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# LET´S CHAT

CONVERSATIONAL BANKING: THE 7 TRENDS TRANSFORMING THE SECTOR

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# ENRICHING THE BANKING CUSTOMER EXPERIENCE

The relationship between banks and their customers is undergoing a transformation. The progressive closure of branches, generational differences, and the impact of the pandemic have created a new ecosystem. Going forward, conversational banking will be the main method of communication and the user experience will be enriched in the financial services industry.

Conversational banking allows for a two-way dialogue between customers and virtual assistants that either party can initiate. This tool can help both with basic, everyday functions (providing a current account balance, reporting on the price of a share, etc.) and with more complex financial consulting and management.

However, there is still a long way to go before this tool is widely adopted. Its speed of implementation will depend on the development and application of new technologies. The aim is, on the one hand, to optimise banks' costs and resources without losing the trust that advisors provide, and on the other, to provide customers with security and the added value of customised services.

In this document, we provide our expert vision of the conversational banking market—where we are, where we're going, and why. We also analyse the seven trends that are signaling its development.

# TREND 1
# MANAGING COSTS

## HOW VIRTUAL ASSISTANTS REDUCE CONTACT CENTRE SERVICE COSTS

### AS IT STANDS

In the banking world, the contact centre has traditionally been one of the main customer-service channels. During the pandemic its activity exploded, with an increase in call traffic of up to 50% 1]. Mobility restrictions and office capacity limitations have impacted the face-to-face services available, and customers are now turning to phone channels instead.

In response to this new scenario, banks have opted to reinforce their contact centre teams. However, it won't be a sustainable, long-term solution, especially as hiring and training teams on demand is not economically viable.

Given this context, banks have accelerated their adoption of virtual assistants that can handle calls and queries which are simple enough to not require human intervention. In addition to reducing the cost of labour, virtual assistants improve the user experience by significantly cutting down on unnecessary wait times.

According to Juniper [2], using a virtual assistant could save banks $7.3 billion by 2023, as natural language processing (NLP) techniques improve.

[1] https://thefinancialbrand.com/105340/contact-centers-call-human-digital-banking-strategy-trend-chatbot-live-chat-growth/
[2] https://www.juniperresearch.com/press/press-releases/bank-cost-savings-via-chatbots-reach-7-3bn-2023

## LEVERS FOR CHANGE

### THE 'NEW NORMAL'

Customer service in banking will never be the same. With the pandemic, bank branches have limited their operation to essential activities. All other operations and consultations are now being directed to the contact centre and other digital channels, and this trend will likely become permanent.

This 'new normal' has accelerated digitalisation and pushed forward initiatives such as virtual assistants, which can help control the costs associated with the high volumes of queries in recent months.

### ARTIFICIAL INTELLIGENCE

Banking is one of the economic sectors that benefited most from the application of artificial intelligence. This is because the technology allows banks to streamline and improve the many recurring queries and operations that are characteristic of their relationship with customers, as highlighted in the report *AI in Fintech: Roboadvisors, Lending, Insurtech & Regtech 2019-2023*.

It is true that there are seemingly infinite requests and queries that a citizen could present to their bank. Nevertheless, by training a virtual assistant to recognise the main reasons that customers call, banks would be able to save thousands of hours on customer-human agent interaction, leading to a noteworthy reduction in costs.

# » TREND 1
# MANAGING COSTS

HOW VIRTUAL ASSISTANTS REDUCE CONTACT CENTRE SERVICE COSTS

# KEY CHALLENGES

**TECHNOLOGICAL CHALLENGES**

- To integrate virtual assistants with the bank's other customer relationship channels to ensure a seamless omnichannel experience.
- To archive the interaction between the virtual assistant and the customer. This way, if the call is forwarded to a human agent, they can consult the contact history, personalise the conversation, reduce the average handle time (AHT) and, ultimately, improve the customer experience.
- To develop machine-learning models so that the use of this branch of AI—which allows for decision-making with minimal human intervention—becomes reliable, unbiased, and

**ORGANISATIONAL AND CUSTOMER CHALLENGES**

- To prioritise the implementation of use cases according to expected savings, taking the customer experience into account.
- To improve analytical models to extract valuable information from the client and thus offer an increasingly personalised service.
- To monitor the metrics of the virtual assistant in order to implement processes for continual improvement.
- To avoid delegating complex interactions to the virtual assistant that could weaken the customer experience, such as reviewing the conditions of an insurance contract or explaining a mortgage's risk level in a foreign currency.

