging **AI to automate repetitive tasks** within organizations, freeing up humans for more strategic and creative initiatives.

In 2024, a massive adoption of AI is anticipated in the healthcare sector: diagnosis, drug discovery, and predictive analysis will be **powered by AI**, enhancing not only patient care but also cost efficiency.

Advanced diagnostic systems guided by AI will scrutinize complex data, early detecting pathologies, and optimizing treatment effectiveness.

From education with virtual teachers to educational materials, **AI is poised to play a pivotal role** in the field of education.

Additionally, AI will emerge as a **powerful tool to tackle environmental challenges**, contributing to more sustainable business practices, from optimizing energy consumption to reducing waste.

### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

In an increasingly AI-driven landscape, ENG emerges as the strategic partner for business evolution through AI & Advanced Analytics tools. Our central role is to foster a **data-first culture**, crucial for triggering innovation and generating value.

Through a **holistic approach to Data Analytics**, we support businesses in developing advanced data platforms, managing complex AI scenarios, and ensuring a robust user experience. We facilitate learning from vast amounts of data and simulate human skills through cutting-edge techniques such as Machine Learning, Deep Learning, Natural Language Processing, and Forecasting.

Our impact goes beyond mere technological adoption, thanks to a **deep understanding of business processes and stakeholder needs**. As part of our strategy, we embrace a **composable approach**, enabling companies to agilely assemble AI & ML modules to create new solutions, precisely and flexibly responding to changing market needs.

Our collaboration with institutions like the European Union reflects our commitment to **responsible and ethical AI development**, which extends to our Academy, ensuring continuous and in-depth training to consolidate our technological leadership.

Facts & Figures

## AI & Advanced Analytics / At a Glance



AI & Advanced Analytics

380+

PROFESSIONALS

50+

PROJECTS/YEAR

20+

PARTNERSHIPS AND ACADEMIC COLLABORATIONS

17+

KEY STRATEGIC PARTNERSHIPS



# 11 Cloud

Cloud



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# Key Trends

1,1

Tn \$

GLOBAL PUBLIC CLOUD  
2028 MARKET REVENUE.

+300%

Growth

EU MARKET SIZE GROWTH  
BY 2027.

67%

Spend

CLOUD SPEND OVER TOTAL  
IT EXPENDITURE BY 2027.

Source: Statista

Cloud

KEYWORDS

**+ Multicloud & Interoperability + Sustainability + Security**  
**+ AI & Machine Learning**



## "The future of cloud will be closely integrated with AI."

### WHAT ARE THE MAIN CHALLENGES IN 2024?

In 2024, four dynamic challenges arise within the realm of cloud computing, directly addressing the escalating demands of businesses.

First of all, **data security assumes a paramount role**, as the surge in cyber threats necessitates advanced approaches to safeguard sensitive information within the cloud environment.

Simultaneously, the imperative for **cost optimization** intensifies, demanding efficient strategies to manage and reduce cloud infrastructure costs while upholding elevated service standards.

Another relevant challenge arises from the **continuous evolution of cloud technologies**, driven by the increasing adoption of new platforms and "as-a-service" offerings, especially in AI services. To fully leverage the potential of AI

as a business accelerator, it is essential to precisely define cloud optimization and planning.

This involves careful consideration of crucial aspects such as costs, governance, privacy, and sustainability by organizations.

Finally, the **development of personnel skills** becomes crucial, considering the rapid evolution of the cloud technology landscape. Investing in staff training stands as a fundamental element in 2024 to align skills with market demands and address the growing challenges related to the cloud. This implies the need for flexibility and a constant capacity for learning.

### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

Advanced Cloud solutions are characterized by **high-level security features, ensuring continuous protection of sensitive data** through constant monitoring and the use of sophisticated management tools. From the perspective of cost optimization, Cloud enables companies to adopt **flexible payment models**, reducing dependence on

expensive infrastructures. Cloud platforms offer analytical and monitoring tools that facilitate the **identification and optimization of unused resources**, thus helping to contain operational costs.

