The Euvic Group Overview

Navigating 2023's Insights, Preparing for 2024's Technological Horizons

Introduction

The IT industry's landscape has experienced continuous transformation, marked by technological shifts, regulatory changes, and transformative innovations. Looking back at the journey through 2023, we observe a dynamic narrative that not only recounts the industry's history but also contributes to a comprehensive understanding of its future direction.

This overview serves as a thoughtful guide, carefully crafted to untangle the complex dynamics of the IT market. Anchored in the pivotal year of 2023, it shares valuable insights from the observations and experiences across Euvic Group's diverse companies. Designed as a strategic resource, this overview is intended for stakeholders poised to navigate the dynamic and ever-evolving technology sector.

Purpose of the Overview

The primary aim of this overview is to offer a perspective on the trajectory of the IT market, examining the forces driving its evolution and exploring the regulatory currents shaping its landscape. With a particular emphasis on the year 2023, we aim to decipher the complexities of the industry, providing insights into the strategies, innovations, and adaptations that have characterized the landscape. Looking back to inform our vision forward, this overview acts as a reflective guide, discussing trends that are anticipated to influence the IT landscape in 2024.

Purpose of the Overview Key Focus Areas Industry Evolution in 2023:

- A detailed exploration of the changes within the IT sector over the past year, leveraging insights from Euvic Group's diverse companies to offer a grounded perspective on the industry's evolution.
- 2023 Milestones and Applications: An in-depth examination of Euvic Group's significant achievements in 2023, showcasing practical applications of technology across subsidiaries and illustrating our adaptability and successful implementation of innovative solutions.
- Development and outlook for 2024: Moving beyond retrospection, this overview serves as a forward-looking perspective on the IT industry for 2024. It's not just an overview; it's a strategic resource derived from our comprehensive understanding of industry dynamics and emerging trends. Delving into challenges, limitations, and real-world use cases, we discuss the trends that are anticipated to shape the technological landscape in the coming year
- Navigating Regulatory Challenges: Providing an insightful exploration through the intricate regulatory landscapes that have influenced the IT industry, translating the Euvic Group's collective experience into actionable intelligence for effective compliance and addressing the challenges of adhering to evolving regulations.

This document stands as a testament to the Euvic Group's commitment to knowledge leadership within the IT domain. It embodies our collective wisdom, providing stakeholders with more than insights—it's foresight. From industry players seeking to stay abreast of technological advancements to regulatory compliance officers and decision-makers, the insights, statistics, and recommendations within this report are tailored to empower individuals operating within the IT sector. Whether you're aiming to fortify your market position, adapt to regulatory shifts, or harness emerging trends, this report is a valuable compass for those striving to remain at the pinnacle of technological development.

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About the Euvic Group

The Euvic Group stands as a prominent entity in the IT industry, comprising a diverse portfolio of companies known for their innovative solutions and technological expertise. Headquartered in Poland, this conglomerate spans various technology-related sectors, leveraging a multi-faceted approach to cater to a wide spectrum of client needs. With over two decades of experience, the group has built a reputation for excellence and innovation, fostering growth through strategic partnerships and a steadfast commitment to cutting-edge technology. The Euvic Group's collaborative ecosystem and forward-thinking approach position it as a key player in the global IT landscape, operating internationally across software development, team augmentation, IT infrastructure, innovation, digital marketing performance, and commerce transformation.

2023 overview

In 2023, the global IT industry faced unprecedented challenges, navigating through the aftermath of the war in Ukraine and the lingering impacts of the COVID-19 pandemic. The State of Sector report by Gallagher highlighted the resilience of IT professionals in addressing these challenges. Despite disruptions, the sector witnessed a 10% growth in export revenues, reaching $7.4 billion, underscoring the commitment of industry players.

Labor Market

In 2023, the Polish IT labor market faced a dynamic landscape shaped by both global and domestic factors. Despite projections by Gartner indicating a promising 8% growth in global IT spending to $5.1 trillion in 2024, many local IT firms grappled with the challenges of inflation and economic crises. While there were signs of thawing in previously frozen projects, organizations along the Vistula struggled with budget cuts and employment constraints. According to the IT Market Snapshot report by inhire.io summarizing Q3, the industry witnessed a 4.6% decrease in job postings, yet 13% more companies published them compared to Q2 2023. This upward trend mirrors post-pandemic patterns, suggesting a potential easing and slow market revival. However, experts caution that the last quarter of the year may feature decreasing job cuts and a subtle increase in job postings, though it's premature to conclusively declare market stability. Recollections of the unprecedented mass layoffs among tech giants in early 2023, including Microsoft and Amazon, marked a significant turning point. The once secure tech sector experienced economic turbulence, freezing projects, and instilling job insecurity among developers. IT managers found themselves caught between a competitive market, technological races fueled by generative AI tools, and the financial constraints imposed by inflation and economic crises. A report by Awareson highlighted that 57% of surveyed IT leaders viewed managing reduced budgets as a significant challenge. In response, 37% planned to increase the number of projects, 12% anticipated further cuts, and 10% deferred decision-making. Budget cuts inevitably led to layoffs, with 16% of surveyed companies reducing their workforce in 2023. However, the shortage of qualified candidates remained palpable. Even in the national SME sector, employing nearly 10 million people, a contemporary economic challenge emerged: a lack of qualified technical and IT personnel. Eurobarometer indicated that 55% of Polish SMEs struggled to recruit technical specialists, and 30% faced a shortage of IT experts, surpassing the European averages of 42% and 18%, respectively. Forecasts suggest that the shortage of specialists will persist in the IT market until at least 2026, with almost 62% of companies expanding their teams. One noteworthy aspect is the relatively stable IT salary rates, which had been increasing by 15-20% annually in recent years. Currently, the rates have shown signs of stabilization. According to inhire.io's report, junior professionals earned the most while working remotely, reaching 11,201 PLN in Q3 2023. However, average upper salary ranges for on-site work for less experienced IT specialists experienced a notable decline from 11,658 PLN in Q2 to 9,881 PLN in Q3. Mid-level professionals observed a slight increase in remote work earnings (20,864 PLN vs. 20,782 PLN in Q2), but a noticeable decrease for on-site work (20,202 PLN in Q2 vs. 18,171 PLN in Q3). Senior professionals experienced marginal salary growth, both for remote work (28,268 PLN) and office-based roles (27,384 PLN). Surveying industry representatives about the current challenges in the IT job market, LinkedIn revealed that 45% i dentified wage pressure, 32% recognized talent shortages, 13% pointed to job automation, and 10% cited a reduction in job offerings as significant concerns. The multifaceted dynamics of the Polish IT job market in 2023 underscore the need for adaptability and strategic workforce planning in the face of evolving challenges.

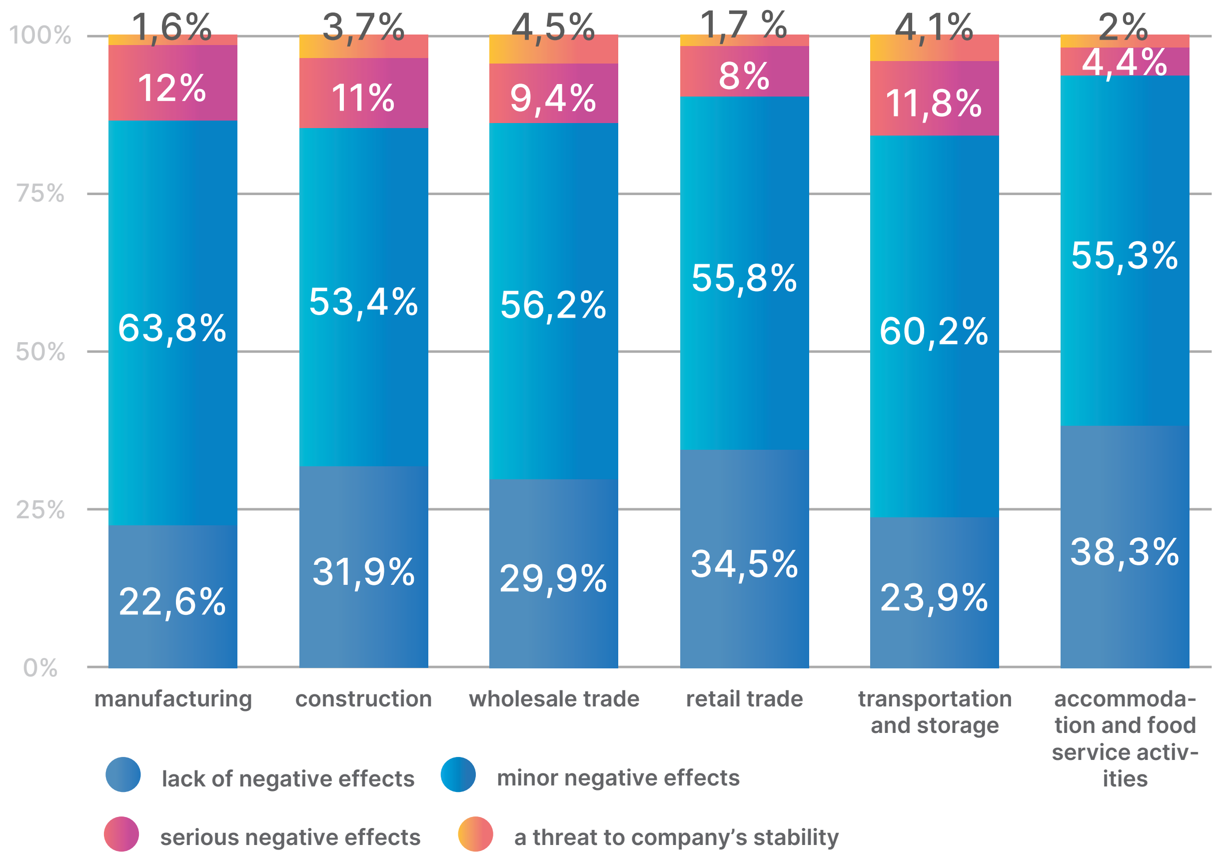
Uncertainty in the IT labor market significantly affects the well-being of employees. Regular budget cuts and news of layoffs, both in large corporations and smaller companies, have become a common occurrence. The ubiquitous presence of the Linkedin's 'open to work' tag has become a daily reminder of the prevailing sense of insecurity. This crisis is not sparing candidates or managers, as they grapple with financial constraints imposed by clients, fostering an atmosphere of anxiety and employment instability that inevitably hampers efficiency and dampens motivation.

In this challenging environment, transparent communication and unwavering employee support are pivotal factors. Forward-thinking companies recognize that addressing these concerns is not an option but a necessity. We must prioritize the well-being of our employees, creating a conducive work environment that fosters long-term commitment from our talent pool. HR teams stand ready to provide assistance and engage in open conversations with employees and managers alike. Eliminating any doubts about the impact of the crisis on our organization is crucial. In such times, instilling a sense of security and trust becomes vital for retaining top talents in this competitive IT experts market.

Małgorzata Janiszewska
Head of HR,
SPEEDNET

Impact of the war in Ukraine

The war in Ukraine, following closely on the heels of the global pandemic, has triggered significant repercussions across various sectors of the economy, including the IT industry. The adverse effects manifest as project delays, rising costs, and a localized crisis in the technological talent market. Despite these challenges, the immense dedication and commitment of IT industry professionals enable them to meet the demands imposed by the war, translating into export revenues of $7.4 billion—a 10% growth compared to the pre-war year. However, the first quarter of 2023 reveals further challenges, as reported by Team Connect, a company specializing in outsourcing IT services. The war's impact extends beyond Ukraine, affecting the global IT sector. The conflict has particularly significant consequences for Ukraine, a key hub for technological talent and a prime market for IT outsourcing giants like Apple, Google, and Microsoft. The war has not only disrupted Ukraine's IT outsourcing industry, which annually exports services worth $6.8 billion (approximately 4% of GDP), but also has broader implications for the global IT market. While the Ukrainian IT sector has demonstrated resilience, continuously delivering services from western parts of the country, uncertainties about the conflict's duration raise concerns. According to Adam Dziedzic, CEO of Team Connect, the sector's future depends on the conflict's duration. Analysis indicates growing uncertainty among IT service buyers regarding the long-term stability of the region—Ukraine, Belarus, and Russia—as IT service providers. To avoid project delays, foreign clients may seek business development opportunities elsewhere, such as in Poland, Romania, or Hungary. The prolonged crisis may pose new challenges for the already troubled IT industry, including increased demand for qualified specialists affected by the conflict and rising outsourcing costs due to the conflict. However, it also presents an opportunity for countries in the region, with growing interest in their services from foreign clients seeking a favorable business environment, moderate project implementation costs, and a pool of qualified specialists. Notably, the situation may further intensify the demand for IT professionals in the market, and attracting talent from Ukraine could aid in meeting these demands.



Negative effects of the ongoing war in Ukraine and its impact on business activity in Poland as of October 2023, by sector.

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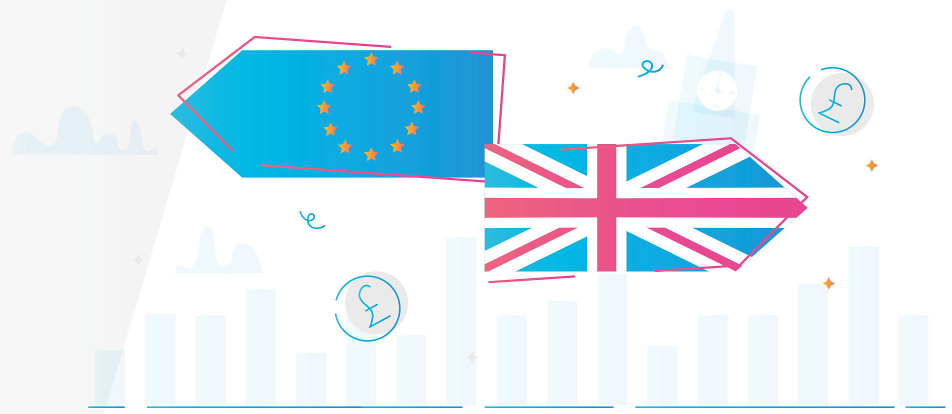


Brexit's Influence on the Tech Industry

The IT market also seems to remain non-indifferent to Brexit. One prominent issue is the restricton on the free movement of highly skilled workers from across the EU to the UK that have created challenges to attract and retain the best talent due to stricter immigration rules. This has contributed to worker shortages, particularly in high-tech industries, exacerbating the challenges faced by businesses in filling crucial roles.

The weakness of Sterling, a result of local political shifts, has further impacted profitability for foreign projects, adding financial strain to tech businesses operating in the UK.

One of the major concerns for the tech industry is the post-Brexit landscape's imposition of data transfer restrictions between the UK and EU. Whilst the UK adopted the EU GDPR into domestic legislation, there are longer-term uncertainties that may impact the seamless cross-border data flows.

The regulatory environment has also undergone significant changes, necessitating heightened adaptability from tech businesses. Compliance with evolving regulations has become a paramount concern for sustained success in the dynamic post-Brexit scenario. The need to navigate and adhere to these new regulatory challenges has become a critical factor influencing the operational strategies of tech companies in the UK.

Articles from reputable sources underscore the broader economic challenges facing the UK, with the country being the only G7 nation experiencing a cut in growth forecasts. The negative economic outlook has particularly impacted the science, technology, and innovation sectors. The instability created by the exclusion, and subsequent reinclusion, of the UK from the Horizon Europe research and innovation program due to Brexit-related disputes has led to a loss of funding opportunities for scientists and researchers. This exclusion has forced many scientists to seek alternative plans, potentially hindering the efficiency and effectiveness of their work.

Supply chain disruptions, increased administrative costs, and trade complexities are further highlighted in the impact of Brexit on day-to-day operations. The decline in product trade between the EU and the UK, delays in road cargo, and the ongoing truck driver shortage across Europe have created additional hurdles for businesses. Importantly, the uncertainties surrounding political decisions, such as the Windsor Framework, continue to affect businesses' ability to establish well-prepared frameworks for trade.

In light of these challenges, the tech and IT industry in the UK faces a pressing need for strategic solutions. Recommendations from experts include considerations for mitigating Brexit's impact on customs clearance, exploring initiatives like bonded warehouses and freeports, and ensuring compliance with new legislation. The path forward involves a delicate balance of adapting to the current regulatory landscape while advocating for policies that could enhance the UK's attractiveness for innovation and investment in the long term

The Good People

Startup Landscape

The startup landscape faced unprecedented challenges in 2023, marked by a less than 50% success rate and a scarcity of substantial funding rounds. The year brought about a significant dip in venture capital funding, attributed to economic downturns and geopolitical disturbances. Traditional funding avenues like venture capital and private equity remained relevant but witnessed a shift towards alternative strategies such as bootstrapping, government-sponsored funding, and participation in accelerator programs. The funding environment in North America experienced a downturn across all stages, with a notable 33% decrease in investment in late-stage startups focusing on technology growth. Europe mirrored this trend, grappling with inflation and increased interest rates due to global economic uncertainties, notably the Russia-Ukraine conflict. As a result, startups globally were urged to prioritize profitability, streamline expenses, and adopt lean operations. Innovative funding methods like crowdfunding, revenue-based financing, corporate partnerships, and angel investments gained prominence. The emphasis on lean management became crucial, promoting flexibility, adaptability, and customer value as essential elements for survival and growth. Despite the challenges, startups with visionary leadership, strong revenue streams, and robust business models continued to attract funding. The article from kruzeconsulting.com provided insights into the evolving startup valuation trends in 2023, revealing fluctuations in Series A and Series B valuations. The “bullwhip” pattern demonstrated how changes in late-stage investments impacted earlier stages, leading to a more conservative investment climate. Series B valuations, which had peaked at $160 million in Q1 2022, experienced a rapid decline to $71 million by Q1 2023. As of Q3 2023, there was a modest recovery, bringing the median valuation to $90 million. Series A valuations stabilized around $40 million in Q3 2023, reflecting a hopeful sign of resilience but still falling short of earlier peaks. Seed stage valuations, on the other hand, showed a slow but steady uptick, reaching an average of $13.3 million in Q3 2023. The article attributed these valuation changes to various factors, including the market bubble, stock market decline, economic and geopolitical factors, high-interest rates, and the entry of multi-stage firms into the early-stage market. The analysis underscored the importance of strong fundamentals, a compelling pitch, and a robust business model in navigating the evolving startup funding landscape.

Response to Evolving Work Trends Post-COVID-19

The enduring effects of the COVID-19 pandemic on the tech industry cannot be overlooked. In 2023, additional trends related to remote work began to emerge. The aftermath of the crisis saw a steadfast commitment to digital technologies, shielding labor and productivity. A March 21, 2023 article highlighted the surge in digitalization, narrowing gaps between countries and industries. Remote work became a staple, saving firms during the pandemic and contributing to increased productivity. As the crisis receded, a shift was observed—companies began to adapt, with a growing desire to return to offices and face-to-face meetings. The working-from-home revolution, once a necessity, showed signs of evolving as people sought a balance between remote and in-person work. This trend prompted a reassessment of digitalization strategies, emphasizing the importance of policies that support a flexible and resilient work environment. The tech industry, having played a pivotal role in navigating the challenges of the pandemic, now faces the task of adapting to the evolving landscape of work preferences.