## A TEN-YEAR PROJECTION

# TREND 2
# THE INTERACTION BETWEEN HUMANS AND MACHINES

## A PARADIGM SHIFT THAT ENHANCES THE HYBRID CUSTOMER-SERVICE MODEL

### AS IT STANDS

The impact of the pandemic on face-to-face communication and the closure of offices for economic efficiency have forced the banking sector to speed up the digitalisation process in order to provide adequate customer service. Many clients have had no choice but to learn how to use online banking for the procedures they used to do in person at the branches. For some banks, the use of web and app channels experienced a growth of more than 200% during lockdown[3].

However, for people over 50, the most popular channel has been the telephone service, according to NTT's 2020 Global Customer Experience Benchmarking Report. This has forced some of the largest banks to bolster their contact centre teams.

The paradigm shift has given the hybrid customer-service model the final push it needed. On the one hand, it allows banks to streamline the simplest requests, leaving only the most complex operations to the human representatives. On the other hand, it's a very useful model for the agents, since it allows them to gather valuable information about the customer and anticipate their needs.

**[3] https://cincodias.elpais.com/cincodias/2020/04/24/companias/1587746182_414556.html**

## LEVERS FOR CHANGE

### DIGITALISING THE CUSTOMER

Banks have already been developing digitalisation strategies for several years, but the outbreak of the pandemic—which upended users' habits—was the defining trigger. This is illustrated by the fact that large international banks gained 6.5 million fully digital customers in the first quarter of 2020 [4].

Financial institutions are thus certain that the digital channel represents the new normal. As a result, they must be able to offer their clients the best experience possible to prevent emerging competitors who are 100% digital (neobanks, fintech companies and tech giants) from gaining control in the market.

### GEN Z

Members of Gen Z (also called centennials, those born after 1998) have joined the market. They are a generation of digital natives who are used to having immediate access to information with one click and expect their banking procedures to be just as simple.

However, while it may seem contradictory, when it comes to important issues, this customer segment actually looks for human interaction.

For this reason, their demands are twofold. They fully expect the financial institution to make all digital channels available to them, but at the same time, they value the option to talk to an expert who understands them when necessary.

[4] https://cincodias.elpais.com/cincodias/2020/09/04/companias/1599252280_451113.html


# » TREND 2
## THE INTERACTION BETWEEN HUMANS AND MACHINES

A PARADIGM SHIFT THAT ENHANCES THE HYBRID CUSTOMER-SERVICE MODEL

# KEY CHALLENGES

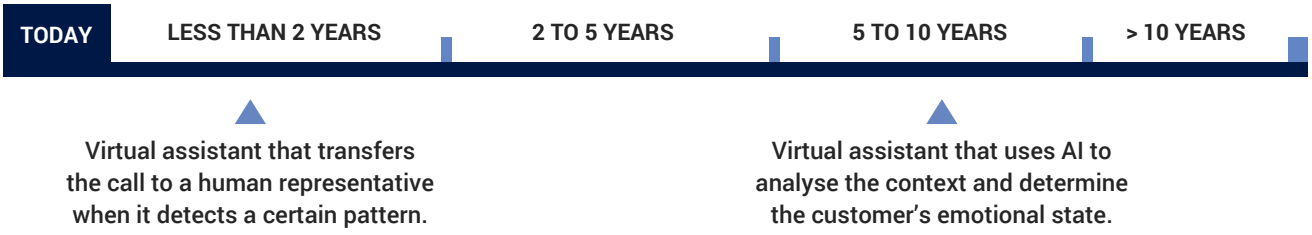
**TECHNOLOGICAL CHALLENGES**

- To improve pattern-recognition systems in order to develop an AI that is capable of truly assessing the situation. It should be able to successfully discern whether the matter is simple or complex and, if necessary, transfer the call to a human representative to offer the customer a satisfactory experience. Once the technology is more advanced, it will be essential that a virtual assistant analyse the context, identify the customer's emotional state, understand their accent and differentiate the speaker from background noise. Currently, the market offers virtual assistants who appear to show empathy, but are not yet at an advanced level of maturity.
- To create a model that redirects the call to a human representative when nervousness or irritability is detected. In these circumstances, people need a human spokesperson to help them resolve their queries and problems, or simply listen to their complaints. Conversely, the model will also need to detect when the customer is not emotionally receptive enough to be attended by a human (moment of risk).

**ORGANISATIONAL AND CUSTOMER CHALLENGES**

- To integrate customer data. According to the surveys cited by NTT in its 2020 Global Customer Experience Benchmarking Report, 58% of banking entities have siloed channels where customer data history is stored in separate, unconnected databases. This separation prevents the natural flow of information and its use to improve services or personalise financial products.

