



# The impact of AI in communications

Entering the next era



Artificial Intelligence (AI) has become increasingly popular and available to most individuals with services such as ChatGPT and Canva. However, AI also promises to be a game changer in the enterprise communications space with concrete operational applications for any sector or industry. As with any major change, AI introduces both challenges and opportunities that need to be anticipated and assessed in order to effectively leverage its power.

## A game changer

AI can be considered third major technology breakthrough in communications, after the adoption of IP as a technology standard in the late 90s, then of the introduction of cloud models and architectures starting in the early 2000s and progressing at double-digit or more rates every year since then.

Global investments in AI are expected to grow by an annual 37%<sup>1</sup> in the next seven years to come, leading to 10x growth in the global market during that period. 64%<sup>1</sup> of businesses expect AI to help them increase productivity, while 60% believe AI will help improve customer relationships.

According to analyst firm IDC<sup>2</sup>, communications will be at the forefront of this revolution with multiple ways of harvesting significant returns on investment in the coming years, in areas from customer experience and employee productivity to infrastructure optimization and operations automation.

1 - [Forbes](#)  
2 - [IDC](#)

# AI in communications: Where to get the most out of it?

## Customer relations

As mentioned above, customer experience is the key area where companies and governmental institutions are expecting AI's positive impacts. Enterprises are heavily investing in Generative AI (GenAI) and other AI solutions to enhance customer service through automation and personalization for improved response times and satisfaction. GenAI tools, such as virtual assistants and chatbots, are widely deployed to handle initial customer queries, freeing up human representatives to focus on more complex tasks. This shift has been particularly strong in banking, retail and software services, where AI-enabled customer service functions are already creating new revenue streams and reducing costs.

## Employee productivity

GenAI-based productivity tools are transforming the workplace, especially through automated workflows and data insights that reduce repetitive tasks and help the decision-making process based on rich-data models. IDC<sup>3</sup> reports that companies in the EMEA region allocate over 20% of their IT budgets to emerging technologies, including GenAI. Approximately 42% of organizations reported significant improvements in productivity and operational efficiency after deploying AI-enabled collaborative tools.

In 2024, companies in the EMEA region expect to see continued gains in productivity as GenAI is deployed in departments like Human Resources, where it automates recruitment, enhances employee engagement and optimizes resource allocation.

## IT/OT operations

In IT operations, 36% of companies report the use of GenAI to optimize server performance and reduce system downtime. AI models can help anticipate trends as well as detect security threats and support fraud detection, maximizing the use of IT and human resources. AI is also applied to help automate tasks and enrich core business processes while streamlining support efforts.

## ALE and AI

Alcatel-Lucent Enterprise is dedicated to offering cutting-edge AI-enabled services that provide tangible value to our customers by addressing their specific needs with accuracy and care. Our approach is underpinned by a steadfast commitment to environmental responsibility, cybersecurity risk management, ethical considerations, cost efficiency and control, the protection of data privacy and compliance with AI and cyber regulations.

Our strategy is grounded in a dual foundation of internal technological expertise and a robust network of partnerships with academic institutions and DeepTech enterprises across Europe. This ecosystem enables us to harness the latest advancements in AI and integrate them seamlessly into our solutions.

Our expertise spans a wide array of AI domains, including GenAI, computer vision or Natural Language Processing (NLP), and a focus on voice treatments, based on our vast experience in real-time voice communications. We select and make available the right AI service to meet the specific needs and constraints of each customer.

3 - IDC





# AI use cases in communications

ALE is applying AI in several of its communications solutions through our own research and development and through technology partnerships with third parties. Here are just a few examples of the many use cases that have been integrated into our solutions, or are currently being integrated or prototyped:

## Customer relations

### Sentiment analysis in Contact Centers

Allows off-line transcript and summarization of recorded conversations for sentiment post-analysis. The conversation sum-up is based on abstractive summarization generated by Large Language Models (LLMs).

### Anonymization of call/conference recording

Recognizes of a named entity in a conference recording transcript. A use case is in banking for instance where we want to remove the bank account number in the recording.

### Chatbot integration in Contact Centers

Uses a bot to answer questions before escalating a customer request to an agent. Uses Retrieval Augmented Generation (RAG) models with LLM to search for answers in an FAQ database and existing documentation.