The highest percentage of remote workers are aged 24 to 35

E-commerce Evolution

The COVID-19 situation looks somewhat better in the e-commerce market. With the market dynamics shifting rapidly and inevitably toward e-commerce, retail companies have unexpectedly undergone a significant test of preparedness. Companies that had already invested in and turned to internet sales solutions by 2019 adapted to the challenge mostly seamlessly. The COVID-19 crisis enhanced e-commerce dynamism across countries, expanding the scope of e-commerce to new firms, consumer segments (e.g., the elderly), and products (e.g., groceries). Moreover, we observed e-commerce transactions in many countries partly shifting from luxury goods and services towards everyday necessities, relevant to a large number of individuals. Looking at the statistics on average, the online share of total spending rose sharply from 13.8 percent in 2019 to 18.9 percent at the peak of the pandemic. Many experts predicted that by the time the pandemic ends, the upward online trend shall fall considerably; however, looking at the numbers, the situation is the opposite, as the percentage grows steadily year-to-year and is predicted to reach 27% by 2027.

What does that mean for the market? The shifts in shopping trends brought about by the pandemic have already changed the way we purchase various products. We observe strong growth in multichannel shopping and being handled at the same professional level irrespective of the point of contact, which corresponds directly with statistics pointing to 74% of consumers appreciating the advantages of multichannel shopping. Moreover, two-thirds of consumers claim that the brand's credibility falls when it does not operate in m-commerce. The number is obvious when we consider that mobile users spend an average of 4.2 hours daily on their smartphones, with 50-80% of users shopping via mobile devices (depending on the product category and industry). Faster technological development and a wider range of devices, including smartwatches, smart fridges and car screens, have brought about the growing significance of internet presence. The shift has also opened a new category of e-commerce consumers by accelerating digitalization and reaching older generations who had no choice but to shop online and are now unlikely to resign from it. In the dynamic world of e-commerce, one of the most noteworthy and transformative shifts in recent years – and growing even more in 2023 - has been the increasing participation of baby boomers. Historically, e-commerce has been associated primarily with younger generations, but the tide is changing as boomers, born between 1946 and 1964, are making their presence felt in the online marketplace. E-commerce platforms and retailers have also recognized the need to cater to boomers. User interfaces have become more intuitive, with a focus on user-friendliness. The convenience and accessibility of online shopping have been improved to meet the specific needs and preferences of older consumers. Customer service and support have been adapted to address any concerns or issues boomers may encounter while shopping online. For boomers, trust is paramount. They value established brands, secure payment methods, and reliable customer service. E-commerce platforms have invested heavily in building trust with this demographic, often providing transparent return policies and detailed product descriptions, along with customer reviews and ratings. As a result of these changes, boomers now represent a growing share of e-commerce consumers. The size of this demographic, combined with their purchasing power, makes them a compelling market for retailers and e-commerce businesses. The shift towards e-commerce among boomers is not just a passing trend; it's a lasting transformation that businesses must recognize and adapt to for sustained success.

Adapting to Digitalization Trends

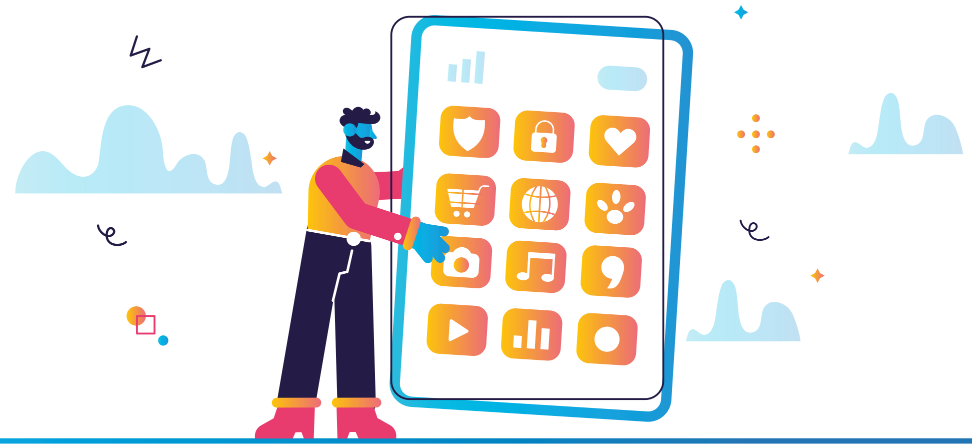
Another trend accelerated by the rapid growth of digitalization, as customer behaviors shift from brick-and-mortar to online shopping, is the adaptation of strategies for attracting customers to this new reality. Over the past three years, we've witnessed a significant transformation in enterprises' strategies. With internal budgets strained within the current economic situation, companies have intensified their focus on customer acqusition. However, the current strategy takes on a different approach, as we observe our clients directing their efforts toward enhancing the customer journey, understanding customer needs, and refining their interaction methods.

What does this mean in practice? Companies are investing in comprehending the behaviors and patterns that characterize their target groups. They adapt their strategies and employ AI for upselling and cross-selling to achieve better personalization. Understanding and observing users also reveal where they spend the majority of their time, which is currently on their smartphones. Consequently, there has been a significant emphasis in 2023 among our clients on creating mobile apps and gaining a thorough understanding of their target groups.

Strategic Embrace of Mobile Apps

In the ever-evolving landscape of business and technology, in 2023 the enterprises were visibly steering their resources toward mobile apps as a strategic investment. This shift is not a mere trend but a well-considered strategy aimed at achieving more effective, long-term engagement with customers. According to eMarketer, app users produce 3.5x more revenue than other shoppers and are three times more likely to make a repeat purchase; thus, it is not a surprise that companies are exploring this solution.

Why do businesses prefer mobile apps over traditional marketing channels, and what advantages do these apps offer in the pursuit of sustainable growth and brand loyalty? Below, we'll delve into the reasons behind this strategic shift to m-commerce. But first, let's examine the difference between e-commerce and m-commerce. In short, both involve buying and selling goods online. However, m-commerce specifically refers to buying and selling goods using mobile, handheld devices such as smartphones or tablets, whereas e-commerce encompasses computers as well. The strengths of apps include simplified and convenient payments, speed, ease of usage, as well as functionalities not available in full-size, web-based versions of online shops. Viewing mobile apps from a creator/owner perspective provides a deeper understanding of why enterprises invest in creating them. Here are the essential advantages of apps that we find noteworthy.



Enhanced Customer Engagement:

Mobile apps enable enterprises to forge deeper connections with their customer base. Traditional marketing strategies, such as advertisements or email campaigns, are often one-way interactions. In contrast, mobile apps facilitate real-time, two-way communication. They provide a platform for interactive engagement, personalized experiences, and direct feedback, fostering lasting relationships with customers. Moreover, apps are on their way to become more intelligent and personalized, using AI to analyze user behaviour and preferences. This can enhance user experience even more, provide personalized content, and improve customer service. With the average 4.2 hours spent by a smartphone user daily on mobile apps, it is worth fighting for their engagement.

Personalization and Customization:

Mobile apps allow for highly tailored experiences. They collect user data and preferences, enabling businesses to provide content and services that are relevant to individual users. This personalized approach not only enhances customer satisfaction but also boosts the effectiveness of marketing efforts within the app itself. Personalization also highlights the opportunity to establish positive feedback loops between brands and customers. Brands benefit as they are better able to engage customers wherever they are, while app users benefit from sharing their preferences and affinities for more personalized service, with greater control over their data.

Improved User Experience

A seamless and user-friendly interface is key to retaining customers. Mobile apps offer an intuitive and interactive experience, creating an environment where users are more likely to explore, make purchases, and interact with the brand. This is especially critical in the highly competitive e-commerce and service industries.

Accessibility and Convenience:

Mobile apps are accessible to users around the clock, irrespective of their location. This accessibility means that enterprises can engage with customers whenever the need arises, creating an omnipresent presence that goes beyond the limitations of traditional marketing schedules and locations.

Push Notifications:

Mobile apps enable the use of push notifications, a powerful tool for direct communication with customers. Businesses can instantly alert users about promotions, updates, or other relevant information. This immediacy can significantly impact user engagement and conversion rates, unlike traditional marketing channels, which may rely on email or other less direct forms of communication. Globally, more than three-quarters of respondents (78%) ignore or delete without reading a brand's emails at least half of the time or more, the issue that does not concern an app.

Retention

A well-designed app with a push notification strategy enables building a loyal following that will come back for repeated purchases. Interestingly, app users who receive any push notifications in their first 90-days have a 3X higher app retention rate when compared to those who received no push notifications. However, the top two reasons for opting out of brand communications are the same: messages were too frequent or weren't relevant/personalized to an individual's needs. Thus, it is important to understand the user through, to properly attract and, to properly attract and retain, to properly attract and retain their attention.

Data Insights and Analytics:

Mobile apps generate a wealth of data that can be leveraged for marketing purposes. Enterprises can track user behaviour, preferences, and demographic information. These insights allow for data-driven marketing strategies, resulting in more effective campaigns that target the right audience at the right time. This is especially important, as GDPR and change in cookies policies affected data access significantly.

Monetization Opportunities:

Mobile apps can serve as revenue generators themselves. Through in-app purchases, subscriptions, or advertising, enterprises can diversify their income streams and establish a consistent revenue source directly from the app. This versatility can supplement and even surpass traditional marketing efforts.

Personalization and Customization:

A well-designed mobile app can build brand loyalty and customer retention. When customers find value and convenience within an app, they are more likely to stay loyal to the brand, creating a long-term customer base that transcends the shorter-term focus of traditional marketing campaigns. That is why, while creating their apps, we advise our clients to consider and build loyalty programmes that correspond well with the need of their target groups.

The above points shortly summarise the advantages of mobile apps and their value is undeniable. Still, to create an app that will bring expected revenue and user loyalty, enterprises have to carefully plan and built the solution. Successful mobile app development relies on a structured approach, and product discovery is a crucial phase in this process.

2023 showed how companies on their search for understanding the customer invested in product discovery that we find essential for the creation of mobile apps since it contributes to the overall success of a project. With full responsibility we can say that implementation of Product discovery is another trend of 2023 among our clients.

Katarzyna Ziółkowska

Head of IT Analysis

EO NETWORKS

Product discovery involves research and analysis to gain a deep understanding of the target audience and their needs. This knowledge is fundamental in crafting an app that aligns with user expectations, preferences, and pain points. By addressing these needs, developers can create a more valuable and user-centric app, which significantly increases the chances of success in the competitive mobile app market. Moreover, this approach helps in setting clear and achievable objectives for the mobile app. This approach equips us with data and knowledge about the users, consumer, market, competitors that lead us to creating accurate solutions resulting in achieving our clients' business objectives. By identifying the core goals during this phase, we can create a roadmap for development, ensuring that resources are allocated effectively and that the project remains focused and on track.

Product discovery also aids in identifying potential challenges and risks early in the development process. By thoroughly analysing market conditions, competitors, and technological constraints, we can proactively address issues that might otherwise surface during development, saving time and resources in the long run. This risk mitigation strategy is essential for reducing the likelihood of project failure.

An in-depth product discovery phase can also lead to cost savings in the long term by constant focus on the objective and gathered data. This streamlined approach ensures that the project stays within budget and is delivered on time. The work does not end with the initial research and planning. It continues throughout the development process, allowing for iterative improvements based on user feedback and evolving market conditions. This agile approach ensures that the mobile app remains relevant and competitive, ultimately leading to long-term success.

The end result is to create a user-centric design by focusing on the user experience and user interface. Understanding user preferences, pain points, and behaviour allows developers to design a visually appealing and intuitive app, which can lead to higher user retention rates and positive reviews.

The above trends of 2023 – adaptation to new users of e-commerce, investment in mobile apps and building apps through Product discovery – were the most sought-after solutions among our clients. On the other hand, many Clients went with the tide of cybersecurity and updating their solutions, but that approach has been visible for couple of years now. It's been a pleasure to support our clients in their m-commerce discovery journey as in the case of Nesperta and their brand Semilac. The challenge faced by the Semilac brand was to design a solution tailored to the needs of a modern woman who values the speed and convenience of shopping, which at the same time would inspire her to create various nail designs, care for her hands, deepen her knowledge and develop her skills, and as a result, encourage her to make more frequent and major purchases. We have implemented the Product discovery process in creating the mobile solution that is loved by the users and is awarded 5 stars by most, where the previous app was rated at 2. The Client achieved 5x higher conversion rates that on RWD as well as 100% higher retention rate.

You can learn more about the Semilac journey here:

https://eo.pl/en/project/semilac/

Bartosz Skurczyński

Head of Software

EO NETWORKS

Gen AI's Rapid Rise

The impact of Artificial Intelligence (AI) on the technology/IT market in 2023 was significant, marking a period of rapid development of tools based on Generative Artificial Intelligence (gen AI). According to the latest annual McKinsey Global Survey, these tools have experienced explosive growth. Less than a year after many of them debuted, one-third of our survey respondents indicated that their organizations regularly use gen AI in at least one business function.

Gen AI tools have surpassed the realm of interest solely among technical employees, becoming a focus for company leaders: almost one-fourth of surveyed executive board members admitted to personally using gen AI tools at work, and over one-fourth of respondents from AI-utilizing companies acknowledged that gen AI is already on their boards' agendas. Furthermore, 40 percent of respondents stated that their organizations would increase investments in AI overall due to advancements in gen AI. However, the results indicate that it is still early days for managing risks associated with gen AI, as less than half of the respondents claimed that their organizations are mitigating even the risk they consider most relevant: inaccuracy.

Organizations that have already embedded AI capabilities were the first to explore the potential of gen AI, and those deriving the most value from more traditional AI capabilities, a group we term "AI high performers," are already outpacing others in adopting gen AI tools.

The expected business disruption caused by gen AI is significant, with respondents predicting substantial changes to their workforces. They anticipate job cuts in certain areas and significant reskilling efforts to address shifting talent needs. However, despite the potential of gen AI to drive the adoption of other AI tools, there is little meaningful increase in the adoption of these technologies across organizations. The percentage of organizations adopting any AI tools has remained steady since 2022, and adoption continues to be concentrated within a small number of business functions.

Still in the early stages, but gen AI usage is already widespread. The survey results, conducted in April 2023, show that, despite gen AI's recent public availability, experimentation with these tools is already relatively common. Respondents expect these new capabilities to transform their industries. Gen AI has captured interest across the business population: individuals across regions, industries, and seniority levels are using gen AI for work and outside of work. Seventy-nine percent of all respondents say they've had at least some exposure to gen AI, either for work or outside of work, and 22 percent say they are regularly using it in their own work. While reported use is quite similar across seniority levels, it is highest among respondents working in the technology sector and those in North America.

Organizations, too, are now commonly using gen AI. One-third of all respondents say their organizations are already regularly using generative AI in at least one function—meaning that 60 percent of organizations with reported AI adoption are using gen AI. Furthermore, 40 percent of those reporting AI adoption at their organizations say their companies expect to invest more in AI overall thanks to generative AI, and 28 percent say generative AI use is already on their board's agenda. The most commonly reported business functions using these newer tools are the same as those in which AI use is most common overall: marketing and sales, product and service development, and service operations, such as customer care and back-office support. This suggests that organizations are pursuing these new tools where the most value is. In our previous research, these three areas, along with software engineering, showed the potential to deliver about 75 percent of the total annual value from generative AI use cases.

In these early days, expectations for gen AI's impact are high: three-quarters of all respondents expect gen AI to cause significant or disruptive change to their industry's competition in the next three years. Survey respondents working in the technology and financial-services industries are the most likely to expect disruptive change from gen AI. Our previous research shows that, while all industries are indeed likely to see some degree of disruption, the level of impact is likely to vary. Industries relying most heavily on knowledge work are likely to see more disruption—and potentially reap more value. While our estimates suggest that tech companies, unsurprisingly, are poised to see the highest impact from gen AI—adding value equivalent to as much as 9 percent of global industry revenue—knowledge-based industries such as banking (up to 5 percent), pharmaceuticals and medical products (also up to 5 percent), and education (up to 4 percent) could experience significant effects as well. By contrast, manufacturing-based industries, such as aerospace, automotives, and advanced electronics, could experience less disruptive effects. This stands in contrast to the impact of previous technology waves that affected manufacturing the most and is due to gen AI's strengths in language-based activities, as opposed to those requiring physical labor.

Inaccuracy, cybersecurity and intellectual-property infringement are the most-cited risks of generative AI adoption.

Generative AI-related risks that organizations consider relevant and are working to mitigate, % of respondents[1]

[1]Asked only of respondents whose organizations have adopted AI in at least 1 function. For both risks considered relevant and risks mitigated, n=913. Source: McKinsey Global Survey on AI, 1,684 participants at all levels of the organization, April 11-21, 2023

Responses show many organizations not yet addressing potential risks from gen AI

According to the survey, few companies seem fully prepared for the widespread use of gen AI—or the business risks these tools may bring. Just 21 percent of respondents reporting AI adoption say their organizations have established policies governing employees' use of gen AI technologies in their work. And when we asked specifically about the risks of adopting gen AI, few respondents say their companies are mitigating the most commonly cited risk with gen AI: inaccuracy. Respondents cite inaccuracy more frequently than risks related to cybersecurity and regulatory compliance, which were the highest cited risks related to AI overall in previous surveys. Only 32 percent claim to mitigate inaccuracy, which is a smaller percentage than the 38 percent who say they mitigate risks related to cybersecurity. Interestingly, this number is significantly lower than the percentage of respondents who reported mitigating the risk associated with cybersecurity related to AI last year (51 percent). Overall, as in previous years, most respondents say their organizations do not address risks related to AI.