## A TEN-YEAR PROJECTION



# TREND 3
# NEW RELATIONSHIP MODELS

## INTELLIGENCE AS THE BASIS OF CUSTOMER INTERACTIONS

### AS IT STANDS

Virtual assistants are becoming one of the most fascinating tech trends in modern software applications. Human language is the new layer of the user interface, and virtual assistants act as new applications. Intelligence thus becomes the foundation of all customer interactions.

Thanks to these technologies, it's possible to provide individualised guidance, sales support and customer service—as well as improve other functions related to the banking business—anytime, anywhere. These benefits appeal to younger customers who are looking for personalised banking experiences, including relevant recommendations based on their behaviour and use of financial products. New incumbents and those banks with more advanced tech practices are exploring the possibilities of virtual assistants:

- The neobank N26, for example, is capable of handling 20% of all customer inquiries through its virtual assistant, Neon, and is on track to hit their next target of 30%.
- Zelf, a payment service provider, manages their relationship with the customer through a virtual assistant that works on chat services (WhatsApp, Facebook, Messenger, Telegram, and Viber). The customer onboarding process, as well as the sales and after-sales processes, are strictly available through the chat.
- Bank of America, for its part, leverages the analytics generated by the personal fund manager to offer the customer value-added services.

## LEVERS FOR CHANGE

### NEW CUSTOMERS, NEW RIVALS

The arrival of a new wave of customers who are digital natives calls for a new type of value proposition that can offer a highly personalised banking experience.

In fact, more than 64% of respondents from the so-called Generation Z [5] consider personalised banking experiences either 'important' or 'very important', based on their use of financial products and services.

Fintech companies are challenging the traditional banking sector in this regard, as they are already able to offer this type of experience.

### TECHNOLOGICAL MATURITY

The current level of technological advancement, having taken great strides in AI, big data and omnichannel integration, allows banks to develop a renewed experience for customers.

While AI is currently primarily used for simple informational use cases, it is now possible to go a step further and include transactional and proactive activities, making this channel more relevant than ever.

At the next level of maturity, the virtual assistant is expected to both give customers suggestions about the product or service they have already purchased, and recommend new options.

[5] https://www.fintechfutures.com/2020/12/personalisation-the-gen-z-banking-imperative/

# » TREND 3
## NEW RELATIONSHIP MODELS

INTELLIGENCE AS THE BASIS OF CUSTOMER INTERACTIONS

# KEY CHALLENGES

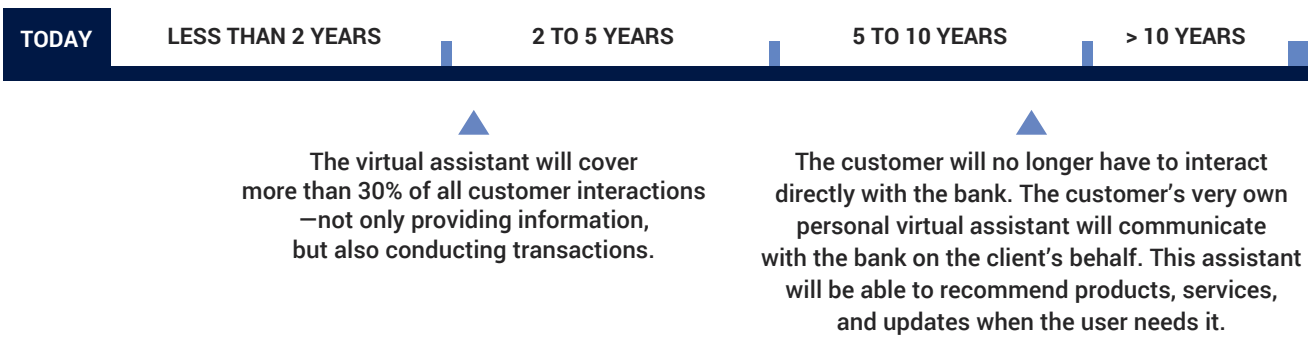
**TECHNOLOGICAL CHALLENGES**

- To fully integrate all systems in order to provide service to customers anytime, anywhere—not only within the banking system, but also through third-party providers.
- To ensure the customer is attended to in a timely manner on their preferred interaction channels (WhatsApp, Apple Business Chat, etc.).
- To personalise the conversation according to the chosen channel.
- To leverage scalable technology, since a large increase in use-case implementation is expected.