### Voicebot integration in Contact Centers

Generates a vocal answer in natural language to the customer, providing a first level of response and reducing the need for a human agent.

## Employee productivity

### Live transcription during audio and video conferences

Transcribes the voice of each speaker in real-time and adds it as a caption in the conferencing services. Can be translated in different languages on the fly.

### Noise reduction of audio in Unified Communications as a Service (UCaaS)

Integrates robust noise reduction libraries such as RN Noise within desk phones and Rainbow™ by Alcatel-Lucent Enterprise. Improves the audio experience of the remote correspondent by lowering or even removing any background noise at the speaker side. AI, applied along with audio filtering, can remove specific noise such as a dog barking, a child yelling or the sound of drilling, making desk phones usable in any kind of environment.

### Embedded voice commands

Enables running open source Natural Language Processing (NLP) models, it becomes possible to run these models on desk phone hardware to perform and automate specific tasks with voice commands.

## Application note

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## IT/OT operations

### Automatic software vulnerability detection and mitigation

Automates a pipeline to examine and learn the code, then compare the ticket with previous fixes to assess the source of the issue. Uses LLM to propose a fix. In addition, uses this bug detection feature to assess the vulnerability of the code.

### Anonymization of prompts of Cloud Gen AI Chatbots

Ensures the confidentiality of in-house data when using chatbots in requests to cloud GenAI engines such as ChatGPT. It consists in a Chrome plugin that can extract named entities from a ChatGPT prompt and replace them with a general description retrieved with LLM requests.

### Script generation for Alcatel-Lucent OmniPCX Enterprise automatic configuration

Converts unstructured data such as a configuration request into natural language. For example, "Configure a new user, John Doe, with phone number 421. He will get an ALE-500 phone."

### Intention detection

NLP system detects intentions in an audio stream collected from the ALE desk phone and performs associated tasks. For example, a desk phone in a hospital room can listen to the environment and forward the audio collected in the room to an NLP system that can detect intents and schedule associated tasks. A game changer for healthcare providers who can now get more than a generic warning signal without context.

### Fall detection

Couples AI-based fall detection analysis and a notification workflow of alarms for a closed collaboration and coordination loop between caregivers or first responders.

## Application note

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# AI and regulations

The integration of responsible AI and regulatory compliance into AI strategies is becoming a critical requirement for enterprises globally. Across the globe, regulatory frameworks are prompting enterprises to adopt responsible AI practices that ensure ethical, transparent and secure AI applications for customer relations, employee efficiency and IT/OT operations.

## Main governmental/regional AI regulations

As AI services are becoming pervasive across the consumer and enterprise world, regulations are being put in place to prevent misuses and to protect users and citizens. ALE is committed to comply with the all current and future regulations for AI-enabled solutions and services. We believe that regulation is not an obstacle to innovation. On the contrary, it is a constraint that encourages the emergence of innovation for good, which is at the heart of ALE's ESG strategy.

Europe	US	APAC
Europe is leading the way in AI regulation with its AI Act, which classifies AI applications by risk level (high-risk, limited-risk). High-risk AI applications must meet stringent requirements, including transparency, human oversight and robustness against biases.	The US administration introduced a policy to minimize regulatory oversight in early 2025. Key provisions include an action plan for AI leadership, a review of federal agency actions under the former AI Executive Order, and fewer regulatory barriers for businesses developing or using AI.	The AI regulatory landscape in Asia-Pacific is evolving, with countries like Singapore and Japan establishing ethical AI frameworks. These focus on transparency, accountability and human-centric AI to foster innovation while ensuring societal benefits.
GDPR remains a cornerstone for AI regulation, setting high standards for data privacy and security. This impacts AI tools that handle personal data, compelling companies to adopt privacy-by-design principles.		China has implemented regulations requiring companies to disclose AI-driven decision-making processes in consumer-facing applications, emphasizing ethical and responsible AI use in alignment with government priorities.