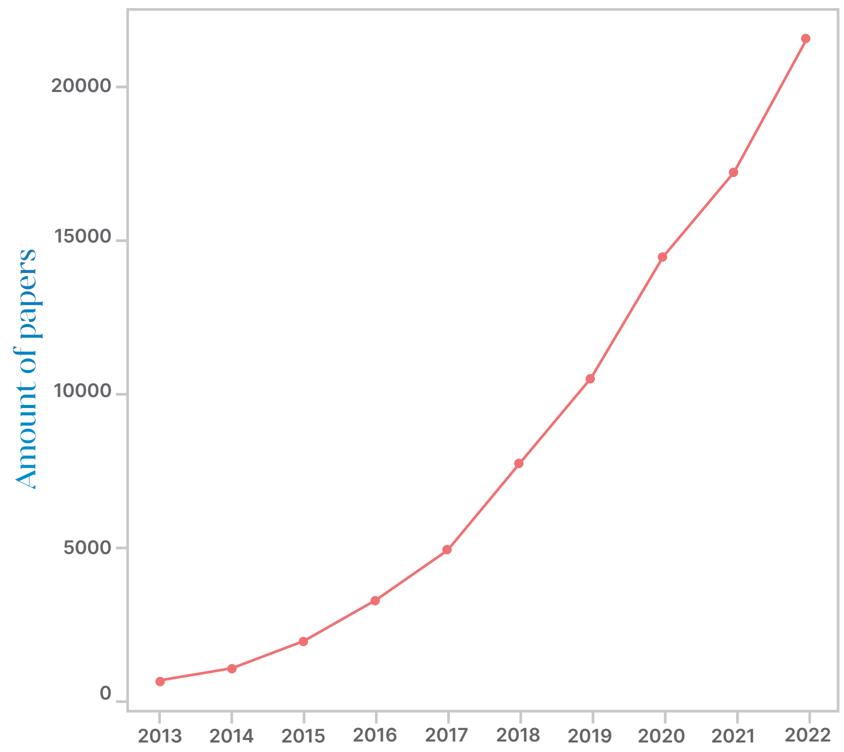
Computer Vision

One of the more interesting of the 2023 trends, Computer Vision (CV) emerged as a transformative field within machine learning, focusing on the processing and analysis of visual data. Its primary objective is to enable machines to "understand" and interpret information embedded in images, videos, or visual data. By extracting meaningful insights from data, computer vision systems can appropriately respond and take specific actions. For instance, a computer vision system can recognize a face in an image, authorizing or denying access to a smartphone screen based on that identification.

The evolution of computer vision systems contributes to the automation of existing solutions, reducing the risk of human error, significantly speeding up processes, and cutting long-term labor costs. Moreover, these systems open up new possibilities for analyzing data presented in alternative formats. In certain cases, data can be transformed into image form, allowing for a different perspective in analysis. For example, sound can be converted into a spectrogram, representing the frequency content at each moment of an audio file. This advancement marks a significant stride in reshaping how machines perceive and interact with visual information, reflecting the ongoing transformative trends in technology.

In 2011, the debut of the first Convolutional Neural Network (CNN) marked a breakthrough capable of winning computer vision competitions. This event initiated a significant advancement in computer vision, as reflected in the surge of publications in the field of machine learning. The inception of CNNs revolutionized the landscape, demonstrating their prowess in image recognition tasks and fostering continuous innovation in computer vision techniques. This milestone not only showcased the power of deep learning but also set the stage for ongoing developments, shaping the trajectory of computer vision and its applications.

Amount of papers in CV



Source: https://www.kaggle.com/code/dokster/image-and-video-data-kaggle-ai-report

Computer Vision Area	Industry – Example Application
FEATURE EXTRACTION	In the industry – recognizing colors of fruits (apples) for sorting.
PATTERN RECOGNITION	In market analysis – recognizing patterns in financial data to predict market trends. \n In medicine – extracting characteristic patterns to detect areas suspected of disease.
OBJECT RECOGNITION	In the industry – recognizing elements starting/ending a train car to facilitate division of the train. \n In security systems – identifying suspicious objects.
OBJECT SEGMENTATION	In the industry – extracting and classifying characteristic machine elements to determine its correct arrangement.
OBJECT TRACKING	In retail - tracking customers in the store allows linking products they choose to their virtual basket (Żabka Nano). \n In autonomous vehicles - monitoring other vehicles and pedestrians for safe navigation. \n In sports - analyzing players' movements to identify areas for improvement.
3D RECONSTRUCTION	In architecture – virtual modeling of buildings and spaces.

The development of computer vision has significantly increased compared to previous years. The introduction of new hardware and software solutions contributes to easier accessibility of computer vision systems, fostering growing societal awareness and acceptance. These factors were further amplified by the pandemic-induced accelerated digital transformation across various economic sectors. Technology has become even more ingrained in people's lives, and the introduction of ChatGPT in 2022 allowed for familiarity with widely available artificial intelligence.

High societal awareness has opened up new markets, further fueling the continued development of technology and its integration into other domains, such as computer vision. This field is continually evolving and already allows for utilization through smartphones. Solutions introduced to the Polish market enable tracking customers in stores (Żabka Nano) and enhance security, as seen in Intelligent Monitoring (from BD Polska).

The implementation of artificial intelligence, depending on the project, can bring numerous benefits. AI significantly impacts process automation, risk minimization, leading to cost reduction and revenue growth. Additionally, well-prepared models can support critical business decisions, analyze company results, and highlight areas for improving overall performance.

Challenges and Constraints in 2023

Challenges:

Data overestimation

– while data may show potential for creating an accurate model, there are situations where it may not encompass all necessary cases.

Data collection

– during project development, difficulties may arise due to a lack of sufficient required data caused by the emergence of a new object requiring analysis.

Data labeling

– due to the time-consuming nature of this process for projects analyzing a large number of objects, leveraging existing open-source solutions may be necessary to preliminarily prepare the model.

Accuracy of existing solutions

– open-source or commercially available solutions are mostly designed to solve general problems and may not cater to specific requirements for particular tasks.

Niche models

– the absence of available models addressing a specific problem may necessitate the creation of custom models filling the identified gap.

Less accurate model

– developing a custom model may require multiple modifications to properly address the given task.

Constraints:

Time

– implementing an innovative system takes time, which may not always be readily available.

Data

– limited conditions may not provide data conducive to training an accurate model.

Skilled workforce

– involving a larger number of individuals in the model creation process may require additional resources.

Obstacles:

Cost

– while data may show potential for creating an accurate model, there are situations where it may not encompass all necessary cases.

Understanding the process and results

– during project development, difficulties may arise due to a lack of sufficient required data caused by the emergence of a new object requiring analysis.

GDPR compliance

– systems may require data protected by GDPR for proper training and future functioning.

Cybersecurity

In the face of the advancing digital transformation and dynamic development of the cybersecurity market, as well as the need to secure against increasingly sophisticated cyber-attacks, companies must adapt to changing threats and standards. Among the factors influencing the Polish cybersecurity market in 2023, insufficient qualified personnel in the cybersecurity field is notable. This has negative consequences for data and IT system protection, as well as for understanding, proper interpretation, and compliance with legal regulations such as the KSC Act, GDPR, NIS2, Dora, etc., both for public and private sector enterprises. Legal regulations not only define obligations and standards that companies must adhere to but also stipulate sanctions and consequences for non-compliance or violations. Meeting this obligation requires the development, implementation, and enforcement of appropriate internal policies and procedures, ensuring adequate knowledge, technical means, and organizational measures for risk management, as well as undergoing regular checks and audits. A crucial element in ensuring organizational security is regular training to raise awareness of cyber threats in cyberspace for all employees, regardless of their role and rank. The goal is to strengthen the organizational security culture, instill good practices and cyber hygiene principles, and demonstrate the scale of threats and response mechanisms in case of an incident.

It is worth noting that legal regulations, aiming to enhance data and IT system protection, have shifted the responsibility for supply chain security to entrepreneurs, requiring them to establish appropriate processes and procedures ensuring visibility, transparency, and minimizing the risk of attack.

Another challenge is the development of artificial intelligence. On one hand, it provides real support in protecting against cyber attacks by detecting and preventing them through the analysis of user behavior, networks, and systems. It identifies anomalies and threats, enhances the resilience and flexibility of IT systems through automatic security loophole updates and repairs, easily adapts to changing conditions and scenarios, and utilizes chatbots for customer and user support. Properly utilized artificial intelligence also contributes to automating the work of cybersecurity engineers, directly relieving them of repetitive tasks, allowing more efficient use of their qualifications. However, it should be remembered that cybercriminals have the same capabilities to exploit artificial intelligence and its advanced techniques for their purposes, such as conducting effective cyber-attacks through sophisticated and personalized phishing campaigns, creating fake messages, impersonating others, and manipulating data and systems. The use of artificial intelligence by attackers poses a real threat to privacy and data security by capturing, decoding, and exploiting confidential information, as well as violating regulations and ethical standards.

Other threats to business security include:

- The need to implement appropriate security standards in the IoT market, which is subject to the same regulations but has lagged in responding to legal requirements.
- Cyber attacks arising from geopolitical situations directly related to armed conflicts, e.g., the war in Ukraine. The most serious threat here is DDoS attacks targeting public utility institutions, transportation, and critical infrastructure, as well as phishing campaigns aiming to disrupt order and engage in espionage.
- The need to ensure business continuity for companies and institutions regardless of their level of cyber resilience to attacks, i.e., efficient data recovery while minimizing data loss and downtime, regardless of their level of cyber resilience to attacks. Preparedness for a successful breach scenario is crucial.
- The need to implement a "Zero Trust" policy, assuming that no user can access the network until their identity is confirmed.

Due to the lack of qualified personnel, the role of external companies providing advanced services is increasing, including:technical and engineering support for designing, implementing, testing, and maintaining IT systems, tools for detecting and preventing cyber-attacks.

Advisory and training services in risk management, quality control, audit, support in developing and implementing strategies, programs, and plans related to security and compliance with standards.

What about technologies?

In 2023, the popularity of technologies in IT projects was marked by a predominant embrace of the agile methodology, reflecting the industry's commitment to flexibility and adaptability. Agile methodologies, known for iterative and collaborative development, gained widespread adoption, enabling teams to respond swiftly to evolving project requirements. Among programming languages and frameworks, Angular, Java, Python, and .Net emerged as the most used technologies. In our focused area, additional key technologies included Spring Boot, renowned for its efficiency in building microservices, and Flutter, serving as a tool for creating mobile user interfaces, both playing pivotal roles in the development process. Databases such as Postgres, PostreSQL, and MySQL served as essential foundations, facilitating efficient data storage and management. Tools like React, enabling the construction of dynamic interfaces, as well as Docker and Kubernetes, supporting containerization and orchestration, also gained substantial recognition. Furthermore, version control system Git played a crucial role in source code management, ensuring transparency and efficiency in collaborative processes.

> In recent years, our clients have been facing challenges stemming from the economic impacts of the Covid pandemic and the war in Ukraine. It often involves crisis management, unpredictable productivity, and sensible budget policies. This period has shown how ensuring business continuity and having a stable IT partner are fundamental. They guarantee flexible responses and the ability to implement rapid changes in line with the current situation, enhancing potential, and introducing optimizations.
>
> The upcoming year for us involves working on maximizing the utilization of technology, such as AI or RPA, to enhance the benefits of the outsourcing model in the IT domain. At every stage of our collaboration with clients (starting from the sales process), we emphasize advisory and consulting services. This ensures that the designed services and solutions achieve maximum business efficiency. With a broad range of specialized services—from audits and consulting to implementations and migrations, all the way to maintenance and administration, and the multi-vendor development of technological competencies—we take a comprehensive approach to the IT sector, increasing the return on investment for those partnering with us.

Klaudia Żukowska
Sales Director
EUVIC IT

Euvic Group's Internal Insights of 2023

While 2023 posed challenges for the IT market, Euvic Group's resilience was evident, enabling us to navigate a complex landscape and minimize setbacks. Our internal insights paint a picture of numerous achievements, underscoring the strength and unity of the Euvic family. From individual company triumphs and impactful projects to strategic partnerships, modest employee rotations, and high client satisfaction, the internal landscape of Euvic Group in 2023 stands as a testament to collective determination and success in the face of adversity.

Euvic S.A.

In the face of a challenging market situation in 2023, many entrepreneurs opted to significantly tighten budgets, unfortunately resulting in a wave of layoffs in numerous smaller industry firms. For Euvic, our response to market challenges was precise and decisive, grounded in a sustainable strategy based on flexibility and a focus on key business areas. This proactive stance not only allowed us to weather tough times but also achieved an impressive revenue growth of approximately 25%, a result of consistent and strategic decisions made in previous years.

Confronted with the need to align human resources with the new reality, we chose to invest in creative solutions. We maximized the potential of our employees during periods without active projects, finding innovative ways to integrate their unique skills into diverse projects and collaborations with other companies within the industry ecosystem. This approach not only enabled us to avoid the harsh effects of layoffs but also stimulated the development of our teams while maintaining a high level of employee engagement.

In terms of investments, Euvic consistently sustained its development, placing particular emphasis on strategic investments in international expansion and restructuring. The opening of new local offices in key locations such as Dubai, the UK, the USA, and Sweden marked a breakthrough, allowing us to effectively leverage emerging markets and simultaneously strengthen our global presence.

The most dynamically growing pillars of our business, including infrastructure, digital marketing, software development, and commerce transformation, played a pivotal role in achieving successes in 2023. These are areas where we consistently invested, significantly contributing to our revenue growth and solidifying our position as an industry leader.

In 2024, Euvic presents strategic plans focused on international development and consulting services, emphasizing the continuation of investments in the pillar of international growth and the development of consulting services as a key growth direction.

A pivotal element of these plans is a significant investment in Ukraine, involving the establishment of a delivery center. This initiative is driven by the perception of Ukraine as an attractive market characterized by a lack of internal constraints, allowing us to leverage the country's exceptional capabilities in building a global presence.

As part of this strategic decision, we aim to create the Euvic Group in Ukraine, fostering collaboration, information exchange, client sharing, and mutual needs. We recognize the immense potential in the Ukrainian market, propelled by the motivation of young professionals who, despite challenges associated with the war, remain actively engaged in work and client acquisition. This comprehensive strategy underscores our commitment to international growth and consulting services, with targeted investments in Ukraine, despite the challenging geopolitical situation.

Euvic IT

In 2023, Euvic IT soared to new heights, achieving milestones that defined the year as a period of substantial growth and innovation. Euvic IT's Service Desk stands as a powerhouse of support, comprising 130 Service Desk Analysts within the Service Desk department and an additional independent team providing first-line support. Monthly, we handle over 50,000 tickets, serving a user base exceeding 100,000 and managing the needs of several hundred thousand devices. Our services extend beyond language barriers, providing support in Polish, English, Swedish, French, Czech, German, and Hungarian, with the flexibility to cater to other national languages as per client requests. As of September 2023, our Service Desk teams actively participate in the delivery of 124 services.

Utilizing cutting-edge tools and technologies, we ensure seamless operations. Our ITSM systems include Atmo Light, an in-house Euvic IT system, along with Freshservice, Jira, Log System, Omnitracker, Broadcom SDM, and other tools tailored to specific client agreements. In the realm of CC systems, we leverage Cludo, Genesys, and Telavox, while ensuring remote access through Teamviewer, Bomgar, Citrix, and Microsoft.

People are at the core of our success, and our impressive Shared Service Center for IT retention rate of 99% is a testament to the value we place on retaining knowledge within our teams. Despite potential distortions due to some employees transitioning from Help Desk to Shared Service Center for IT, the overall retention rate reflects a commendable achievement.

In terms of headcount, the company had 85 employees in Shared Service Center at the end of December 2022, a number that grew to 104 by the end of October 2023. The cumulative hours worked in Shared Service Center at the end of 2022 totaled 145,219 hours, averaging around 12,101.58 hours per month. Comparatively, by the end of October 2023, Euvic IT recorded a total of 139,85 hours, with an average monthly count of 13,985 hours.

Certification achievements were noteworthy, with 18 certificates obtained or renewed since May. In Tomasz Wielgomas' team (security), an impressive total of 27 certificates were achieved in 2023.

> IT cybersecurity market and risk exposure isn't a static posture. Month by month there are new more complex and distinguished attack vectors and technics. To be able to properly react to potential security incident and a new form of targeted attack around the world, the SOC team must be inline with the global approach to constantly leverage our skills, develop our know-how focusing on certifications paths Only this way we can help our customers and prove that they can rely on good, reliable and well experienced partner.

Tomasz Wielgomas
IT Security Director
EUVIC IT

Turning our attention to projects, the company closed 2022 with 212 projects initiated, growing to 256 by September/October 2023, marking a remarkable 20% year-over-year increase. In 2023, 53 new projects were initiated, including 29 internal IT projects for Euvic Group companies and 24 projects for commercial clients. Notably, 9 projects were successfully concluded.

The AtmoLight domain boasts an average client collaboration span of 10 years and 1 month. In the realm of partnerships, year 2022 finished with 48 partnerships, a number that increased to 51 by September/October 2023, reflecting a growth rate of 6.3%. Noteworthy partnerships include ZSCALER, UiPath, and Trellix.

In the realm of elevated partnerships, collaboration with Microsoft received new designations, including Solutions Partner for Data & AI (Azure), Solutions Partner for Digital & App Innovation (Azure), and Solutions Partner for Modern Work. Additionally, our partnership with HPE, after integration with Euvic Solutions, was elevated to the GOLD level. In response to changes in the VMware program, effective March 17, 2023, Euvic IT holds a partnership at the Community - Solution Reseller level. Furthermore, adjustments in the Proofpoint program established Euvic IT as a partner at the highest level.

What defined our journey in 2023? Our standout accomplishment was the adept handling of the challenges posed by the ever-changing business environment. Internally, Euvic IT focused on further standardizing our offerings and enhancing internal processes, contributing to a more streamlined and professional operational environment. Embracing automation, particularly in the creation of infrastructure, marked a significant milestone, streamlining processes and boosting efficiency. Additionally, our commitment to continuous improvement was underscored by the ongoing development of competencies and training programs, ensuring our teams remain at the forefront of industry advancements.

Externally, our strategic initiatives were aligned with the evolving needs of the market. The expansion of our Security Operations Center (SOC) and a broader emphasis on security initiatives were pivotal in meeting the increasing demand for robust cybersecurity solutions. Our involvement in projects within organizations grappling with significant Technological Debt underscored our capability to modernize IT infrastructure and processes, positioning us as key partners in digital transformation.

Over the last Years customer's cybersecurity awareness has been increased due to geopolitical polarization and war in Ukraine. We can observe a more mature approach to processes related to continuous incident response as a natural way to extend visibility to a potential risk and impact to business continuity, confidential data theft and data exfiltration. Nowadays with the modern workplace model which includes hybrid model or only remote model the need to protect identities, endpoints and different ways of collaboration in a flexible and complete way (no matter where users are) is stronger than before. This is why we are strongly focused on our customers to help them defend against potential security incidents providing SOC as a service model protecting their most valuable assets. Beside a reactive approach we help them to assess a potential risk related to vulnerabilities which can be exploited during targeted attack.

Tomasz Wielgomas
IT Security Director
EUVIC IT

A major highlight of 2023 was the company's engagement in cloud adoption, encompassing both Public and Hybrid Cloud solutions. Initiating and executing cloud migration projects showcased our commitment to staying at the forefront of technological trends. Moreover, the entry into consulting and advisory projects in IT Maintenance further diversified Euvic IT's portfolio, offering comprehensive solutions to their clients.

In 2023 we observed the constant increase in Cloud adoption both on Polish and International markets. For many years we are investing in the Cloud competencies and this year we increased both headcount in our Cloud department and invested in the up-skilling of existing team members. In 2023 we have restarted Euvic Group partnership with Google and hired and trained Google Cloud engineers and architects.