**ORGANISATIONAL AND CUSTOMER CHALLENGES**

- To make the most of data-based intelligence, which is the 'success factor' that differentiates the conversational banking experience.
- To design the customer journey with a multidisciplinary team that identifies and understands the keys to enriching the relationship with the user.
- To provide value to the customer, avoiding use cases that are not helpful or that have a negative impact on the user experience.
- To guarantee a seamless experience across all channels, facilitating the flow of information and preventing information silos.

## A TEN-YEAR PROJECTION



# TREND 4
# FINANCIAL ADVISOR

## REACTIVE AND PROACTIVE MANAGEMENT OF PERSONAL FINANCES

### AS IT STANDS

When films talk about the future, they typically present a human-like virtual assistant who is always ready with the right answer to the protagonist's every question, wish, and concern.

For this to become a reality, virtual assistants must not only to behave reactively, but also proactively. In the financial industry, this means they must be able to carry out the most common banking transactions, while also making suggestions for the future, tailored to each customer's particular situation. Ultimately, the goal is for the virtual assistant to become the client's personal financial consultant.

The market is already equipped with several of the capabilities that would make this virtual figure a reality. This includes: financial planning solutions that assess the customer's economic reality; proactive alerts that recommend the most convenient products and services; or geolocated push notifications that show the surcharges of payment operations and their exact location.

The challenge now is to overcome the limitations of these tools, streamlining and integrating them so that the virtual assistant puts them to use in one place—offering the customer a totally personalised experience tailored to their needs.

# LEVERS FOR CHANGE

## FINANCIAL AGGREGATION

Financial aggregation provides the client with a global picture of all their contracted products in each bank, facilitating their financial control.

Aggregation is also especially useful in allowing a third party—such as another credit institution—to view the spending patterns or overall financial health of a client who wants to obtain a consumer loan, a mortgage, a guarantee, or any other financial product or service.

Customers can benefit from more sophisticated financial planning strategies and solutions when entities know their real financial situation.

## DATA ANALYSIS

Data, data and more data. To remain competitive, financial institutions are constantly implementing new functionalities that increase the volume and complexity of extracted data.

Data analysis and visualisation tools are gaining prominence to extract value from theinformation held by banks. For them it is important to know your customers in depth, in order to offer them personalised attention and products or services tailored to their needs. In addition, customers increasingly appreciate their banks offering them tools that help them better understand their finances and make solid decisions.

# » TREND 4
## FINANCIAL ADVISOR

REACTIVE AND PROACTIVE MANAGEMENT OF PERSONAL FINANCES

# KEY CHALLENGES

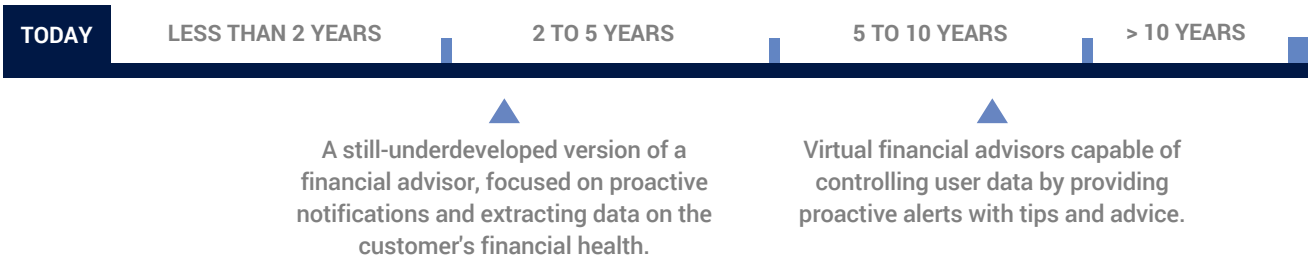
**TECHNOLOGICAL CHALLENGES**

- To develop banking applications that have high availability and high data quality, and speed up the process of customer onboarding.
- To improve security, since the virtual assistant will have access to all customer information and can switch between different channels.

**ORGANISATIONAL AND CUSTOMER CHALLENGES**

- To get a deep, holistic and personalised vision of their customers, including each one's specific situation. In this way, it is possible to fully understand the customer and offer a totally customised experience. This service is currently based on grouping customers according to profile.
- To ease the process of using financial aggregation. As the PSD2 regulation comes into force, aggregation has become more secure. However, it is now more tedious for the customer and the market is less stable than before.
- To inspire user confidence when supplying data. Media reports of smart speaker audio leaks have sowed doubt among bank customers.