In addition to the economic benefits resulting from migration to the Cloud, its key role in **stimulating innovation and fostering agility** will become increasingly important.

Cloud offers companies a versatile and scalable environment, enabling the seamless integration of cutting-edge solutions like AI, Machine Learning, and IoT, empowering them to swiftly adapt to emerging market needs and maintain a competitive edge.

Cloud technology can also support sustainability efforts, allowing **more efficient use of energy** and hardware resources through optimized sharing. **Green Cloud** initiatives, focused on energy efficiency and the use of renewable energies, are gaining importance in the sustainability context.

In an ethical framework, Cloud solutions can be developed with integrated security and privacy features, enabling companies to **implement ethical policies and ensure compliance with regulations**.



### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

Our strategic consulting is centered around **tailor-made roadmaps** aimed at maximizing benefits through the targeted adoption of the most fitting Cloud solutions. We oversee the **entire implementation and migration cycle**, ensuring a seamless transition. We guarantee the seamless integration of Cloud solutions with existing systems and implement advanced security policies. Through **educational programs and continuous monitoring**, we mitigate resistance to change and identify opportunities for cost optimization.

Our approach to the Cloud is characterized by a **balance of security, equilibrium, and alignment with business needs**. Leveraging cloud platforms integrated into hybrid or multi-cloud models, we harness cutting-edge technologies such as AI and automation to ensure an **agile and scalable deployment** of resources.

Our flexibility in hybrid IT enables companies to combine the best of both worlds—traditional technologies and Cloud solutions. Furthermore, we embrace the contemporary **FinOps model** for intelligent cost management, fostering an organizational culture rooted in financial responsibility.

# Facts & Figures

## Cloud / At a Glance



250K

WORKPLACE MANAGED  
(YEARLY AVERAGE)

500+

CLOUD PROFESSIONALS  
CERTIFIED ON AWS, AZURE, GCP

3

GREEN & SECURED  
DATACENTERS. PONT-S.  
MARTIN, TORINO, VICENZA  
(1 TIER IV CERTIFIED)

1,5K

VMS HOSTED ON  
HYPERSCALERS PLATFORMS  
(AWS, AZURE, GCP)

Cloud



# 12

## Cybersecurity

Cybersecurity



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# Key Trends

**13,82**

Tn \$

THE ESTIMATED COST OF GLOBAL CYBERCRIME BY 2028.

**657**

Bn \$

THE GLOBAL CYBERSECURITY MARKETSIZE BY 2030.

**13**

Bn \$

THE GLOBAL CYBER THREATS INTELLIGENCE (CTI) MARKET BY 2033.

Cybersecurity

Source: Statista

KEYWORDS

**+ AI-Based Defense + Zero Trust + Quantum Security  
+ Cyber Resilience + Responsible Security**



## "Cybersecurity awareness becomes crucial for adopting ethical and sustainable practices."

### WHAT ARE THE MAIN CHALLENGES IN 2024?

In the complex landscape of digital threats, the year 2024 presents itself as both a challenging and promising environment for Cybersecurity.

Artificial Intelligence and Machine Learning assume pivotal roles, transitioning from theoretical concepts to practical tools that are reshaping entire sectors with advanced algorithms and enhanced computing capabilities.

However, **this evolution in AI has concurrently equipped cybercriminals with sophisticated tools**, exemplified by the creation of convincingly deceptive phishing emails.

The expanding realm of remote work, coupled with the proliferation of the Internet of Things (IoT) and the ubiquitous reach of 5G networks, introduces more fluid defense perimeters and **novel cyber threats**.

Despite the growth in the Cybersecurity workforce, the

persistent **global shortage of qualified professionals** remains a significant challenge.

The increasing demand and scarcity of skilled personnel could soon compromise the ability to protect critical infrastructures, making it essential in 2024 to **understand vulnerabilities and anticipate their impacts**.

Moreover, the **ascent of quantum computers** prompts profound inquiries into the security of current cryptographic measures. This necessitates the urgent development of new methods that are resilient against attacks to uphold the integrity of digital security.

### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

The strategic use of cutting-edge tools, paired with skill enhancement, brings about a **revolution in Cybersecurity**, facilitating proactive monitoring, automated threat detection, and efficient responses to data breaches. Streamlining routine tasks through automation, striking a balance between autonomy and control, is paramount. Equally crucial is the **deployment of AI-driven defenses**, regular vulnerability assessments, access controls, incident

response plans, and the advocacy of collaboration – all integral components of this holistic perspective in 2024.

Addressing the threat of quantum computing demands forward-thinking **research, development, and meticulous planning**. Investment in quantum-resistant technologies, such as post-quantum cryptography and Quantum Key Distribution, alongside a Quantum-safe network infrastructure, establishes robust safeguards for data and systems. A secure design, robust authentication, **continuous monitoring, and well-devised incident response** plans round out the comprehensive approach to digital security.

The **zero-trust** security framework retains its pivotal role in 2024, with an ongoing process of user authentication and validation aimed at minimizing vulnerabilities and data losses. Moreover, collaboration among stakeholders, encompassing both public and private entities, is indispensable for shaping ethical standards and implementing sustainable solutions.

This ensures ethical and enduring digital protection. Extending Cybersecurity awareness to citizens and businesses of all sizes assumes a central role in fostering the adoption of **ethical and sustainable practices** within the realm of Cybersecurity.



### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

In the ever-evolving digital landscape, ENG takes a forefront position by addressing and anticipating the challenges of Cybersecurity, ensuring **cyber resilience**.

We offer a **comprehensive package of security services**, including Advisory, Security Information & Event Management, and Managed Security Services, to enable companies to focus on growth, ensuring training, network monitoring, data safeguarding, and threat prevention. Our commitment spans from risk governance to the implementation of advanced technologies and managed services based on an advanced Security Operations Center (SOC), contributing to **responsible Cybersecurity**.

We support organizations in enhancing visibility, control, and the blocking of cyber threats, adopting an adaptive and contextualized security posture.

Actively participating in cybersecurity research, **we promote innovation** and develop prototypes tailored to the specific challenges of critical sectors such as energy, transportation, and healthcare.

We embrace a dynamic, composable approach that adapts to digital advancements, safeguarding organizations through a **modular portfolio of best-of-breed solutions** and delivering integrated, multilayered Cybersecurity services.

# Facts & Figures

## Cybersecurity / At a Glance

**20K**

PETABYTE OF DATA MANAGED  
(YEARLY AVERAGE)

**120K**

CYBER THREATS HANDLED  
(YEARLY AVERAGE)

**300+**

SPECIALISTS FROM CYBERTECH,  
A COMPANY WITHIN THE ENG  
GROUP SPECIALIZING  
IN CYBERSECURITY

**1**

CERTIFIED SOC ISO27001/2017

Cybersecurity



# 13

## Digital Experience

Digital Experience



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# Key Trends

**100**

Bn \$

GLOBAL EXTENDED REALITY (XR)  
MARKET BY 2026.

**900**

Bn \$

GLOBAL METAVERSE MARKET  
BY 2030.

**25**

Bn \$

GLOBAL VIRTUAL REALITY MARKET  
FOR THE HEALTHCARE SECTOR WITH  
A CAGR OF 34.9% BY 2030.

Source: Statista

Digital Experience

## KEYWORDS

**+ Humanizing Digital Journey + Hyper-customized Reality + Tech-Driven Inclusivity  
+ AI-powered Experience + Meaningful interconnections**



## "Highly customizable and accessible experiences through the most suitable technologies."

### WHAT ARE THE MAIN CHALLENGES IN 2024?

In the digital landscape of 2024, users' growing expectations emerge to access virtually limitless sources of knowledge and experience by interacting with **increasingly complex systems capable of conversing, expressing themselves, and "thinking" like a human**, as well as assuming their appearance.