Another interesting and constantly growing trend is the Multi-Cloud/Hybrid-Cloud approach where clients are picking the best services from different Vendors to achieve the results effectively, keep the compliance with the sector-specific or country regulations and leverage the previous investments in the On-Premises environments boosted by the Public Cloud capabilities.

Marcin Wojtaszek
CTO
EUVIC IT

Strategic partnerships played a crucial role in the company's success, with notable engagements with industry giants like HPE, Google, and Zscaler. These partnerships not only expanded its service offerings but also provided us with the necessary resources to meet the evolving demands of our clients. The year 2023 saw us solidify our presence in the market, with improved visibility and an enhanced reputation, positioning Euvic IT as a leading force in the IT services landscape.

In 2024, Euvic IT aims to focus on three key areas of development. Firstly, they plan to enhance their expertise in the field of artificial intelligence, particularly in the context of ITOps, with the goal of optimizing IT operations and automating processes. Additionally, the company intends to strengthen its presence in the cloud, emphasizing platforms such as Google Cloud, Microsoft Azure, AWS, HPE, and other providers. In the realm of security, they plan to adopt a multidimensional approach, covering cloud security, endpoint protection, leveraging artificial intelligence for threat identification, and ensuring the security of applications and servers. The objective is to formulate comprehensive security strategies that encompass various aspects of IT operations. At the Service Desk level, the company also aims to further enhance its approach to managing user experience (IT Experience Management) based on the best global practices published by organizations such as SDI, HDI, Happy Signals, and others in the industry.

Euvic Services

In 2023, Euvic Services celebrated remarkable achievements, including the dynamic growth in the sales of BPM solutions, affirming our position as a leader in innovative business process management. However, the standout highlight of the year was the comprehensive implementation of over 30 processes for Stock Polska, spanning 6 countries, with a value exceeding 1 million Polish zlotys. This project not only validated our ability to handle complex implementations on a large scale but also solidified our position as a key business partner.

In 2024, Euvic Services is emphasizing growth in the areas of Business Process Management (BPM) and Robotic Process Automation (RPA)

TUATARA

In 2023, TUATARA continued to create enchanting experiences in the digital space by combining technology and consulting skills, and achieved remarkable financial milestones amidst the challenges facing the IT market. With a notable 29% growth in revenues and a significant 59% increase in gross margin, TUATARA showcased resilience and strategic acumen in a difficult industry landscape. Particularly impressive was the outstanding 38% rise in revenues from the Middle East region, highlighting TUATARA's ability to navigate diverse market conditions. Amidst these achievements, their standout accomplishment for the year was marked by impactful projects.

TUATARA's endeavors in 2023 included impactful training and advisory projects focused on harnessing Generative AI. Through these initiatives, the company successfully demonstrated the versatile applications of Large Language Models across various industries, providing practical insights on integrating AI into business processes. These workshops served as opportunities for organizations to contextualize emerging trends within their business frameworks and acquire practical knowledge for effectively undertaking AI-utilizing projects.

Another key success for TUATARA in 2023 was the sales and implementation of their process platform, Fintin. This platform facilitates rapid and efficient modeling and execution of sales and post-sales processes for B2B financial products (such as leasing and factoring). Fintin empowers companies in the financial sector to break free from rigid, closed technologies offered by conventional providers. TUATARA's mission of delivering flexible solutions that enable business agility and seamless scalability is exemplified through the success of Fintin. In a challenging year for the IT market, TUATARA's achievements underscore their commitment to innovation and their ability to deliver tangible value to their clients.

2023 was also a successful year for Actionbot – the AI chatbot that acts. Actionbot, as an action-oriented AI Assistant understands and automates customer interaction for banking, insurance, education, and more. TUATARA onboarded new customers, developed an integration with GPT 3.5 turbo to deliver a true human-like experience, and strengthened its footprint by improving functionalities of process automation and contextual analysis. Actionbot has proved to save over one hour each day for Customer Service consultants.

Since mid-2022, we have been undergoing an internal company transformation that enables us to be even more agile and resilient to changes in the business environment. One of the key changes we've implemented is the formation of small, cross-functional teams that collab- orate to achieve business objectives in the projects they undertake. We aimed to create an organization of enthusiasts dedicated to solving our client's business problems - understanding processes, dependencies, and the environment from the client's perspective, not just as a service provider. As a result, while other companies in our industry were grappling with the effects of decreased demand for their services, clients appreciated our commitment, experience, and approach, leading to significant growth in 2023. Our perspective on technology is also noteworthy, as we view it as secondary to solving our clients' business problems. We always recommend tools that allow clients to achieve the best results with optimal investments. In 2023, these solutions included areas such as business process automation, artificial intelligence, and conversational interfaces, among others.

Krzysztof Goworek

CEO
TUATARA

In the year 2024, TUATARA aims to focus on advancing its proficiency in AI applications, especially in business process automation. The growing importance of AI underscores the increased need for advisory services, including the formulation of AI and digitalization strategies. TUATARA is committed to developing its competencies in this area to effectively address the evolving requirements of its clients.

Codlake

In 2023, Codlake demonstrated notable success through key projects, showcasing their expertise in application development and ERP system implementation. A pivotal achievement was the completion of crucial developmental stages for the application designed for the British automotive dealer AutoVista. The project has now transitioned into the maintenance phase, signifying a successful collaboration. Additionally, Codlake undertook a significant project involving the implementation of an ERP system at the Zawmet Steel Processing Center, reflecting their proficiency in addressing diverse industry needs. Other ongoing projects are consistently managed with a focus on continuous improvement.

The high level of customer satisfaction further emphasizes Codlake's commitment to delivering quality solutions tailored to meet client expectations. Their teams operate with efficiency across all projects, employing the Agile methodology to ensure adaptability and responsiveness to evolving requirements. Codlake's dedication to client satisfaction and efficient project management positions them as a reliable and innovative partner in the competitive landscape of IT and software development.

IT-Dev

IT-Dev achieved notable successes, reflecting their commitment to excellence in various facets of their operations. IT-Dev maintained a commendable 9% turnover rate and an impressive 90% retention rate in Human Resources, underscoring their focus on employee satisfaction and talent retention. The Sales team demonstrated their effectiveness by creating 957 sales opportunities, with a remarkable 52% conversion rate. Winning 499 of these opportunities showcased their prowess in navigating the sales landscape. In the realm of project delivery, IT-Dev maintained an average workload of 85%, indicating efficient resource utilization and project management. A standout achievement for IT-Dev in 2023 was the successful execution of a webinar on the utilization of AI in the workplace, capturing the attention of Digital Dexterity Labs community members and inspiring clients to implement new AI-driven functionalities.

The webinar, served as a platform to share knowledge and foster innovation.

Internally, IT-Dev underwent a strategic rebranding initiative, refreshing their visual identity and communication. This effort culminated in the launch of their new website, providing a revamped platform to communicate their value proposition effectively.

Currently, IT-Dev is working on a proposal for the financing of a research and development project focused on leveraging AI in the implementation and development of intranets.

Given the current economic situation and the looming specter of an economic crisis, the company is dedicating more time to precisely develop the business case for the implementation of intranets in the organizations of their clients. In a time when every investment undergoes thorough scrutiny, the ability to articulate the Return on Investment (ROI) from the project becomes even more crucial.

eo Networks

eo Networks celebrated numerous accomplishments in 2023. With 60 projects undertaken, eo Networks showcased their versatility in catering to diverse client needs, emphasizing technological expertise in web and mobile technologies.

Embracing industry trends, eo Networks excelled in Agile methodologies, responding adeptly to evolving market needs. The incorporation of Product Discovery, a research-analytical process gaining popularity, was particularly impactful. Illustrated by its application in the Semilac project (Client - Nesperta), Product Discovery emerged as a valuable tool in understanding user needs, market dynamics, and project viability. This method not only reduced risk but also accelerated time-to-market, enhancing client experience and product success.

Customer satisfaction, a testament to eo Networks' commitment, reached an exemplary 100%. The company's proficiency in Product Discovery was further harnessed in developing an innovative mobile application for Semilac, a brand that not only facilitates purchases but also fosters a community around the brand. Currently, the project is awaiting the implementation of more innovative solutions.

Moreover EO has excelled at the further development of a long-standing project with the GeoPost (DPD) by implementing the myDPD solution onto the 12th European market – France. With praise and highly satisfying numbers of the implementation, the project thrives to be a continuous success.

2023 was also a year of skillfully planned acquisition for eo Networks that the company perceives as strategic moves in the realm of IT sector through two significant investment agreements. These initiatives mark a pivotal moment in our development, fostering innovation, growth, and enhanced competitiveness. EO joined forces with H2B by signing an investment agreement in July and finished the year by acquiring Sensi Labs in November. Both partnerships focus on expanding our global footprint. Through strategic investments in international markets, we position ourselves to tap into new customer bases, diversify revenue streams, and mitigate risks associated with regional market fluctuations. This global approach not only enhances our market presence but also establishes us as a formidable player in the international IT landscape.

These two investment agreements in the IT segment signify a bold and strategic move towards company development. By embracing technology leadership, expanding our global reach, and fostering innovation, we are poised for sustained success and growth in the competitive IT landscape.

X-Code

In 2023, X-Code sucessfully showcased their expertise in Business Process Automation, Robotic Process Automation, and Microsoft Dynamics 365 CRM. A pivotal achievement for X-Code in 2023 was their successful foray into the manufacturing sector concerning Dynamics 365.

Specializing in Business Process Automation, X-Code demonstrated excellence in streamlining and optimizing complex business processes. Their proficiency in these areas contributed to enhancing operational efficiency and productivity for their clients.

The company plans further development in utilizing automation for customer relations.

Sirocco

In 2023, Sirocco, with its strong expertise in various industries including the automotive sector, CIT/ financial industry, educational sector, and mobile applications, had a standout moment with the successive implementation of their software within the automotive sector, specifically in dealer networks. The company showcased its commitment to innovation through the continuous refinement and development of their proprietary Dealer Booster product, utilizing the Software as a Service (SaaS) framework.

A notable achievement for Sirocco in 2023 was the high sales of their business consulting services, particularly the comprehensive Product Discovery process. The company demonstrated a well-established process of business analysis and consulting in the development of dedicated software for business clients.

Looking ahead, Sirocco plans to further develop products specifically tailored for the automotive industry, focusing on dealer networks for both new and used cars. The company aims to offer a broader range of ready-to-use solutions that enhance dealership workflows, resulting in higher quality customer service, improved showroom efficiency, increased sales margins, and the exploration of new markets and commercial models.

In addition to their focus on the automotive sector, Sirocco has plans to robustly expand their expertise in AI-driven solutions. The company is committed to integrating cutting-edge technologies related to artificial intelligence into their portfolio, indicating a strategic move towards staying at the forefront of technological advancements in the coming year.

Speednet

In 2023, Speednet achieved remarkable milestones, focusing on professionalization and deepening its specialization in fintech and banking. With an impressive portfolio featuring 7 cutting-edge mobile banking systems, 30 leading fintech brands, and over 200 projects – half in finance and insurance – Speednet has solidified its position as a significant player in the industry. Leveraging its expertise, the company expanded collaboration with existing clients and forged valuable partnerships within the dynamic fintech and banking sectors.

Speednet's unwavering commitment to innovation and forward-looking initiatives has brought the company to an impressive 10th position in the development potential category, in a prominent ranking conducted by Bank.pl, assessing Polish IT companies providing solutions for fintech and banking. The ranking is based on companies' revenues and strategic investment in research and development. A standout success of the year was The Finance Summit Event by Speednet, attracting over 50 stakeholders from European banking, fintech, insurance, and IT consulting sectors.

One of Speednet's vital project successes in 2023 was the implementation of two new banking platforms for the Polish VeloBank SA. These platforms include online banking, based on the latest UX trends and technologies, and mobile banking, characterized by high availability, intuitiveness and innovative solutions in mobile multiplatform technologies.

VeloBank S.A. was the only Polish bank nominated in several categories in the international Banking Tech Awards ranking. It secured the top position twice, celebrating alongside powerhouses like J.P. Morgan, Wells Fargo, HSBC and Lloyds Banking Group. One of the most essential distinctions was the title of Tech Team of the Year. Speednet's experts were recognized for their outstanding results and work style in the eXtreme Agile mode, which assumes the implementation of innovations and technological projects in the shortest possible time.

As part of its professionalization journey, Speednet embraced internal transformation, introducing two new platforms for seamless project flow tracking and standardization of pre-sales processes. Those changes reinforce Speednet's commitment to the highest level of transparency, efficiency, and uninterrupted cooperation, showcasing its dedication to delivering exceptional solutions for demanding fintech and banking clients.

Speednet stands ready to support decision-makers at every project stage, offering a spectrum of services from technical and business consultations to the implementation of advanced multiplatform systems at the highest level.

Euvic MEA

Our rich experiences extend beyond the European landscape, as Euvic MEA's expansion and diverse technological focus, particularly in the Middle East and Africa, are bolstered by a strong commitment to innovative technologies like AI, Blockchain, Metaverse, Virtual Reality, and Augmented Reality. This approach has led to remarkable growth compared to the previous year.

Complementing our leading-edge technologies, our comprehensive services include Consulting, Design, and Software on Demand. These reflect our holistic approach in addressing the varied needs of our clients.

A principal highlight for us is our three-year project with Dubai Police, which is set to revolutionize the brand identity and customer experiences through innovative technology, catering to its growing population and the globally recognized tourism sector. This project leverages our collaboration with Euvic Group affiliates such as Leocode, X-code, Tuatara, and Euvic Performance to deliver innovative and world-class solutions. Furthermore, our collaborations with AstraZeneca, JARD, Spotlight and Writables have showcased our cability to cater towards diverse industries.

Looking forward, we are enthusiastic about our forthcoming collaboration with 4Experience, focusing on Metaverse, VR, and AR solutions for government and private entities. Our vision for 2024 is centered on strengthening our brand recognition as both proficient advisors and reliable suppliers.

TechVision 2024: Euvic Group's Perspective on Upcoming Industry Trends

As we stand at the precipice of a new year, the Euvic Group aims to closely examine the technological landscape in 2024. Informed by a year of dynamic challenges and transformative experiences in 2023, our predictions for the upcoming trends are not just extrapolations but a carefully crafted projection based on the invaluable insights gained from within our diverse portfolio of companies. With an intimate understanding of the industry's pulse and a commitment to innovation, we present our forecast for the IT trends that are poised to shape the course of technology in the year ahead.

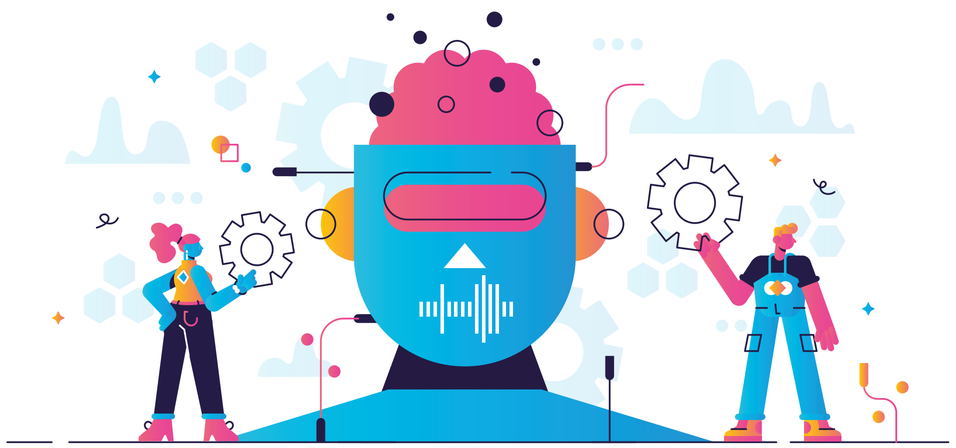
Growth Forecasts for the Market in 2024

Considering the trends from previous years, we anticipate a continued increase in investments in the field of artificial intelligence, particularly in computer vision. The ongoing technological development indicates a trend of rapid progress in this domain, fostering expectations of further enhancements in large language models, the emergence of new publicly available solutions, and a growing demand for specialists capable of creating sophisticated models to fill niches not covered by open-source solutions.

The projected continued advancement of artificial intelligence should also bring about new regulatory methods for the development and deployment of AI models. Challenges related to data privacy and copyright require the formulation of solutions that respect human values while not stifling the growth of this thriving field.

Numerous factors suggest an increasing awareness of harnessing artificial intelligence and its capabilities. However, the existing solutions demonstrate the considerable progress that can still be achieved. This implies a greater emphasis on the development of artificial intelligence, made possible by continuous improvements on the infrastructure side responsible for training models. This will be reflected in increased accessibility to various solutions and enable the creation of increasingly newer and more complex systems, demanding knowledge and resources. It will be crucial to keep abreast of current innovations in the industry as they may facilitate the implementation of previously unavailable, new solutions.

Development of AI and its Business Applications



Cognitive Technology and the Evolution of AI in Business Processes

In 2024, the landscape of Artificial Intelligence (AI) is undergoing a profound transformation, with cognitive technology emerging as a key driver in enhancing business processes. This specialized field within computer science harnesses the power of machine learning, natural language processing (NLP), data mining, and pattern recognition to emulate human thought processes. As a subset of AI, cognitive technology is reshaping how businesses interact with technology, particularly in automation, machine learning, and information technology.

The profound impact of cognitive technology is evident in its myriad benefits for businesses across diverse sectors. By leveraging its capability to analyze and process voluminous data, companies can apply computational systems to address pertinent challenges in their daily operations. Notably, in manufacturing, finance, and customer service, cognitive technology shines in automating routine tasks, reducing costs, and swiftly analyzing large datasets for more informed decision-making. Its NLP capabilities facilitate improved communication between humans and machines, making it invaluable in applications like customer service, chatbots, and virtual assistants.

One of the standout features of cognitive technology is its ability to learn from user behavior, tailoring experiences for enhanced personalization. This is notably observed in streaming services and e-commerce platforms, where cognitive technology enhances customer experiences through personalized recommendations, virtual assistant interactions, and responsive services. The adaptive learning process ensures that each user interaction becomes a building block for future engagements, increasing overall effectiveness.

In sectors like research and development, cognitive technologies prove instrumental in analyzing existing data and patterns to generate innovative ideas and solutions. For industries, such as finance, where risk management and regulatory compliance are paramount, cognitive technology's prowess in analyzing complex datasets aids in identifying potential risks and preventing fraud.

The healthcare sector stands as a testament to the transformative power of cognitive technology, where it improves diagnostics, facilitates personalized treatment plans, and expedites drug discovery. By analyzing medical records, images, and clinical research, cognitive technology provides accurate and timely insights. Moreover, it complements human capabilities in design, research, and problem-solving, fostering a collaborative synergy between human intuition and machine efficiency.

> Understanding the intricacies of each business, selecting the right model, providing thorough training, and integrating AI with existing processes are essential elements for unlocking the tangible benefits AI offers. As cognitive technology continues to advance, it reaffirms its position as a transformative force shaping the future of business processes in 2024 and beyond.