## A TEN-YEAR PROJECTION



# TREND 5
# VOICE BIOMETRICS

## NEW METHODS OF AUTHENTICATION TO TACKLE FRAUD

### AS IT STANDS

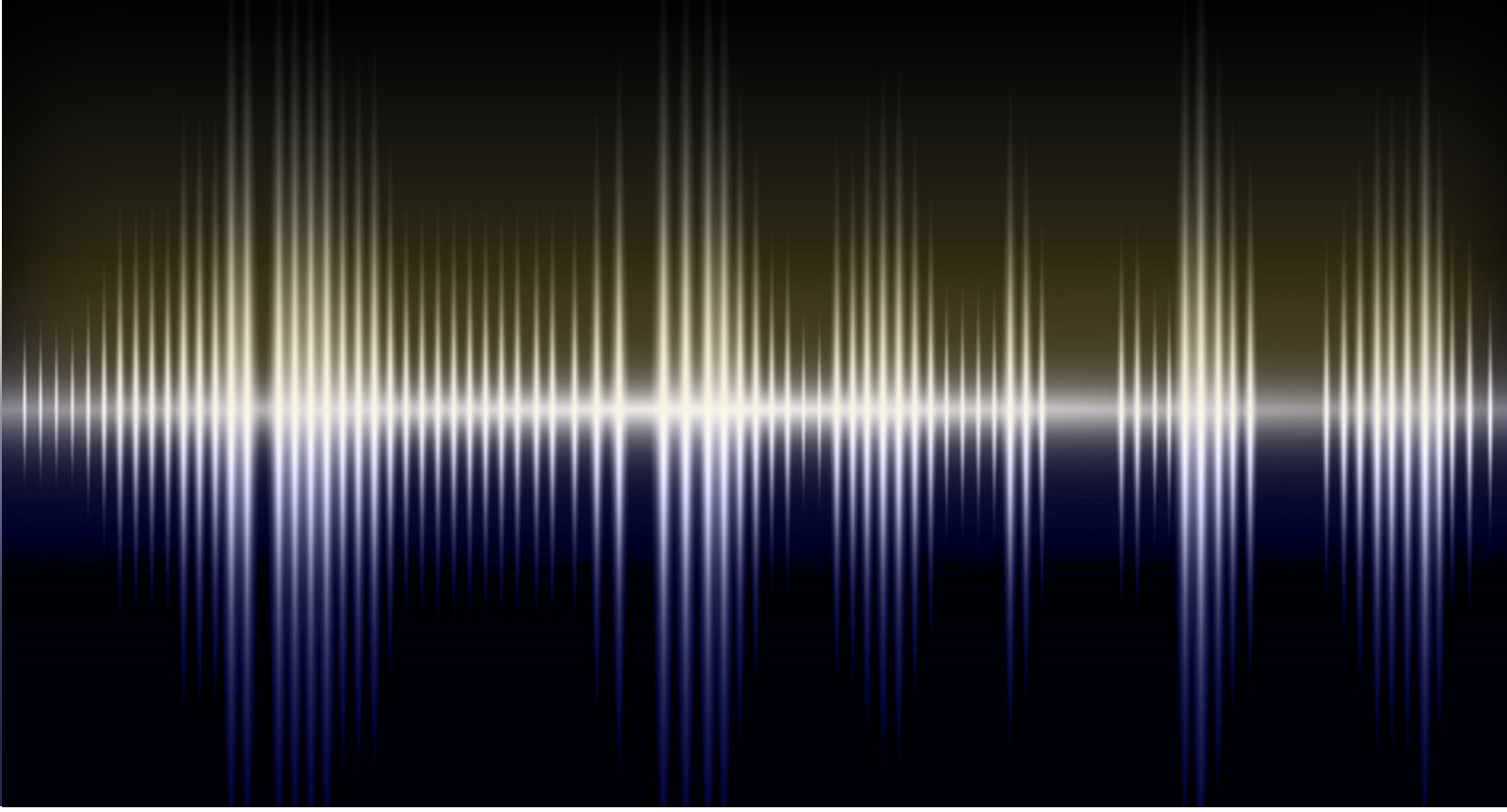
We have to remember multiple passwords on a daily basis to access a wide variety of sites or applications. Most of the time, we put convenience (choosing a simple password) before security (using a complex password that is difficult to figure out).

There are already alternatives to this problem. Passwords are becoming obsolete and are being replaced by other encryption systems that provide greater security and generate less friction for the user. This is the case of biometrics, which is based on non-transferable physical features such as a person's fingerprints, face, iris or voice.