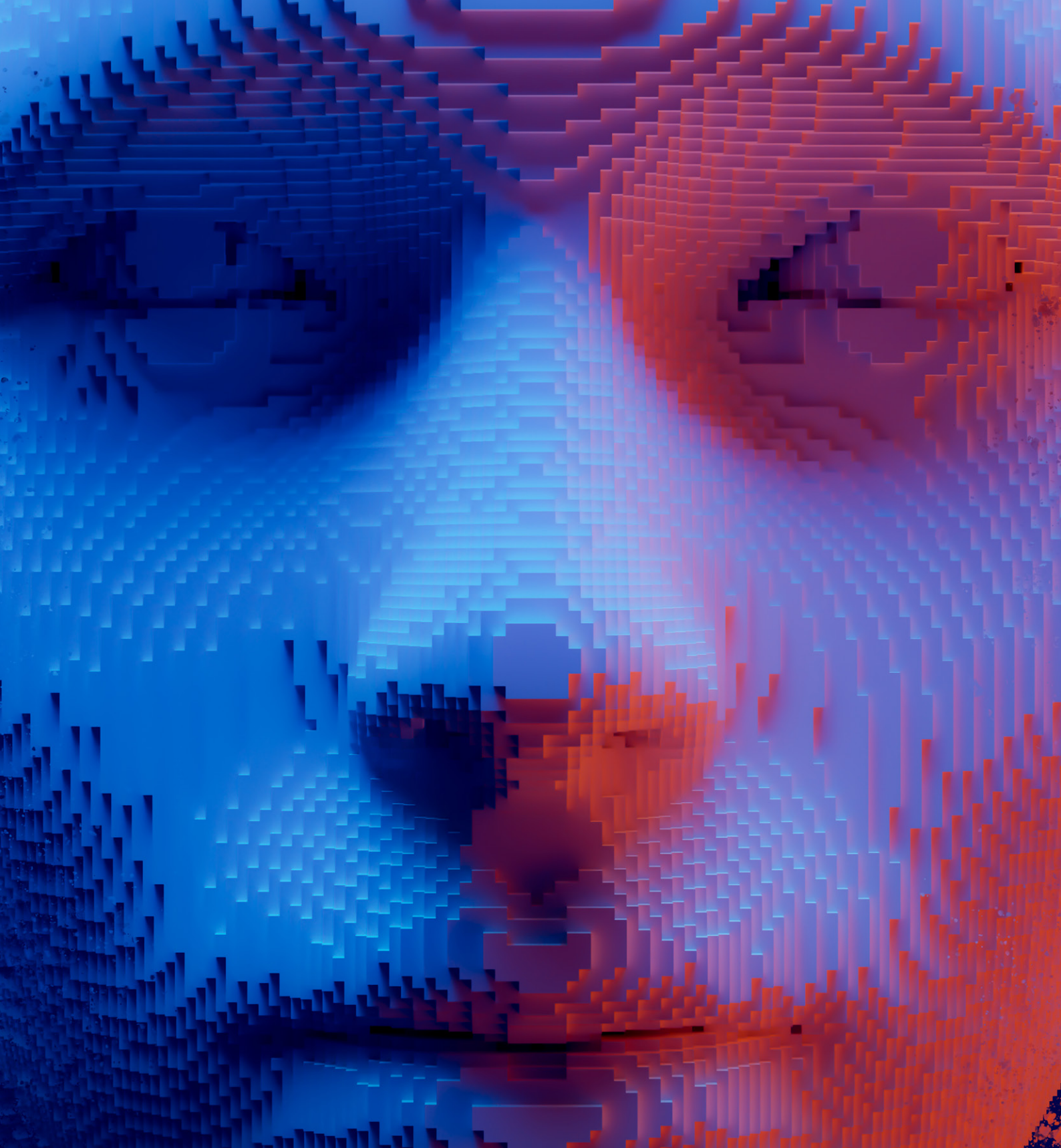
# ALE Code of Conduct

On top of these regulations, and for our own use of AI services, development and applications, ALE has defined and adopted an AI Charter, which outlines principles and commitment to responsible AI usage. We apply the same strict rules when embedding AI-enabled services in our products and solutions for use by our partners and customers.

## Conclusion

AI is becoming the new big thing everywhere, and communication is at the heart of this revolution, unleashing new possibilities and opening opportunities for organizations to explore territories that technology alone couldn't access. By working and mobilizing significant research and development resources on actionable and comprehensive applications in the areas of customer relations, employee efficiency and IT/OT operations, ALE is investing in the future of its customers and partners to enable them to take advantage of some of the unlimited capabilities offered by AI in the communications space while respecting regulations and user privacy.





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