Krzysztof Goworek
CEO
TUATARA

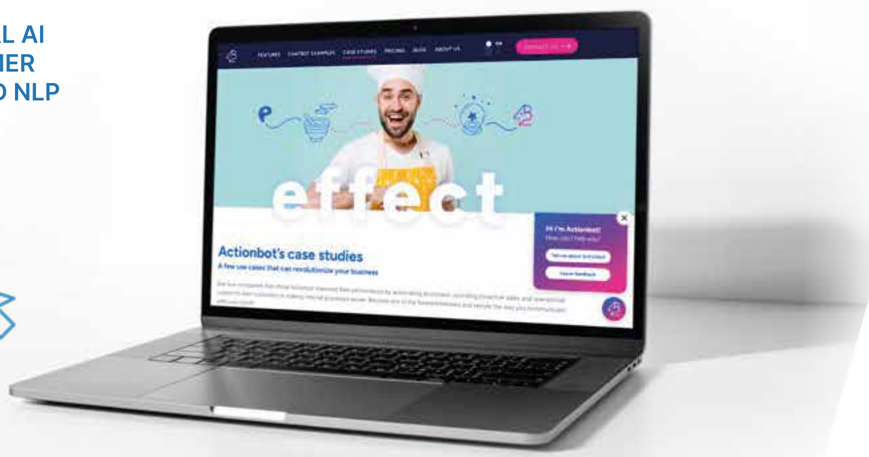
Generative AI and LLM Models: A Practical Transition

Natural Language Processing (NLP) stands at the forefront of AI, focusing on facilitating human-computer interactions through the lens of natural language understanding. This specialized branch of artificial intelligence employs computational algorithms and linguistics to bridge the communication gap between humans and computers. Essential components and techniques within NLP, such as tokenization, part-of-speech tagging, Named Entity Recognition (NER), parsing, sentiment analysis, machine translation, answering questions, and text summarization, collectively empower systems to comprehend and respond to human language meaningfully. The practical applications of NLP, particularly in the context of Generative AI and Large Language Model (LLM) models, have transitioned from initial technological novelties to becoming indispensable tools in various business domains. This shift signifies a maturation in the comprehension and implementation of these technologies, moving beyond theoretical capabilities to tangible, verifiable business cases. In the realm of Generative AI and LLM models, NLP plays a pivotal role in enabling more natural and intuitive interactions between humans and machines. Virtual assistants, chatbots, and voice-activated systems benefit significantly from NLP algorithms, which can process and understand vast amounts of textual data. This capability streamlines the searching and retrieval of relevant information from extensive databases or the internet, automating tasks like data entry, document classification, and information extraction. The result is a reduction in the need for manual labor in handling large volumes of text-based information. Customer service operations experience enhanced efficiency through the integration of chatbots and virtual assistants powered by NLP. These systems adeptly handle customer inquiries, provide information, and even facilitate transactions. Furthermore, they offer personalized recommendations by analyzing user preferences and behavior, contributing to a more tailored and customer-centric experience. In healthcare, NLP extracts valuable information from electronic health records, aids in diagnosis, and facilitates healthcare professionals' access to pertinent medical literature. The legal domain benefits from NLP through applications in legal research, contract analysis, and compliance monitoring, where the technology automatically extracts and analyzes relevant information from legal documents. Beyond these applications, NLP is instrumental in the development of assistive technologies, such as speech-to-text and text-to-speech, making digital content more accessible to individuals with disabilities. However, it is crucial to acknowledge that these advancements come with challenges, emphasizing the need for proper training, integration with high-quality data, and considerations for security, explainability, and manageability in the deployment of NLP technologies. This comprehensive approach ensures that the practical transition of Generative AI and LLM models aligns with the highest standards of efficacy and ethical considerations.

TUATARA CREATED AN INNOVATIVE CONVERSATIONAL AI CHATBOT, ACTIONBOT, WHICH CAN PREDICT CUSTOMER ACTIONS WITHIN ANY DIGITAL CHANNEL USING AI AND NLP ALGORITHMS.

Chatbot examples:

https://action.bot/chatbot-examples/?utm_source=euvic&utm_medium=referral&utm_campaign=ab_euvic_raport

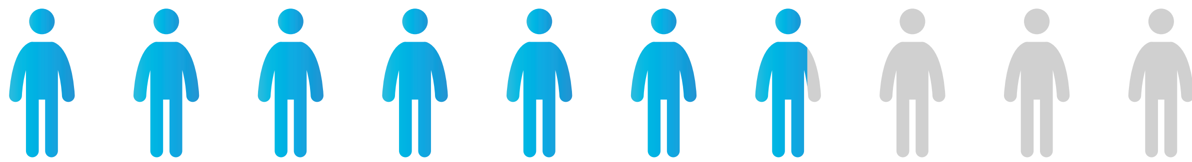


The NLP market is predicted to increase from around

$3 billion in 2017 to over $43 billion in 2025.

Source: Statista

Continuing on the trajectory of technological advancement, the integration of Natural Language Processing (NLP) chatbots emerges as a pivotal component in the practical transition of Generative AI and Large Language Model (LLM) models. Chatbots, once limited to scripted interactions, have evolved into sophisticated tools that harness the power of NLP to revolutionize customer engagement and operational efficiency. The deployment of NLP chatbots signifies a departure from conventional conversational limitations, offering a more personalized and human-like interaction with users. These intelligent systems leverage deep learning concepts to decode the meaning from user input, providing instant and accurate support across various industries, including real estate, travel, education, healthcare, and finance. As businesses increasingly recognize the transformative impact of NLP chatbots, their adoption continues to redefine customer interactions and operational dynamics in the evolving landscape of 2024.

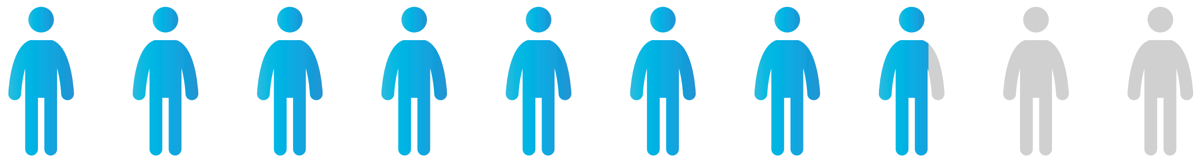


68 %

OF CUSTOMERS PREFER CONVERSATIONAL CHATBOTS WITH PERSONALIZED MARKETING, **WHICH NLP CHATBOTS COMBINE.**

Source: Adweek

Conversational AI Enhancing User Experiences



78 % OF SERVICE COMPANIES USE CONVERSATIONAL AI CHATBOTS FOR SIMPLE SELF-SERVICE TASKS.

Source: Statista

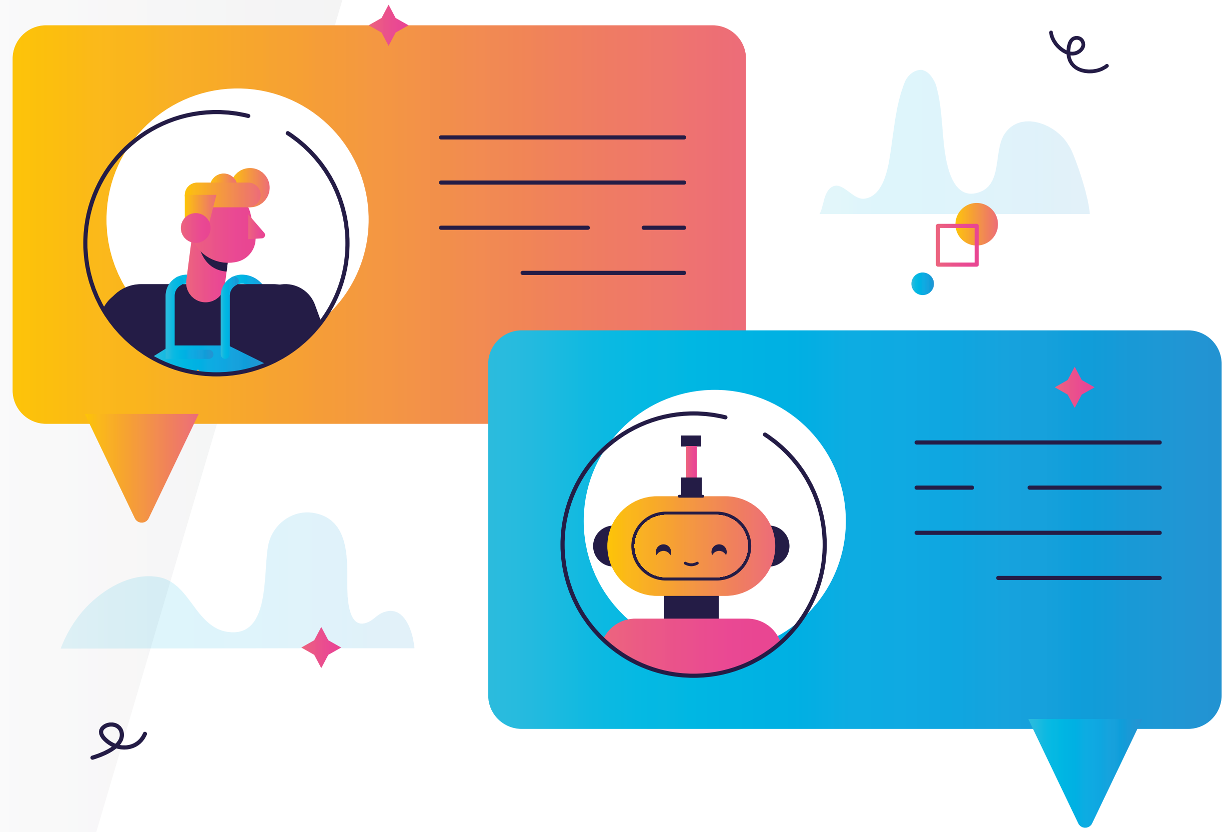
Conversational AI, powered by AI and NLP technologies, seeks to create intelligent, interactive systems that understand user input, generate relevant responses, and simulate natural communication. Techniques like speech recognition, text-to-speech technology, and intent recognition contribute to improved communication, efficiency, and user satisfaction. Conversational AI continues to evolve, with applications expanding across various industries, contributing to improved communication, efficiency, and user satisfaction.

Conversational AI is widely used in customer service applications, where chatbots and virtual assistants can handle customer queries, provide information, assist with problem-solving, and offer 24/7 support. Conversational AI enhances user engagement on websites, mobile apps, and other platforms by delivering natural and interactive communication.

Within organizations, conversational AI can be deployed to assist employees with information retrieval, task automation, and other routine activities, enhancing overall productivity. Automating processes and reducing the need for human intervention in repetitive interactions can lead to significant cost savings. Also, it can handle multiple user inquiries simultaneously and respond in real-time, improving efficiency and reducing wait times for users.

Conversational AI can also be programmed to understand user preferences and tailor responses accordingly. This personalization contributes to a more individualized and user-centric experience. Moreover, it breaks down language barriers by enabling communication in multiple languages. This is particularly beneficial for businesses with a global customer base.

Conversational AI can be used in sales and marketing to engage with potential customers, answer queries, and guide users through product information, ultimately contributing to lead generation and conversion. In healthcare, conversational AI can assist in appointment scheduling, medication reminders, answering general health-related queries, and providing patient support and information. In educational applications, it can provide personalized tutoring, answer student queries, and facilitate interactive learning experiences.



- Conversational AI chatbots in telecoms are improving customer experience
- How to develop a self-learning chatbot with IBM Watson – the best conversational engine
- IBM watsonx Assistant – an AI-powered engine for building conversational virtual agents
- Actionbot and ChatGPT – the smartest AI chatbot even more human-like

Deep Learning, Machine Learning, and their Business Implications

Machine learning and deep learning are intricately linked aspects within the broader field of Artificial Intelligence (AI). While machine learning serves as a comprehensive concept encompassing various techniques to facilitate machines in learning from data, deep learning is a specific approach embedded within machine learning. It concentrates on neural networks with multiple layers, enabling automated learning of hierarchical representations.

In the realm of machine learning, machines aren't explicitly programmed for a specific task. Instead, they are trained to utilize extensive datasets to recognize patterns, make predictions, or optimize specific objectives. Three primary types of machine learning methods shape this process:

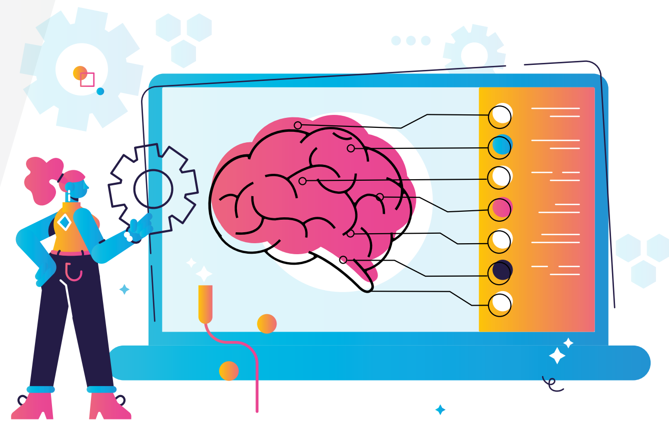
Neural Networks:
These models draw inspiration from the human brain, featuring interconnected layers of artificial neurons.

Deep Neural Networks (DNN):
Neural networks with multiple hidden layers, allowing for more complex data representation.

Convolutional Neural Networks (CNN):
Specifically designed for tasks like image recognition, leveraging convolutional layers.

Recurrent Neural Networks (RNN):
Tailored for sequence data, where each step's output depends on previous ones.

Moreover, in the business landscape, companies like 4Semantics, a part of the TUATARA Group, specialize in creating models for the classification, anonymization, and automation of document content. By combining Machine Learning and Natural Learning Technology, their platform detects, analyzes, categorizes, catalogs, and protects sensitive data. This integration showcases the practical applications of machine learning and deep learning technologies, underlining their significance in real-world business scenarios.



The deep learning software market size in the US is estimated to increase from

$80 million in 2017 to $930 million by 2025.

Source: Statista

The AI/ML becomes the hottest trend in 2023 and we expect that in 2024 it will be even more important. We observe the growing demand from the clients in this area. From the IT Operations perspective we see both gains and challenges. The biggest improvements I expect to see in next 12 months are in the area of Infrastructure Code generation, ServiceDesk automation and improved, predictive monitoring where ML should help us to predict the potential outages, and IT Security where we see the highest number of tools leveraging AI.

The most important change for 2024 I expect is the growing demand for the On-Premises/Edge Infrastructure capable for running ML/AI workloads and new challenges it will rise.

Marcin Wojtaszek
CTO
EUVIC IT

Unlocking Insights with Document Understanding

Document understanding, an integral facet of cognitive technology, involves harnessing the power of AI and machine learning techniques to delve into the content of diverse documents and extract meaningful insights. This encompassing process includes the extraction of relevant data, utilization of NLP techniques, Optical Character Recognition (OCR), categorization, and semantic understanding. It is a pivotal element in various industries, such as healthcare, finance, and legal sectors, where its applications extend to tasks like medical record analysis, financial document processing, and legal document understanding.

Key facets of document understanding encompass extracting pertinent information from unstructured text, identifying and capturing crucial data points, entities, and relationships within documents. Furthermore, structured information extraction from unstructured documents, including details like dates, numbers, and addresses, enables further analysis and automation.

The application of NLP techniques adds a layer of sophistication, enabling the understanding of semantics and context within documents. This involves tasks such as sentiment analysis, language translation, and named entity recognition, which identifies names, organizations, locations, and more.

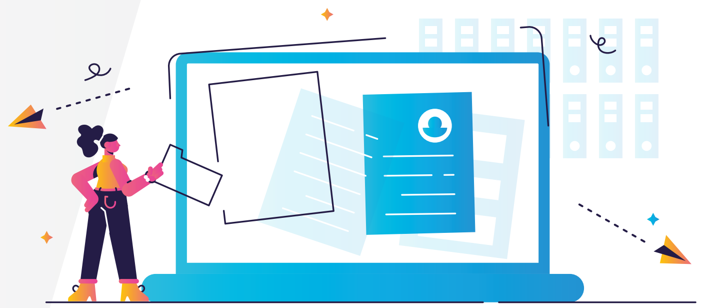
Optical Character Recognition (OCR) plays a critical role in converting images of text into machine-readable formats. This capability is particularly essential for extracting information from scanned invoices, receipts, or handwritten notes.

Categorizing documents into different classes facilitates effective sorting and organization of large volumes of documents, spanning emails, articles, or legal documents. Semantic understanding involves interpreting the meaning of content, including understanding the document's intent, summarizing its content, or identifying key topics.

Analyzing documents to identify similarities and group-related documents is crucial for effective document management. Clustering similar documents aids in organizing and retrieving information efficiently. Document understanding also involves automation and workflows, where systems can automatically process invoices, contracts, or legal documents, extracting relevant information and triggering subsequent actions.

Data validation and quality assurance are integral components, ensuring the reliability of information extracted from documents. Document understanding's diverse applications span various industries, playing a vital role in healthcare by extracting patient information from medical records and assisting in processing and analyzing financial documents in the finance sector. As this technology continues to evolve, its impact on enhancing operational efficiency and unlocking valuable insights is set to grow across industries in the evolving landscape of 2024.

4Semantics excels in streamlining case and issue reporting and resolution processes through automation. The utilization of diverse digital channels, including emails, websites, and chat services, represents a contemporary standard in client communication. Incorporating email automation into your operations can significantly enhance the speed and overall experience of client service, simplifying their interactions and contributing to an improved overall client experience.



Global document understanding market was valued at **$0.69 billion in 2021** and is expected to reach **$5.6 billion by 2028** with a **CAGR of 34.5%** over the forecast period.

Source: Yahoo! Finance

Automation of repetitive tasks

Such as claim reporting, editing or termination of insurance contracts, opening a new bank account, loan application, order processing or returns and complaints management. There is a lot of space for automation regardless of your area of operation – we cover banking and financial sectors, insurance, purchases and procurement and much more.

Logging a new issue

Relevant data extraction and automatic resolution start

Completion verification

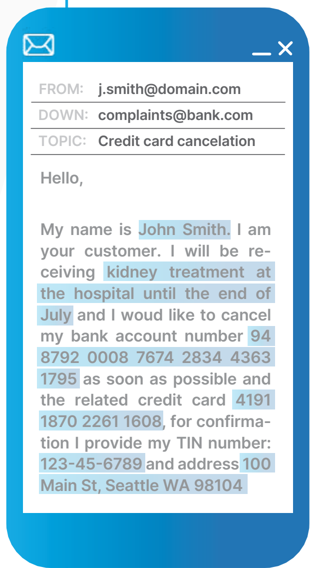
Checking if all documents required were provided

Attachments monitoring

Quality control of the documents attached to the main correspondence

Redirecting the issue

Automatically redirects your clients to the right person and to the documents they need



SensID Cognitive Automation

Attribute	Value
Name	John
Last name	Smith
TIN	123-45-6789
Address/city	100 Main St
Address/postal code	Seattle WA 98104
IBAN	94 8792 0008 7674 2834 4363 1795
Card no.	4191 1870 2261 1608
Email	j.smith@domain.com
Health data	kidney treatment at the hospital until the end of July

Automation and Cognitive Technologies

Automation with ERP systems and recruitment

In 2024, the trend of automation in ERP (Enterprise Resource Planning) systems like Codlake's dataERP is reshaping how businesses operate. These systems now integrate advanced AI and machine learning, providing not just operational support but deep insights for informed decision-making. The automation extends to complex processes such as supply chain management and customer relations, enhancing efficiency and accuracy.