Due to its high sensitivity to the threats of fraud and identity theft, banking is one of the sectors pioneering in the use of biometrics, which is being used in registration systems, customer services and new customer onboarding.

Many banks already use voice biometric systems to authenticate their customers in the contact centre. Even so, there is still a long way to go until this trend is fully integrated, encapsulated in the concept of 'voice first'. Its market value is expected to reach $26.8 billion by 2025 [6].

[6] https://www.globenewswire.com/news-release/2020/06/18/2050353/0/en/Speech-and-Voice-Recognition-Market-Worth-26-8-billion-by-2025-Growing-at-a-CAGR-of-17-2-from-2019-Global



## LEVERS FOR CHANGE

### SMART SPEAKERS

The adoption of smart speakers and their platforms has seen significant growth since 2018, thanks in large part to extensive marketing campaigns and aggressive pricing policies from manufacturers.

Even so, smart speakers have still fallen short of experiencing a massive uptake in use. One of the reasons for this limited expansion is users' growing fear that their conversations will be overheard.

Ensuring security in these devices is essential for voice biometrics to take off and give way to new forms of customer interaction with their financial institutions.

### PSD2 REGULATION

The European PSD2 directive, which came into force in 2019, requires banks and payment service providers to use double authentication. This can take the form of knowledge (something only the customer knows), possession (something the customer owns) or inherence (something the customer is).

On 21 June 2019, the European Banking Authority (EBA) approved the possibility of using various biometric methods—including voice biometrics—as an inherent attribute. This opens the door for financial institutions to introduce sophisticated and innovative authentication systems that offer a seamless customer experience.

# » TREND 5
## VOICE BIOMETRICS

NEW METHODS
OF AUTHENTICATION
TO TACKLE FRAUD

# KEY CHALLENGES

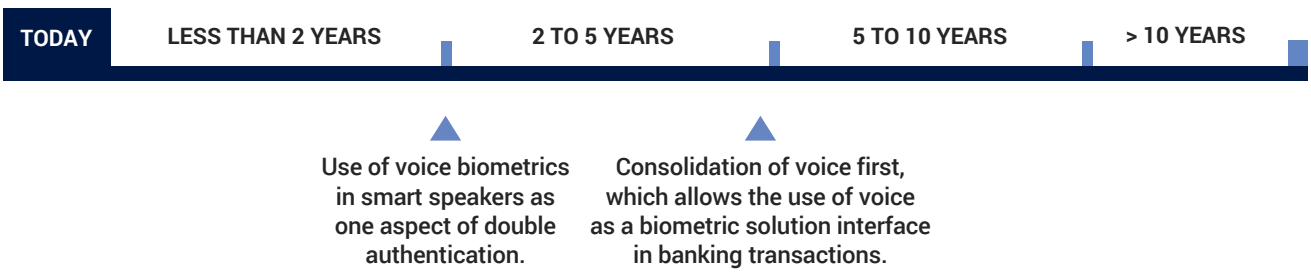
**TECHNOLOGICAL CHALLENGES**

- To improve voice biometric reliability. Although artificial intelligence has made progress in this area, there is currently a higher probability of false acceptance than other solutions, such as facial or fingerprint biometrics.
- To combine voice biometrics with other biometric solutions to generate even more powerful use cases from a safety point of view.
- To improve the systems that prevent identity theft to impede cybercriminal activity.

**ORGANISATIONAL AND CUSTOMER CHALLENGES**

- To consider which is the best system to store customers' biometric features. Mobile-banking biometrics is based on patterns obtained through Touch ID technology, which is incorporated into the customer's mobile device. Banks should consider whether it is safer and more convenient to store customer fingerprints on their own systems.
- To create a secure ecosystem that guarantees customer data will be protected, given the growing trend to use voice as an interface and authentication system for payments (the voice-first concept).

## A TEN-YEAR PROJECTION



# TREND 6
# MACHINE LEARNING

## A STILL-MATURING TECHNOLOGY

### AS IT STANDS

Just as learning about specific topics can take years for a person, there is a similar learning process taking place with every response from a virtual assistant. They must be trained to understand a customer's needs.

There are currently machine-learning or deep-learning models that help virtual assistants to improve. However, these systems are not yet mature enough to be reliable. Natural Language Processing (NLP) is extremely difficult and requires human intervention.

Deep-learning models—such as the so-called 'transformers'—are already capable of generating texts seem coherent at first glance, yet can offer dubious data. This uncertainty is critical with regard to banks. In many situations, their virtual assistants must answer questions about specific data, and any error in the information could have serious consequences on users' finances.