Simultaneously, the importance of **uniting physical and virtual worlds** is reinforced, shaping a unified reality that seamlessly integrates and harmonizes them, maximizing access to information, simplifying and empowering interaction models, and offering a **more engaging and immersive experience**.

This evolution is characterized by a **growing emphasis**

**on inclusivity**, highlighted by the need to integrate technologies that ensure access to essential services for every individual, **considering specific physical or cognitive abilities**.

It represents an advanced level of experience customization that encompasses representation modes, interaction models, and extends to the dimension of perception.

### HOW CAN TECHNOLOGY HELP COMPANIES NAVIGATE CHALLENGES AND SEIZE OPPORTUNITIES IN A FAST-CHANGING, ETHICALLY AND SUSTAINABLY FOCUSED WORLD?

2024 will mark the advent of new and advanced digital experiences, with technology constantly evolving to **make human-machine interactions increasingly similar to those between humans**.

Next-generation **avatars** will have a **realistic** appearance and movements, while voice synthesis will accurately reproduce the **human voice**, including tone, prosody, and **emotions**.

Conversations, thanks to the use of **Generative AI** and sentiment analysis engines, will be increasingly

characterized by engaging and empathetic exchanges.

The expected acceleration in 2024 in the diffusion of devices such as visors and smart glasses will soon make **AR and VR essential tools in daily interactions**: from virtual trials of luxury fashion products to simplified access to healthcare services to immersive urban experiences.

**The interconnection between people, machines, objects, and environments** represents the latest frontier of **Spatial Computing**, supported by the use of wearable devices, IoT technologies, and AI engines for Image Recognition & Processing.

This phenomenon is redefining how we relate to the digital world, effectively erasing the distinction between physical reality and virtual reality and defining, in fact, **another, different reality**.

In this scenario, **the possibilities for customizing experiences** are further enhanced, allowing for **specific and individual needs** in terms of **accessibility** through the choice and combination of the most appropriate technologies.





## Digital Experience / At a Glance

### HOW WILL ENG CONTRIBUTE AND COLLABORATE IN THIS JOURNEY?

In this context of this changing landscape, we play a dual and pivotal role.

On the one hand, we are committed to providing the necessary technological enablers required by this transformation, adopting an **approach based on composability**. This enables us to seamlessly integrate a diverse and complementary technological components, such as Cloud, Cybersecurity, Artificial Intelligence, Extended Reality, and the Metaverse.

On the other hand, our vision goes beyond the mere adoption of advanced technologies: we aim for a real **redesign of the Customer Journey centered around the individual** and leveraging technology to provide an **enhanced digital experience that promotes inclusivity**.

In this sense, we contribute **significantly** not only to the **evolution of the experience** of our clients and their consumers but also to the renewal of the country, contributing to the improvement of services in the healthcare sector and Public Administration, with a **relevant impact on the lives of citizens**.

# Facts & Figures

300+

CX/UX/UI SPECIALISTS

50+

INDIVIDUAL CERTIFICATIONS

150+

CLIENTS

7

KEY STRATEGIC PARTNERSHIPS

Digital Experience



# 14

## What next?

What next?



The year 2024 will witness new and significant transformations, marked by the increasingly rapid evolution **of Artificial Intelligence** and the proliferation of **ethical and sustainable strategies capable of creating fresh perspectives and models for growth and development.**

## The key is to be prepared.

This entails skillfully managing and leading, in an ethical and responsible manner, the transition within a complex and increasingly interconnected global socio-economic context, reaping tangible benefits across various domains.

**At ENG, we aspire to play a central role** in guiding our stakeholders through this digital journey, leveraging robust methodologies grounded in a profound understanding of processes and continuous education on emerging technological trends.

Our services are tailor-made to promptly address **specific needs through consultations adapted to the unique requirements** of each organization and sector.

We collaborate in shaping **modular and easily integrable businesses** that empower our clients with increased flexibility in selecting necessary functionalities, proactively responding to the ever-changing dynamics of the market.


## Our impact extends beyond technology.


We innovate by creating opportunities, tackling challenges, and steering organizations **towards genuine progress.**



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