Real-time data processing in these ERP systems empowers businesses with immediate information, leading to dynamic and responsive decision-making. Moreover, the customization and flexibility offered by modern ERPs cater to unique business needs, allowing companies to tailor the systems to their specific processes.

The shift towards cloud-based solutions continues to dominate, offering scalability and reduced IT overhead, while mobile accessibility ensures that management and staff can access crucial information and perform tasks on the go. This holistic approach in ERP systems, where automation blends with advanced analytics and flexibility, is setting a new standard in how businesses optimize their operations in 2024.

Moreover, data automation is a significant trend in IT, impacting such aspects as recruitment. This trend involves leveraging advanced technologies, including AI and machine learning, to automate and optimize various aspects of data handling and processing.

In recruitment, data automation facilitates a more efficient and accurate matching of candidates to job requirements. It streamlines tasks such as job postings and candidate screening, enabling a faster and more effective hiring process. AI algorithms play a crucial role in analyzing vast amounts of data to identify suitable candidates, thus reducing time and improving match quality.

Additionally, data automation aids in analyzing hiring trends and employee performance, offering valuable insights for strategic decision-making in human resources. This approach not only enhances operational efficiency but also improves the candidate experience, a crucial factor in an increasingly competitive job market. With the growing accessibility and user-friendliness of data automation tools, coupled with cloud-based integration, this trend is setting new standards in recruitment. It enables businesses to attract and retain the right talent efficiently, positioning them competitively in their respective industries.

Cognitive Process Automation Revolutionizing Business Operations

Cognitive Process Automation (CPA) stands at the forefront of transformative trends in 2024, converging cognitive computing and process automation to redefine business operations. This dynamic fusion leverages advanced AI technologies such as machine learning and Natural Language Processing (NLP) to instill intelligence and adaptability into automated processes, enabling them to handle intricate tasks and evolve in response to dynamic circumstances.

At its core, CPA encompasses creating intelligent systems capable of tasks requiring human intelligence, including natural language understanding, pattern recognition, experiential learning, and adept problem-solving. The synergy of cognitive computing and process automation unfolds through the integration of AI technologies, with machine learning enabling adaptive learning, NLP facilitating human-language interaction, and other cognitive capabilities contributing to more intelligent and adaptive automation.

One distinctive feature of CPA lies in intelligent decision-making, as these systems analyze data, learn from experiences, and adapt their behavior over time. Context-aware automation further enhances CPA's capabilities, enabling nuanced and adaptive task execution by understanding the specific context in which a task is performed.

The versatility of CPA finds application across diverse industries, including finance, healthcare, customer service, and beyond. It proves invaluable in streamlining and optimizing a myriad of business processes, from data entry and document processing to customer support and decision-making.

A prime example of cutting-edge CPA application is the Cognitive Hand, an innovative solution developed by 4Semantics. This application utilizes NLP mechanisms to comprehend documents and observe user interactions with business applications. The Cognitive Hand exemplifies how CPA can revolutionize process automation by intelligently understanding and adapting to diverse tasks, exemplifying the continuous learning and improvement intrinsic to this transformative trend. As organizations embrace CPA in 2024, the landscape of business operations is set to undergo a profound and intelligent revolution, marked by efficiency, adaptability, and unparalleled innovation.

Article: Cognitive Technology

https://tuatara.pl/blog/cognitive-technology/?utm_source=euvic&utm_medium=referral&utm_campaign=ttr_euvic_raport

The biometrics segment, thanks to the implementation of cognitive process automation, would generate approximately

1/5th share of the market by 2030.

The Good People

Source: Yahoo! Finance

Low-code/No-code Development

In Poland, a growing number of companies are embracing low-code/no-code tools, revolutionizing the automation of critical processes within organizations. According to the recent Gartner report, these applications are projected to capture 70% of the market share by 2025, showcasing a substantial increase compared to the previous year's results of 25% by 2020.

X-Code, the creator of the RPA tool BuzzAutomation, observes a rising interest in domestic solutions capable of competing effectively with global leaders (www.buzzautomation.pl).

As businesses in Poland face challenges in aligning with recent legal reforms in the energy sector, X-Code Ltd., operating since 2010, has introduced optimization solutions tailored to streamline processes in this dynamic market.

Expanding on the global trends, the demand for low-code/no-code software is anticipated to surge in the coming years. Gartner predicts that by 2024, enterprises will have implemented at least three of the 20 forms of process-agnostic hyper-automation applications, with low-code/no-code accounting for over 65% of application development operations.

The widespread adoption of low-code/no-code development platforms globally, as highlighted by Gartner, reflects their significant impact on revenue generation. The global low-code development technologies market is expected to reach $13.8 billion in 2023, showcasing a 22.6% increase from 2021. Notably, low-code technologies are predicted to remain the largest segment, reaching $5.8 billion, with a 65% growth from 2021.

Driven by the need for personalized tech applications and digitalization, the rise of low-code adoption has given birth to citizen developers outside of IT. In Poland, the surge in demand for customized applications aligns with the global trend, with 41% of non-IT workers engaging in creating or customizing data and application solutions, according to Gartner.

The digital business acceleration further propels the urgency for application delivery, leading to a significant focus on low-code development. Forrester estimates that the overall investment in low-code production will reach $21.2 billion by 2023, with an impressive annual growth rate (CAGR) of 40%.

As the world of IT undergoes major restructuring, CIOs aim to transform their organizations into disruptors, embracing technologies that offer a competitive advantage. Low-code development emerges as a crucial element in this journey, enabling rapid application development and deployment. The ability to release applications in weeks instead of months aligns with the agile model, fostering innovation and meeting the demands of a digitally prepared and scalable business landscape.

The adoption of low-code programming technologies from major software-as-a-service (SaaS) providers further strengthens the low-code industry's trajectory. The rise of SaaS and the rapid embrace of these platforms contribute to the substantial growth of low-code/no-code development.

Looking ahead, the necessity for business-driven hyper-automation and the economic implications of the COVID-19 pandemic reinforce the value proposition of low-code capabilities.

AI Applications in Specific Areas

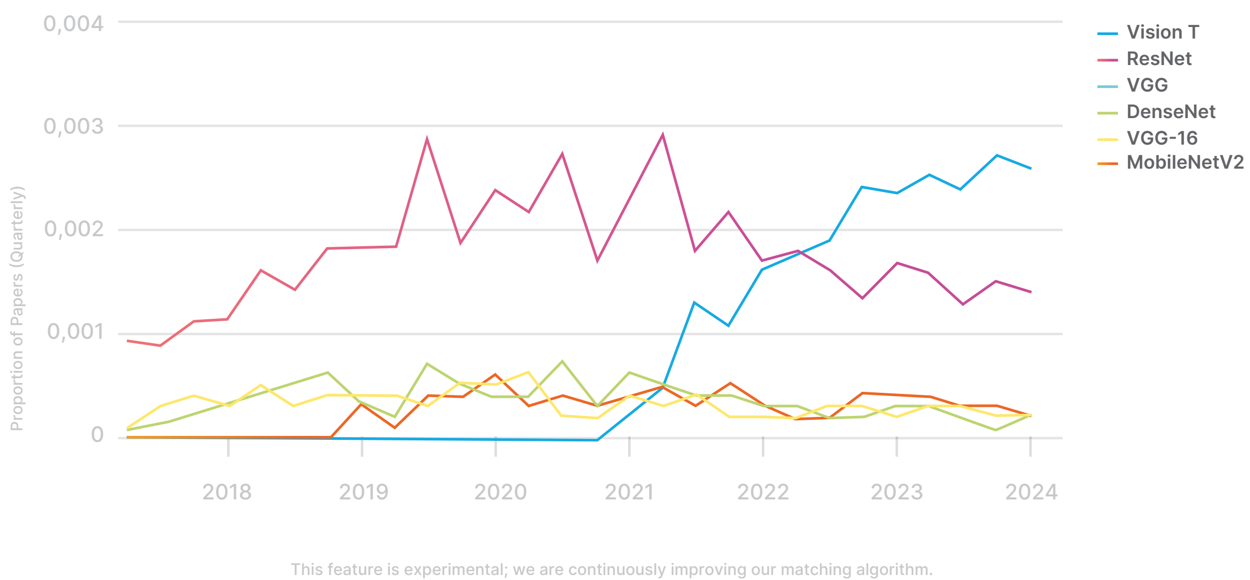
Development of Computer Vision

The development of technology has allowed for the creation of new architectures enabling more accurate results in a shorter time, as well as the development of advanced open-source models suitable for various conditions. The abundance of new solutions is a response to the growing market demand in the field of computer vision. New projects can interchangeably use innovations in the pursuit of those that fulfill their tasks in the most precise way. The available solutions allow for customization to meet specific needs due to their high flexibility.

It is particularly noteworthy to emphasize the existence of solutions such as:

ViT (Vision Transformer) – Transformer-type neural networks were introduced in 2017 for natural language processing (NLP). Their architecture showed a predisposition for use in computer vision, which began in 2020. The popularity of ViT continues to grow due to its spectacular results compared to other solutions.

Usage Over Time



Source: https://paperswithcode.com/method/vision-transformer

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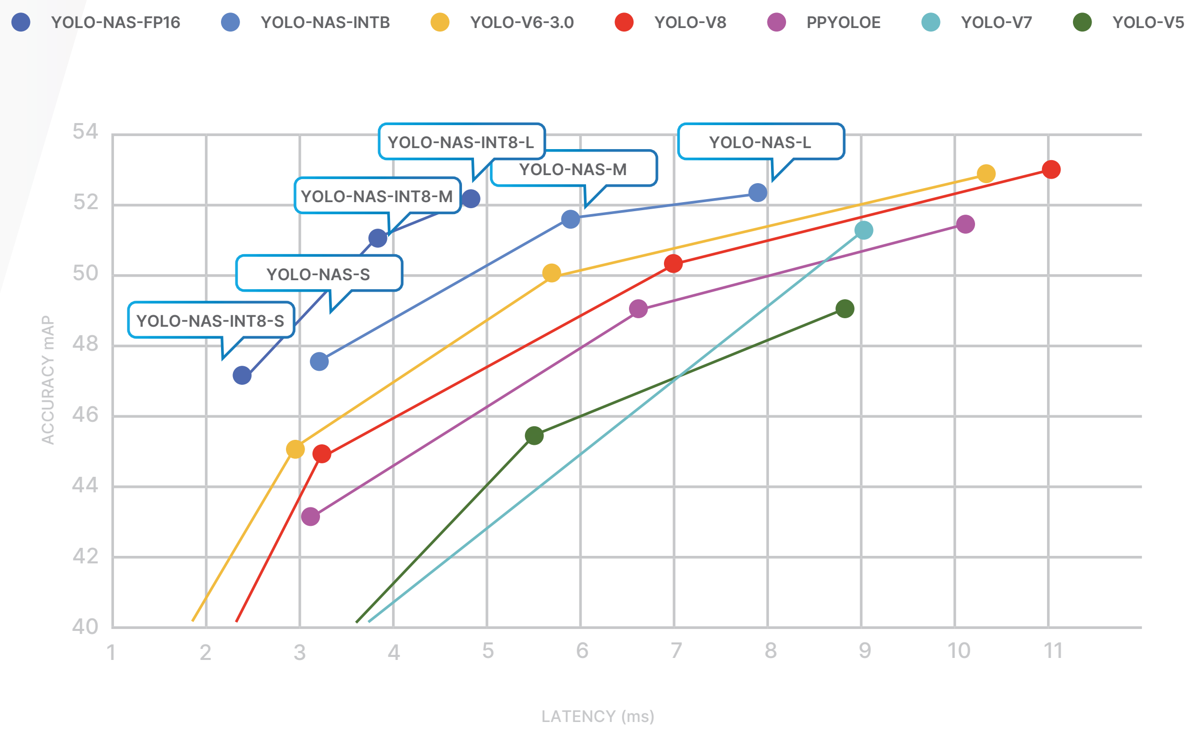
YOLO-NAS (You Only Look Once - Neural Architecture Search) – YOLO belongs to the group of convolutional neural networks (CNN) and was introduced in 2016. Due to its high accuracy delivered in a short time, it became extremely popular, serving as inspiration for other creators and resulting in the development of subsequent iterations. In May 2023, the YOLO-NAS model was released, significantly increasing the speed of inference along with improved results.

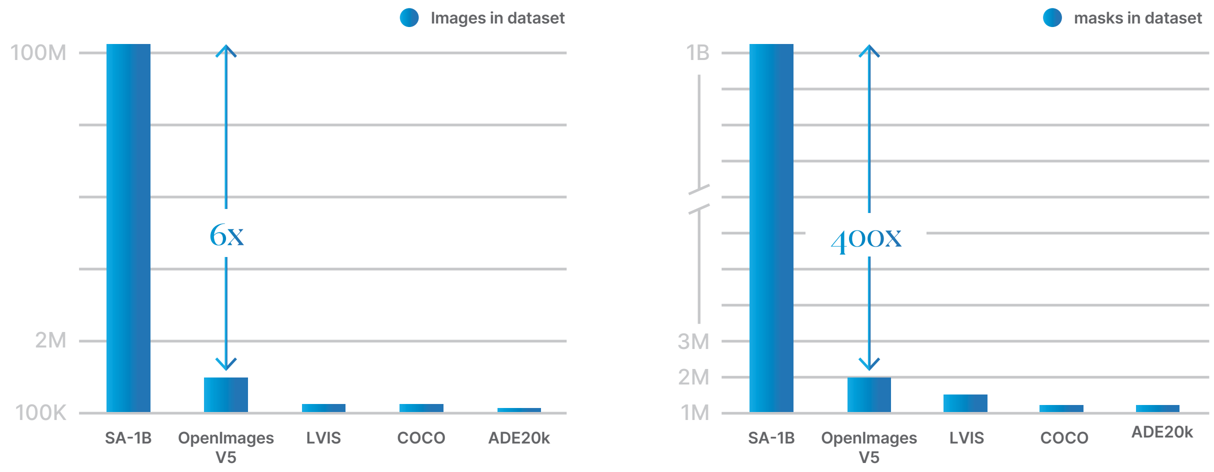
Efficient Frontier of Object Detection on COCO, Measured on NVIDIA T4



Source: https://docs.deci.ai/super-gradients/latest/documentation/source/YoloNASQuickstart.html

The Good People

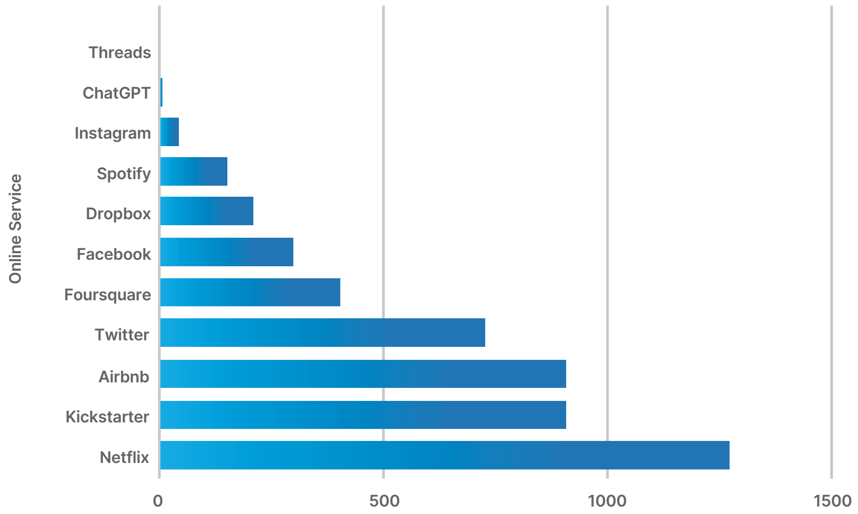
SAM (Segment Anything Model) – a model designed by Meta and released as open source in early April 2023. Along with the ready-to-use model, a dataset used for its training was provided. SA-1B consists of 11 million images containing 1.1 billion annotations, making it the largest publicly available dataset, surpassing Google's Open Images V5 and V7 by a significant margin.



Source: https://ai.meta.com/blog/segment-anything-foundation-model-image-segmentation/

GPT (Generative Pre-trained Transformer) – released by OpenAI in November 2022, ChatGPT rapidly gained immense popularity due to its versatility. The following year brought further development and the ability to customize model variants to individual needs, allowing for their implementation in various projects.

Time taken to reach 1 million users



Source: https://explodingtopics.com/blog/chatgpt-users

EUVIC_

Copilot Implementation

The latest version of the Microsoft 365 suite with Copilot will seamlessly synchronize with a user's calendar, emails, chats, documents, meetings, and contacts. This allows users to ask Copilot for responses or generate summaries or presentations based on this data. Thanks to rapidly evolving artificial intelligence, every Microsoft 365 user will have the opportunity to benefit from the services of a true assistant. The role of this assistant will not be to provide weather forecasts, give directions, or control multimedia but to perform actual business tasks that add real value to daily responsibilities.

With Copilot, users will be able to communicate with the Microsoft 365 service using everyday language, significantly speeding up and simplifying work. This tool will enable the optimization of business processes, streamline document work, and conduct analyses, ultimately resulting in tangible achievements and increased competitiveness for the enterprise. However, to fully implement Copilot, it will be necessary to organize data and access architectures in the organization to ensure that sensitive data remains protected and is not accessed by unauthorized individuals. Therefore, the inevitable consequence of Copilot implementation will involve actions to organize data and implement compliance and governance into the information lifecycle.