From the point of view of financial institutions, it is therefore a technology that must be further developed to be useful. However, its use in virtual assistants can help humanise it for less important interactions.

## LEVERS FOR CHANGE

### TRANSFORMERS - GPT3 TECHNOLOGY

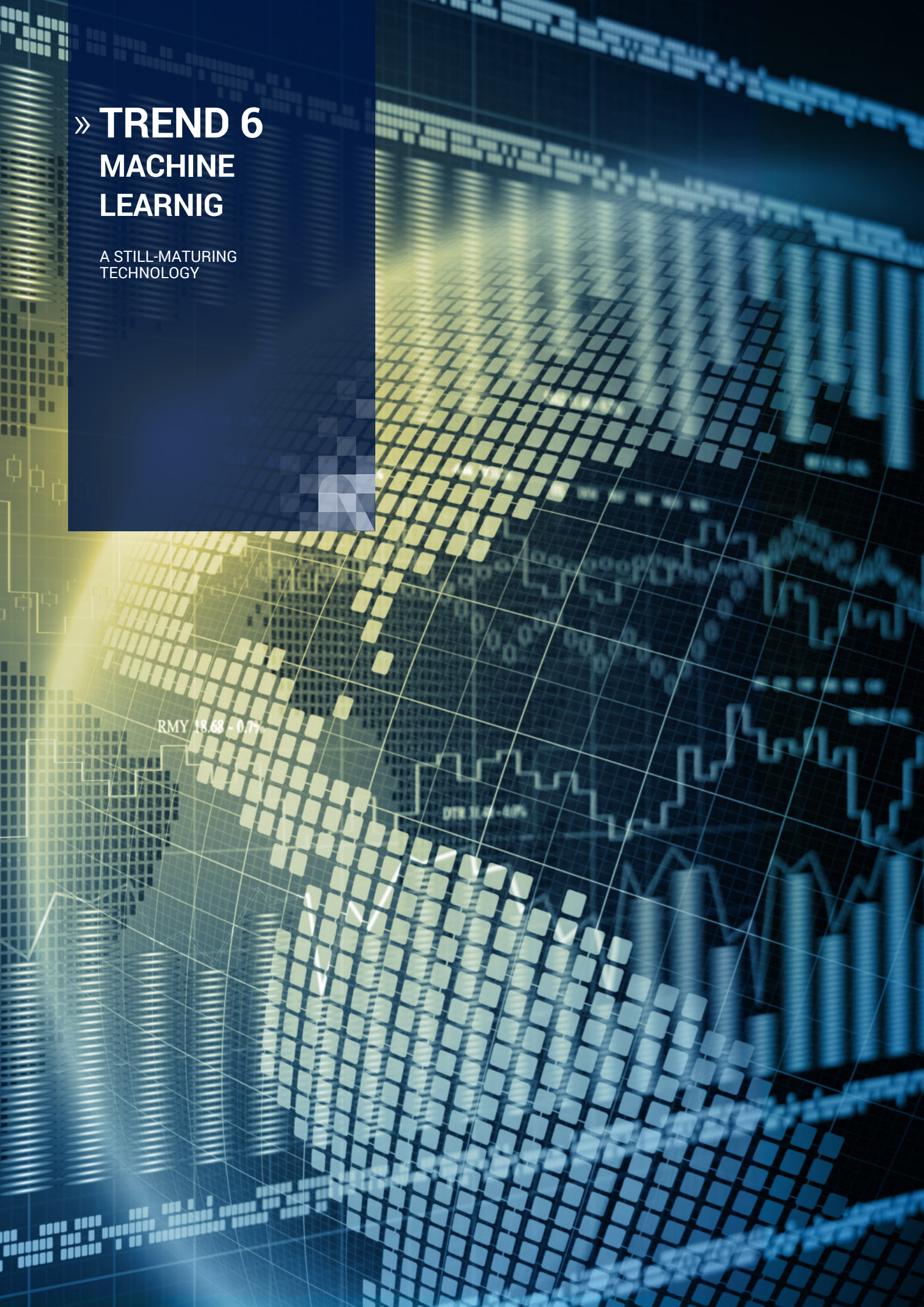
Artificial intelligence is taking giant leaps forward. In the summer of 2020, the company OpenAI launched a new transformer model, the GPT-3, which is capable of programming, designing and maintaining a credible conversation. Its large capacity of 175 billion parameters makes it the most powerful language model to date.

The model answers questions based on previous interactions and connects it with everything it knows to offer more meaningful answers. Although it doesn't really understand the context, it has an extraordinary bank of knowledge at its disposal.