The Good People

Security and Protection in the Context of AI

The Escalating Battle Against Cyber Threats in 2024

Security becomes a crucial element in 2024, especially in the context of remote access and endpoint protection, such as mobile devices and computers, as well as the exposure of systems on the Internet. The projected cost of cyber attacks is set to exceed an astronomical $10.5 trillion and organizations find themselves grappling with an unprecedented imperative to fortify their digital defenses. The staggering impact of ransomware attacks, affecting a significant 72% of businesses globally, serves as a stark reminder of the relentless and increasingly sophisticated nature of cyber threats. As phishing attacks experienced a sharp 47.2% surge in 2023, organizations face the daunting challenge of countering not only the frequency but also the evolving tactics of malicious actors engaging in social engineering. The data breach landscape, exposing over six million records in just the first quarter of 2023, accentuates the vulnerability of systems on the Internet. This vulnerability has prompted a paradigm shift in security strategies, with organizations increasingly turning to cutting-edge technologies to combat these threats. Embracing the transformative power of Artificial Intelligence (AI) and Machine Learning (ML), over 56% of organizations have incorporated these technologies into their cybersecurity frameworks. The integration of AI and ML enhances the efficiency of threat detection and mitigation, empowering AI systems to perform continuous monitoring of network traffic, endpoints, and user behavior. This real-time monitoring not only reduces the window of vulnerability but also alleviates the burden on cybersecurity teams, who would otherwise be overwhelmed by the sheer volume of data. Despite a surge in cybersecurity budgets in 2024, the sobering reality remains that only 20% of businesses successfully avoided cyber attacks in the preceding year. This underscores the persistent and omnipresent dangers posed by cyber threats. Governments worldwide are responding to this escalating threat by imposing stringent data protection and cybersecurity regulations. The resultant increase in resources allocated by organizations aims to ensure compliance and mitigate legal risks, reflecting a global acknowledgment of the critical role cybersecurity plays in safeguarding economic and national interests. In this era of heightened cyber threats, innovative security solutions are taking center stage. Secure Access Service Edge (SASE) emerges as a strategic enabler, seamlessly integrating network edge security functions with remote access control technology. Simultaneously, Security Operations Centers (SOCs) become increasingly indispensable, offering continuous monitoring and swift response capabilities to counteract evolving threats. eXtended Detection and Response (XDR) tools are gaining traction, presenting organizations with a holistic strategy for detecting, responding to, and neutralizing cyber attacks.

AI Security

The expansion of this trend can be described in the context of two main aspects: the growing role of AI in data protection and the democratization of the security domain, which is constantly grappling with a shortage of specialists in the market. Companies are increasingly relying on AI to detect and prevent threats related to cybersecurity. AI can analyze large amounts of data in real-time, identify abnormal activities and suspicious patterns, aiding in swift responses to potential threats. Furthermore, artificial intelligence can assist in automatically adjusting security strategies to changing conditions and types of attacks.

Another crucial aspect is the growing shortage of cybersecurity specialists. As businesses and organizations increasingly depend on AI technologies to protect their data, there is a rising demand for experts in AI security. However, the job market finds it challenging to keep pace, leading to a growing shortage of qualified professionals in this field.

In response to this trend, more and more companies and organizations will begin to utilize artificial intelligence to support and complement their workforce. AI can help automate routine security tasks such as system monitoring, log analysis, or incident response, allowing existing experts to focus on more advanced tasks, such as developing strategies, responding to advanced attacks, and creating new security procedures.

Business and Technology

Data Analysis and Data Science: Catalysts for Business Excellence

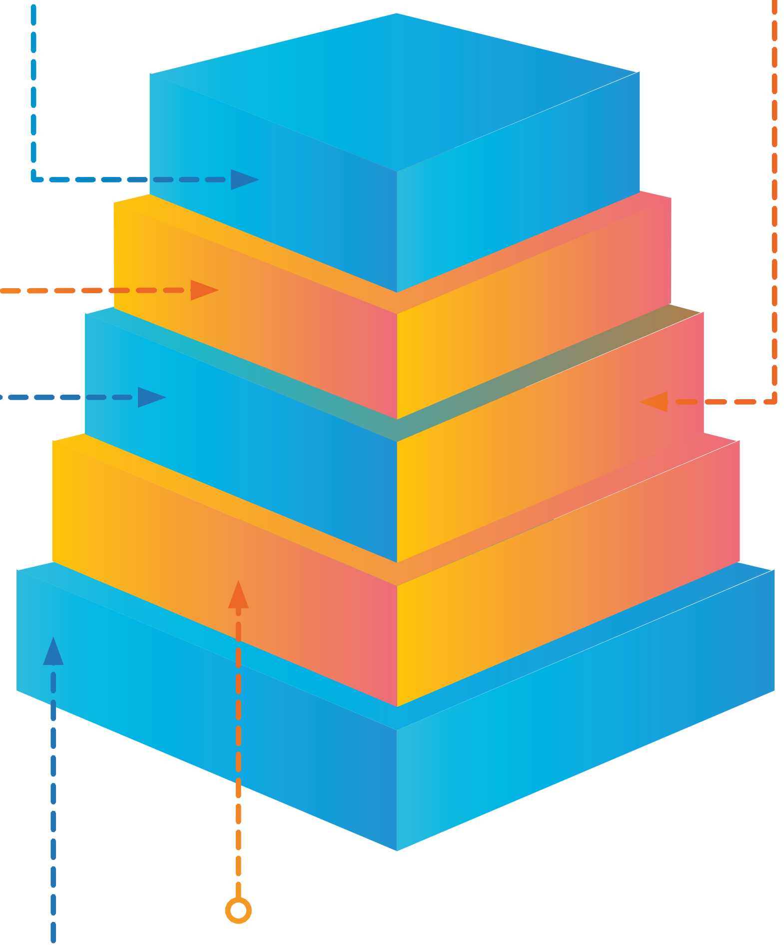
In the dynamic landscape of 2024, the pivotal roles played by data analysis and data science cannot be overstated. These disciplines stand as formidable forces, adept at unraveling the intricacies of vast datasets and transforming them into actionable insights. In the digital era's sea of information, businesses rely on data analytics and visualization to distill complex structures into compelling narratives.

Through meticulous analysis and visualization techniques, businesses gain clarity on market positioning, customer behavior, and strategic opportunities. The integration of AI and machine learning elevates the potential, enabling predictive analytics to anticipate future trends based on historical patterns.

At the core of modern AI applications, data science models navigate data complexity, identifying patterns and driving tangible results from predictive maintenance to demand forecasting. Real-time data analytics and decision rules design become pivotal in a fast-paced digital landscape, providing businesses with the agility to respond swiftly to market changes.

In essence, data analysis and data science transcend being mere tools; they are strategic assets propelling businesses toward success in the digital age. As we navigate this era of unprecedented data generation, the ability to harness these disciplines becomes a defining factor in achieving business excellence

TUATARA: driving innovations via AI



Strategy for Growth
- business strategies for AI
- innovation Lab
- data monetisation strategy

Risk & Operations
- fraud and anomaly detection
- maintenance automation
- demand forecasting

Customer
- behavioral segmentation
- real-time hyper-targeted marketing communication
- customer retention and chum analysis
- recommendation systems
- AI infusion into Marketing Automation
- benchmark and AI-driven customer CX & UX design ans assessment

Product
- data-driven offer development
- promotional effectivness evaluation and recommendations
- propensity to buy/upsell and cross-sell
- sales automation
- service automation

Technology
- AI Data Lab - centralized analytics & reasoning based on AI
- generative AI based on specific business case
- AI readiness assessment
- AI architecture and management
- Big Data platform strategy

Domains
- NLP use cases
- cagnitive document analysis and categorization
- sentiment analysis and support quality analysis
- multimodel and LLMs - content generation
- chatbots and conversation engines
- advisory engines
- data analytics

Sustainable Development

Unstructured content analytics involves applying data analysis and AI techniques to derive insights from unstructured data sources, including text documents, emails, social media, images, audio, and video. This aids in understanding sentiment, extracting information, and integrating with structured data. The application of unstructured content analytics in healthcare and finance highlights its versatility. However, it is crucial to comply with data privacy regulations, ensuring responsible handling of sensitive information.

In conclusion, as AI continues to evolve, the integration of cognitive technologies, NLP, conversational AI, deep learning, cognitive process automation, document understanding, and unstructured content analytics presents a paradigm shift in how businesses operate and leverage the power of artificial intelligence. This transformative journey requires a deep understanding of business intricacies, multi-disciplinary capabilities, and a commitment to responsible and ethical AI deployment. The evolving landscape of AI is not only revolutionizing business processes but also reshaping the future of work and human-machine interactions.

In **2020**, the world produced more than **64 zettabytes** of data.

By **2025**, data-sphere experts have forecast that worldwide data will exceed **175 zettabytes.**

Source: Automation Hero

Increasing dynamics of m-commerce

In 2024, we anticipate dynamic growth in mobile app development and m-commerce, particularly with the support of Product Discovery. The trajectory of m-commerce has been evident in recent years, attracting users with its accessibility at their fingertips. With 6.65 billion smartphone users in 2022 projected to increase to 7.5 billion by 2026, the appeal of mobile apps spans various age groups, demonstrating a universal preference for app usage. Understanding users' needs will be a pivotal trend in 2024, especially in m-commerce, where 62% of mobile device owners and 70% of all online shoppers make purchases, highlighting the growing significance of the mobile channel.

However, the subject is far from exhaustive. Enterprises are increasingly showing interest in AI solutions, albeit cautiously. As the market witnesses a surge in AI solutions, their integration into m-commerce seems inevitable. The upcoming year will likely witness the rise of AI-assisted upselling and cross-selling, leveraging AI and machine learning to analyze customer behavior and provide personalized recommendations. Voice shopping, though not globally popular yet, is anticipated to grow in significance, influenced by Gen Z's interactions with voice assistants like Amazon Alexa, Google, and Apple Siri.

The introduction of 5G opens new avenues for communication between brands and consumers, paving the way for increased use of video content, AR, and VR strategies. These technologies will enhance the shopping experience by offering realistic product visualization, try-on, and testing features, fostering the growth of m-commerce.

In conclusion, the evolving e-commerce and mobile app landscape presents both challenges and opportunities. Adapting to changing consumer behavior, investing in mobile apps, and embracing trends like AI and 5G are strategic imperatives for long-term success in the dynamic realm of e-commerce and m-commerce.

Digital retailing and hybrid shopping experiences in the dealership industry

Digital retailing, i.e., the process of buying a car online, is becoming more and more popular among customers. Thanks to this, customers have greater control over the purchasing process and can make purchases more conveniently. Therefore, dealer networks should focus on a transparent online car offer in the form of a dedicated website. It is also worth investing in appropriate software, such as Dealer Booster, which helps automate the creation of offers and export them to other websites or marketplaces.

A hybrid of experiences, i.e., two-track care for customer centricity in the dealer network. Customers like to browse car offers online, and after doing their research, they can go to the showroom, talk to the salesperson, test the car, and make a purchase in-store. Taking care of the customer begins at the stage of a well-written salon's offer on its website and generally good online visibility. It is also essential to provide the customer with various options for contacting the showroom staff - telephone, e-mail, chat, and the possibility of arranging a test drive via the form. Appropriate stock management software has these capabilities.

Case study: Toyota Sure Auto and the implementation of our Dealer Booster product

https://dealerbooster.pro/case-study/

Technology in the service of education, i.e. modern educational solutions based on dedicated software

Observing current educational trends, we see that technology plays a vital role in transforming learning processes. Modern educational solutions based on dedicated software, integrated with elements such as mini-games, quizzes and available interactivity, attract the attention of young generations of recipients.

The observed availability of these online solutions creates unique opportunities for students, allowing them to enter and improve their practice at any time. Also, the mobility of the exercise versions, available web and in mobile format, gives students flexibility in choosing a platform for completing homework.

The introduction of interactive forms of exercises may translate into increased student involvement. This observed phenomenon introduces a new quality in the teaching process, showing that innovation in education is becoming a key factor in adapting to the needs of modern students.

Case study: Edu Bears

https://www.sirocco.eu/case-studies/edubears

Cutting-edge educational solutions powered by dedicated software stand as the driving force behind the transformation of teaching processes. Revolutionary solutions tailored for this sector not only enhance the accessibility of learning for students but also empower schools to streamline their operations and effortlessly tackle daily challenges.

An excellent example of such an innovative solution is the RESQL system - technology against peer violence. Students can seamlessly report incidents of violence through a user-friendly mobile app, while educators benefit from professional training and cutting-edge teaching materials. Currently, this transformative system is used by over 250 schools across Poland. RESQL system is a perfect example of how technology in education can translate into tangible benefits by creating a safe and supportive environment for students.

Jakub Ciupiński

Head of Solutions
SPEEDNET

Paperless solution, i.e. automation and digitization of processes in the CIT industry that favor the environment

So far, each cash transaction was a procedure requiring the preparation of paper documentation and the completion of many formalities when handing over envelopes/bags with cash to the escort.

A paperless solution tailored for the CIT industry involves expediting authorization processes and eliminating identification through ID cards and notifications in the cash transfer system. This entails eradicating paper documentation from customer-conveyor relationships, hastening the acquisition of information related to customers' declarations of cash payments, and enhancing supervision over cash packages.

This paperless solution involves leveraging digital devices to streamline company processes, eliminating paper usage and reducing excess documentation (favoring ecology). This not only contributes to environmental sustainability but also optimizes work time through digitization and enhanced management models (real-time management). In essence, the adoption of paperless solutions leads to simplified and accelerated processes.

Case study: CashNow

https://www.sirocco.eu/case-studies/cashnow

XaaS Revolution

The "as-a-service" (XaaS) model has revolutionized B2B operations, allowing businesses to subscribe to services without the need for upfront payments. Initially introduced with Software-as-a-Service (SaaS), this model has expanded beyond computing, touching every industry, including emerging trends like computer as a service and printing as a service. The cloud has played a pivotal role in accelerating the widespread adoption of various "as-a-service" models.

Recent adaptations include Infrastructure-as-a-Service (IaaS) and Platform-as-a-Service (PaaS), leveraging the cloud-based model to offer businesses enhanced flexibility to scale based on demand. The XaaS model encompasses products, services, and experiences, providing remote and on-demand access to diverse business offerings.

Predictions indicate that the global XaaS market will exceed $340 billion by 2024, with the pandemic accelerating this trend as organizations adapt their business models to the new normal. Adopters of XaaS believe they gain a competitive edge, citing benefits such as optimized running costs, resource availability, faster implementation, and access to up-to-date technology.

The rise of the "on-demand" economy has shifted consumer expectations, and XaaS utilizes "servitization" to transform from selling products to delivering services. This approach deepens customer relations through engagement, highlighting collaboration as crucial for the success of an XaaS offering.

Beyond mere implementation, creating real customer value requires investment in the XaaS model. Leveraging the cloud for customer engagement, real-time insights, and continuous improvement is essential for staying competitive. Direct customer engagement helps companies understand how, why, and when their products or services are used, facilitating a seamless user experience.

Monitoring customer use through metrics such as adoption and functionality usage allows businesses to proactively address issues and evolve services in an agile manner. Ongoing collaboration between customers and XaaS providers is vital for long-term investment, as the subscription model encourages frequent reevaluation of the service's value.

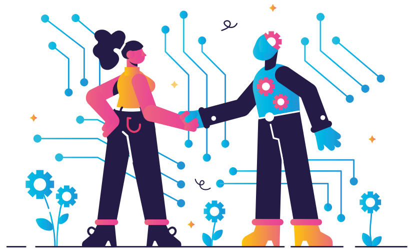
The XaaS model ushers in a new era where businesses "pay by outcome," holding them accountable for consistently bolstering product value. As an essential building block for business growth, XaaS represents a paradigm shift, meeting the evolving demands of customers in a hybrid working world. In this era, true value in consumption is sought, and the XaaS model is no exception, becoming an expectation for consumers in pursuit of convenience and ease.

Impact of AI on the Labor Market and Society

Widespread Accessibility and Market Projections

The accessibility of AI-based tools is expanding beyond large tech companies or educational institutions, with free generative AI tools showcasing potential productivity enhancements for individuals. This democratization of AI tools is fostering innovation across various sectors. As accessibility increases, expectations are high for broader applications in user support, infrastructure management, and collaboration tools such as Microsoft365 and Google Workspace.

The global AI market is poised to reach approximately US$738.80 billion by 2030, contributing significantly to the global GDP. Business leaders are expressing a notable intent to increase AI spending in 2024, with over 90% of leading service providers leveraging AI across industries such as healthcare, finance, industry, agriculture, and education. Startups and smaller enterprises are increasingly investing in AI-based applications, integrating them into everyday tools and platforms.



Augumented Workforce Impacts and Legislative Considerations

This trend refers to the growing integration of technologies such as robotics and artificial intelligence (AI) in the work environment to support and enhance employee productivity in daily tasks. By implementing Robotic Process Automation (RPA) and other automation technologies, businesses can reduce errors, speed up processes, and improve the accuracy and consistency of operations. This enables employees to efficiently perform tasks and make more informed decisions.

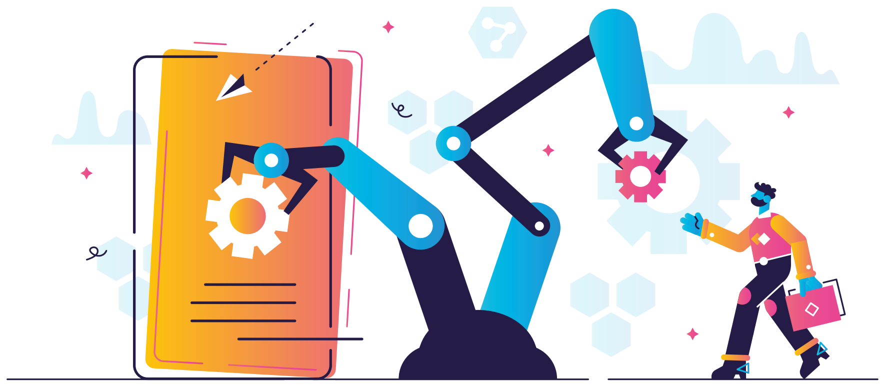
Artificial intelligence, including machine learning techniques, aids in analyzing vast amounts of data, identifying patterns, and providing valuable insights. Employees can use these tools to better understand markets, customers, competition, and make better business decisions. In customer service, chatbots and virtual assistants supported by AI help handle customer queries and solve problems in real-time, leading to faster and more efficient customer service.

Skepticism persists regarding the potential impact of generative AI on jobs globally. Reports suggest a growing focus on upskilling rather than layoffs, with approximately 40% of workforces expected to undergo reskilling due to AI and automation implementation. This shift in focus aligns with a more positive narrative, emphasizing the potential for AI to augment human capabilities and create new opportunities.

In the legislative realm, responsible AI handling is crucial, with global AI regulation initiatives taking shape. China leads in AI regulation, while the U.S. and the UK are addressing the ethical aspects of AI deployment. Instances of AI misuse, such as deepfake videos and call-monitoring technology, underscore the importance of ethical considerations in AI development and deployment.

Case study:

https://www.euvic.com/us/success-stories/new-intranet-for-1000-employees/



New VIVA tools supporting leaders in recognizing and appreciating employees in the Digital Workplace.

New VIVA tools supporting leaders in recognizing and appreciating employees in the Digital Workplace.

The VIVA platform, designed with a focus on a high level of Employer Experience, has features useful for modern leaders. For example, it can send signals about what is happening in the team - indicating that some people are working after hours or reminding that a leader has not had direct contact with someone from the team for a long time. Thanks to the platform's features, it is also easier to manage time, maintaining a balance between work and personal life.

The functionality of VIVA Pulse helps check the overall state of Employer Experience in the organization, divided into different areas such as work comfort, workload level, or team contacts with the manager. VIVA Glint is a module that allows us to construct processes to improve employee experiences and regularly address issues observed in the group. Thanks to these helpful tools, we can be sure that our work will be continuously improved, and the overall satisfaction of employees will be maintained at a high level.

Applications in IT Infrastructure

Hybrid cloud and multicloud environments

Hybrid cloud and multicloud environments are key trends in 2024, moving towards the efficient utilization of cloud resources from different providers instead of being tied to a single provider. Projections indicate an unprecedented $1 trillion investment in cloud computing infrastructure by organizations, marking a historic zenith in cloud adoption. This significant surge is underscored by a remarkable 47% surge in hybrid cloud deployments, signifying organizations' strategic pursuit to optimize workloads and resources (Nutanix).

The prominence of the hybrid cloud model, an intricate fusion of public and private clouds, resonates deeply in this epoch of transformation. The trajectory of cloud spending not only underscores its indispensability for fostering growth, propelling digital metamorphosis, and fortifying market positions but also reveals a resounding affirmation, with 90% of companies deeming the cloud as indispensable for their strategic imperatives. Deloitte's survey illuminates the pivotal role the cloud plays, seamlessly integrating with other transformative technologies such as AI, IoT, and analytics.

Simultaneously, the multicloud strategy gains substantial traction, with a noteworthy 84% of mid-to-large companies embracing this approach in 2023. This strategic adoption empowers organizations to judiciously distribute workloads across diverse cloud platforms, delivering a trifecta of benefits—enhanced performance, scalability, and reliability. The discernible hesitancy to hinge solely on a single cloud provider aligns with the evolving intricacies of the cloud landscape, affording businesses heightened control over their data and resources (Nutanix).

Beyond immediate operational considerations, the hybrid and multicloud paradigms furnish businesses with the agility to dynamically adapt to evolving needs. The strategic distribution of workloads across diverse cloud vendors optimizes operational efficiency while mitigating risks linked to single-provider dependencies. This strategic shift in cloud utilization transcends mere responses to current operational demands; it signifies a forward-looking approach that anticipates the intricate demands of the market, seeking adaptable solutions to navigate its complexities.

Cloud Spending (2024)

Worldwide spending on cloud computing infrastructure is forecasted to exceed $1 trillion for the first time.

Hybrid Cloud Adoption 2024

Hybrid cloud deployments are expected to increase by 47%, indicating a growing trend in optimizing workloads and resources.

Cloud Service Importance 2024

90% of companies surveyed by Deloitte consider the cloud essential for growth, digital transformation, and maintaining a strong market position.

Multicloud Strategy 2023

84% of mid-to-large companies have already adopted a multi-cloud strategy in 2023.

Strategic Imperatives: Key Considerations in 2024

In the intricate interplay between technology and business, the regulatory landscape stands as a guiding force, shaping strategies and operations alike. As we step into 2024, a crucial facet demanding heightened attention from enterprises is the dynamic realm of regulations. Particularly, the domains of cybersecurity, artificial intelligence (AI) exploitation, data governance, and digital operational resilience harbor pivotal regulatory frameworks. These frameworks are poised to influence the technology market profoundly, necessitating acute consideration from businesses aiming to leverage technological advancements while upholding compliance and ethical standards.

ESG Evolution in 2024: Shaping Sustainable Business Practices

In 2024, Environmental, Social, and Governance (ESG) considerations continue to stand at the forefront of corporate priorities, marking a paradigm shift in how organizations approach sustainable business practices. The landscape of ESG governance frameworks has witnessed significant evolution, with companies recognizing the imperative to align their unique organizational structures, global reach, and environmental impact with tailored ESG strategies. The impending regulatory changes, particularly the entry into force of the Corporate Sustainability Reporting Directive (CSRD), underscore the transition from voluntary to mandatory ESG reporting, necessitating organizations to proactively adapt and integrate comprehensive disclosure practices into their financial filings.

The business environment in 2024 is characterized by a heightened focus on ethics and integrity, as stakeholders—ranging from consumers and investors to employees and regulators—increasingly scrutinize ESG claims. The repercussions of greenwashing are more pronounced than ever, impacting reputation, business performance, and exposing organizations to legal penalties. Transparent and accurate ESG disclosure emerges as a cornerstone for building trust, reinforcing the importance of translating ambitious ESG goals into substantive actions.

Supply chain security, resilience, and transparency remain pivotal considerations as geopolitical shifts and the aftermath of the COVID-19 pandemic continue to reshape global supply chains. Companies are compelled to navigate operational and reputational risks while seeking new opportunities for efficiencies, innovation, and ESG improvements within their supply chain processes. The public's growing demand for understanding the full product journey amplifies the importance of robust reporting and emissions reduction strategies, creating an imperative for businesses to commence these efforts in earnest.

Workforce transition takes center stage in 2024 as organizations embrace the imperative of a 'just transition' to net-zero. The evolution towards sustainable practices necessitates not only acquiring new skills and training pathways but also demands a reevaluation of organizational structures, cultures, and behaviors. Strong ESG credentials emerge as a key driver for attracting and retaining talent, reinforcing the integral role that workforce considerations play in achieving long-term sustainability goals.

Against the backdrop of these dynamic ESG trends, the year 2024 unfolds as a critical juncture for organizations, compelling them to view ESG not just as a compliance obligation but as a core driver of business resilience and innovation. The legislative obligations and standardization brought about by the CSRD signal a turning point, requiring companies to recalibrate their ESG strategies and disclosures in a standardized manner. Euvic, as a forward-thinking entity, recognizes the significance of proactively aligning its operations with these emerging regulatory frameworks, ensuring a seamless transition to mandatory reporting while enhancing stakeholder confidence.

Moreover, ESG considerations take on a broader societal role as organizations actively engage in the reconstruction of Ukraine, exemplifying the interconnectedness of global ESG initiatives with geopolitical events. The greening of energy sources, with a particular emphasis on investments in Renewable Energy Systems (RES), emerges as a strategic imperative.

In parallel, the corporate landscape acknowledges the pressing need to address the mental health crisis among employees, recognizing it as an integral component of the "S" in ESG. Companies prioritize creating a supportive workplace culture that not only fosters diversity, equity, and inclusion but also actively promotes the mental well-being of their workforce. Such initiatives not only align with societal expectations but also fortify the organizational fabric, creating a resilient and engaged workforce that is better equipped to navigate the challenges of a rapidly evolving business environment.

NIS2 Compliance

The NIS2 Directive represents a critical milestone in cybersecurity regulations at the European Union level, asserting its paramount importance for companies to adapt in the year 2024 and beyond. Enacted in 2023, it stands as an advanced iteration of the 2016 EU cybersecurity regulations, designed to align with the dynamic digital landscape and burgeoning cyber threats. This evolution in the legal framework is a call for companies to stay abreast of the changing environment. The modernization effort within the NIS2 Directive extends its reach to include new sectors and entities, intensifying the resilience and response capabilities of both public and private entities throughout the EU. The directive's emphasis on achieving a high common level of cybersecurity underscores the urgency for member states to equip themselves with the necessary resources. For companies, this necessitates a strategic shift to ensure compliance and readiness. Crucially, the directive mandates the establishment of Computer Security Incident Response Teams (CSIRT) and national competent authorities, signaling a paradigm shift in the cybersecurity landscape. The call for collaboration among member states emphasizes the need for companies to engage in strategic collaboration and information exchange, recognizing the interconnected nature of cybersecurity challenges. The NIS2 Directive places a spotlight on sectors crucial to the economy and society, particularly those heavily reliant on Information and Communication Technology (ICT). The directive's identification of essential services operators and digital service providers imposes obligations that demand immediate attention and adaptation from enterprises in these sectors. Expanding its scope to include additional sectors adds to the complexity of compliance requirements, presenting a substantial challenge, especially for sectors with lower cybersecurity maturity. The directive's requirements underscore the need for private sector engagement in establishing European certification schemes, highlighting the role of companies in shaping the cybersecurity landscape. The introduction of voluntary incident reporting by entities not covered by the directive introduces a new dimension of responsibility for member states and emphasizes the need for companies to proactively contribute to incident reporting. Financial penalties of up to 10 million euros or 2% of the total annual global turnover for non-compliance add a significant layer of accountability, making it imperative for companies to align their cybersecurity measures with the directive's stringent requirements.

Krajowy System e-Faktur (KSeF): Transforming Invoicing Processes in Poland

The introduction of the Krajowy System e-Faktur (KSeF) by the Ministry of Finance signifies a nationwide initiative where businesses can issue and receive structured electronic invoices. The impact of KSeF on accounting solutions and operational processes, such as invoicing, equipment delivery, and more, is pivotal for companies as we progress into 2024.

KSeF, a computerized system facilitating the generation and sharing of structured invoices, aims to centralize the invoice registration process in economic transactions. This integration of billing and accounting systems with KSeF underscores the need for companies to align their processes with this centralized system, enabling the transmission of sales invoices seamlessly. With a voluntary adoption phase from January 2022 to June 2024, the mandatory implementation of KSeF is imminent. Starting July 1, 2024, active VAT taxpayers must comply, followed by non-VAT entities in the realm of invoice issuance from January 1, 2025. The urgency for companies to adapt their accounting and invoicing processes is underscored by these timelines. The functioning of KSeF involves the issuance of structured XML format invoices through integrated financial and accounting software. KSeF validates the document against the appropriate XML invoice schema, assigning a unique number and providing an official acknowledgment of receipt (UPO) to the issuer. The recipient gains access to the invoice through KSeF authentication or anonymous access by providing specific invoice details. The benefits of KSeF include the exemption from storing and archiving invoices, shortened tax refund processing time, interpretative security through standardized electronic formats, and increased automation in invoicing and accounting processes. As KSeF becomes obligatory, companies need to recognize the advantages and efficiencies it brings to their accounting workflows. In preparation for KSeF, companies should ensure their accounting software integrates seamlessly with the system, enabling the issuance and processing of invoices in the standardized format. Moreover, companies must understand the responsibilities and tasks involved in utilizing KSeF for cost invoices, and compliance with KSeF regulations is crucial. The transition to KSeF introduces a standardized invoice format, reducing reliance on Optical Character Recognition (OCR) systems. This move streamlines the accounting process, allowing for error-free data extraction, which is critical for companies aiming to enhance the accuracy of their financial records. The process of issuing sales invoices in KSeF involves the preparation of substantive and technical invoice details, user authentication, sending the invoice to KSeF, validation, and assignment of a reference number. Companies need to familiarize themselves with this process and consider the potential benefits of integrating their operations with KSeF.

While the adoption of KSeF is currently voluntary, companies should proactively assess the advantages it offers in terms of efficiency, compliance, and security. The eventual mandatory implementation necessitates strategic planning and adaptation to ensure a seamless transition for accounting processes and overall business operations.

AI Regulations

The landscape of artificial intelligence (AI) and cloud technology is rapidly evolving, bringing forth a host of legal challenges. In 2024, pivotal developments are anticipated, impacting various sectors. Here are key aspects to monitor:

Upcoming AI Legislation in the EU:

Governments worldwide are crafting laws tailored to AI technology. In the EU, the proposed AI Act and Artificial Intelligence Liability Directive (AILD) are taking shape. These regulations will classify and regulate AI systems based on risk levels, with stringent measures for high-impact models. Compliance will be crucial for companies placing AI systems in the EU market.

Global AI Legislation Landscape:

Beyond the EU, countries like the United States are also advancing AI regulations. The U.S. AI Executive Order, along with proposed regulations by the California Privacy Protection Agency (CPPA) and the Securities and Exchange Commission (SEC), signifies growing attention to AI governance. Internationally, the Bletchley Declaration emphasizes the importance of trustworthy AI, signaling a need for global cooperation.

AI and Copyright Infringement:

Generative AI models, such as ChatGPT, face legal scrutiny over alleged copyright infringement. Cases like Thomson Reuters v. ROSS Intelligence and Getty Images v. Stability AI highlight the challenges around AI training on copyrighted materials. Evolving guidance from copyright offices and ongoing litigation will shape the legal landscape.

Cybersecurity and Privacy Risks:

The integration of AI poses new challenges for cybersecurity and privacy. The AI Executive Order in the U.S. emphasizes testing and reporting rules for AI tools to address potential risks. Privacy laws, including GDPR and CCPA, add complexity, requiring companies to navigate notice requirements and consent for AI models using personal information.

Labor and Employment Issues with AI:

AI's use in employment processes, from hiring to performance analysis, raises legal considerations. Anti-discrimination laws, such as Title VII, come into play. Legislation like the U.S. Algorithmic Accountability Act aims to regulate AI's impact on layoffs. Companies must align AI practices with employment laws to avoid legal implications.

AI Governance Practices:

As AI becomes integral to business practices, robust internal governance policies are essential. Terms of use, employee policies, and vendor agreements need to address AI-specific risks. Clear governance processes should be in place, integrating AI-related risks into compliance measures and ensuring alignment with evolving regulations.

In conclusion, the EU's AI Act and related developments, alongside global trends, are poised to shape the AI and cloud landscape in 2024. Companies must stay vigilant, adapt internal policies, and engage with evolving regulations to navigate the complex legal terrain surrounding AI and cloud technologies.

The Impact of DORA

In 2024, a pivotal trend shaping the business and technology landscape is the implementation of the Digital Operational Resilience Act (DORA), marked by Regulation (EU) 2022/2554 enacted on December 14, 2022. DORA stands out as a comprehensive regulatory response within the EU financial sector, addressing operational resilience challenges posed by evolving digital landscapes. This transformative regulation necessitates financial institutions to extend their risk management scope beyond traditional approaches, now encompassing the protection against ICT-related incidents. The regulation emphasizes the imperative for financial entities to fortify their cybersecurity postures by not only allocating capital but also proactively investing in capabilities for threat detection, containment, recovery, and repair.

A distinctive feature of DORA is its explicit reference to ICT risk, establishing stringent rules for ICT risk management, incident reporting, digital operational resilience testing, and ICT third-party risk monitoring. The regulation underscores the potential for ICT incidents to jeopardize the entire financial system, irrespective of traditional capital adequacy.

Noteworthy components of DORA include reporting obligations for major ICT-related incidents and voluntary reporting of significant cyber threats to competent authorities. Additionally, financial entities are mandated to engage in digital operational resilience testing, ensuring robustness in the face of disruptive digital events. The oversight framework for critical ICT third-party service providers introduces a structured approach to managing dependencies on external technology services, mitigating risks associated with outsourcing.

This regulation, effective from January 17, 2025, is poised to significantly impact businesses beyond the financial sector. It prompts organizations to reevaluate their cybersecurity strategies, adopt proactive risk management practices, and fortify digital resilience in an era where technological disruptions pose substantial threats. Adherence to DORA's principles becomes crucial for businesses striving to achieve and maintain operational resilience in the dynamic and interconnected digital landscape. The comprehensive and coordinated approach mandated by DORA sets a precedent for future regulatory frameworks and reflects the growing significance of digital operational resilience in contemporary business strategies.

Data Governance Act

In 2024, a transformative trend capturing the essence of the European Union's commitment to data-driven innovation is the implementation of the Data Governance Act. Enacted on June 23, 2022, and applicable since September 2023, the Act is a cornerstone of the EU's data strategy, designed to instill trust in data sharing, overcome technical obstacles, and enhance the availability of data across sectors. Aiming to establish common European data spaces in strategic domains like health, environment, energy, and more, the Act fosters collaboration between private and public entities.

The Data Governance Act stands as a catalyst for making data more accessible, promoting data sharing across sectors and countries, unlocking the vast potential of data for the benefit of European citizens and businesses. By facilitating innovative products and services, improving efficiency, sustainability, and transparency, the Act underscores the critical role of good data management in shaping industries, public policies, and individual experiences. From personalized healthcare treatments to efficient public services, combating climate change, and fostering precision farming, the Act's impact spans diverse sectors, contributing to evidence-based decision-making.

The Act's practical implementation involves comprehensive measures to facilitate data sharing, including mechanisms for reusing certain public sector data, ensuring the role of trustworthy data intermediaries, simplifying data availability for citizens and businesses, and facilitating cross-sector and cross-border data sharing. This strategic approach aims to propel the EU to the forefront of the second wave of data-driven innovation, bringing about societal benefits through evidence-based policies, solutions to challenges like climate change, and effective responses to global health crises.

With the Data Governance Act in force, society is poised to witness the positive outcomes of more innovation and new job opportunities, placing the EU at the forefront of data-driven advancements. Businesses stand to gain by reducing costs related to data acquisition, integration, and processing, along with diminished barriers to market entry. The Act accelerates the development of data-driven products and services, fostering a dynamic environment for both small and large enterprises.

Summary

As we reflect on the transformative year of 2024, the Euvic Group Overview serves as a strategic compass, providing nuanced insights into the dynamic IT landscape. Rooted in the collective experiences of our diverse companies, the report not only delves into the industry's evolution but also outlines key considerations for the future.

In response to the challenges and opportunities identified in 2024, Euvic Group envisions a pivotal year ahead, marked by the continuous development of computer vision, enhanced AI security measures, and the integration of augmented workforce solutions. The anticipation of copilot implementation, the strategic utilization of video in business, and the sustained focus on automation underscores our commitment to staying at the forefront of technological advancements.

Euvic Group recommends a proactive approach to staying abreast of emerging trends, emphasizing sustainable development practices, and embracing BPM low code development for streamlined business processes. As we anticipate the widespread adoption of generative AI and LLM models, the rising dynamics of m-commerce, and the increasing importance of low-code/no-code solutions, our report encourages industry players to position themselves strategically.

Looking ahead, we highlight the significance of digital retailing, the XaaS revolution, and the evolution of hybrid cloud and multicloud environments. Key considerations for 2024 include NIS2 compliance, the transformative impact of Krajowy System e-Faktur (KSeF) in Poland, navigating AI regulations, understanding the implications of DORA, and adherence to the Data Governance Act.

In conclusion, the Euvic Group Overview for 2024 is not just a retrospective analysis but a forward-looking guide for stakeholders navigating the complex IT terrain. We invite industry players, decision-makers, and partners to engage with us in this collaborative journey toward technological excellence. For further insights and strategic consultations, we encourage you to contact us, as together, we navigate the future of IT with foresight and innovation.

The Good People

Experts

Katarzyna Ziółkowska
Head of IT Analysis
EO NETWORKS

Bartosz Skurczyński
Head of Software
EO NETWORKS

Tomasz Wielgomas
IT Security Director
EUVIC IT

Marcin Wojtaszek
CTO
EUVIC IT

Klaudia Żukowska
Sales Director
EUVIC IT

Jakub Ciupiński
Head of Solutions
SPEEDNET

Małgorzata Janiszewska
Head of HR,
SPEEDNET

Krzysztof Goworek
CEO
TUATARA

Compiler

Klaudia Szczepara
Marketing Specialist
EUVIC S.A.

Przewozowa 32 Street,
44-100 Gliwice, Poland
+48 32 279 49 42
info@euvic.pl