OpenAI fed GPT-3 with a giant collection of books, millions of web pages, scientific papers available on the internet, and all the information from Wikipedia. In short, it has absorbed all the most relevant human knowledge published on the web.

Although still at an early stage, these models have already reached a good functional level of small talk, text generation and automatic summaries in English.

They will help make virtual assistants' learning experience more dynamic, and humanise their services to improve the customer experience.



# » TREND 6
## MACHINE LEARNIG

A STILL-MATURING TECHNOLOGY

# KEY CHALLENGES

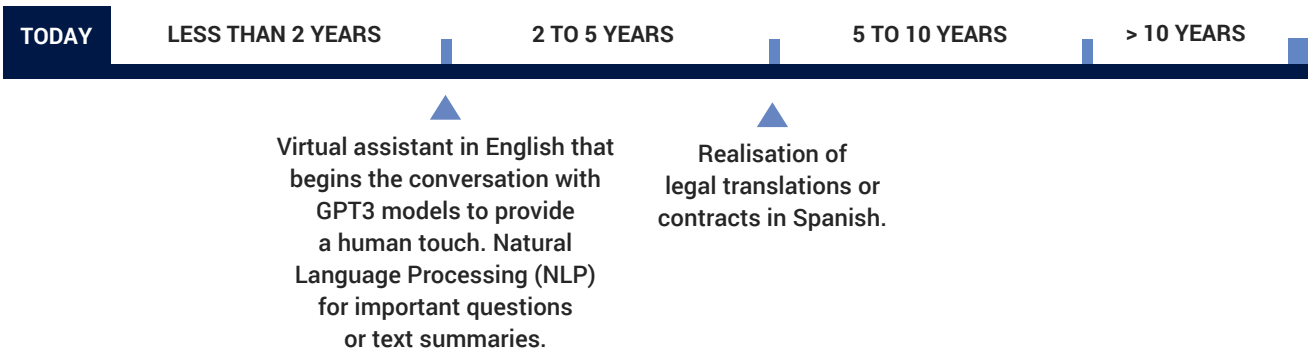
**TECHNOLOGICAL CHALLENGES**

- To replicate the GPT-3 model in other languages. The capabilities currently only exist in English, and it won't be easy to reach this deep level of knowledge in languages such as Spanish.
- To build an internal representation system into the transformers model that recognises the meaning of the words it uses. It can currently generate an appropriate response, but that does not mean it understands it.
- To reduce training and use costs, which are currently very high. The model may seem affordable at first glance, because you don't need a team of linguists, but each new text requires the virtual assistant to be fully trained and it must be closely monitored. This results in substantial training times and the support of a powerful infrastructure.

**ORGANISATIONAL AND CUSTOMER CHALLENGES**

- To allocate resources for the formatting of documents from financial entities. Although the transformers do not require dedicated teams in theory, banks will need to format documents, given the number of pdf formats, outdated spreadsheets or mistranslated texts in play.
- To improve the customer experience by humanising the responses during simple conversations to make using the virtual assistant more appealing.

## A TEN-YEAR PROJECTION



# TREND 7
# BOT-OF-BOTS

# IMPROVING CUSTOMER SERVICE WITH A MEGA-AGENT BOT AND SPECIALIZED BOTS

## AS IT STANDS

In their journey towards digital transformation, banks are progressively adopting virtual assistants to solve customer needs in a more agile way. However, the market is not fully mature and financial institutions face various problems when it comes to providing efficient responses to customer inquiries and requests.

In this scenario, a good option is to develop a model of interaction between virtual assistants called 'bot-of-bots'. This system is based on there being a parent virtual assistant, or megabot, whose function is to detect the client's intentions (that is, the purpose of communication, such as direct debit to a current account) and 'call' other specialised bots, which are the children, so that the response is as specific as possible.

The bot-of-bots model has several advantages. On the one hand, it serves the customer better since it allows the virtual child assistant to be trained vertically on a specific business area of interest. On the other hand, the bank avoids the intention overload that can occur with a single virtual assistant. In addition, from the point of view of internal organisation, the model makes it easier for each business area to have responsibility and control over their own virtual assistant.

## LEVERS FOR CHANGE

### LIMITATION OF INTENTIONS

A virtual assistant can manage a limited number of intentions (the main reason the customer is communicating). For example, Dialogflow, which is a Google tool, allows 2,000 intentions.

It seems like a high number, but each use case involves the development of different processes to avoid ambiguities and identify the correct answers. This practice improves the assistant's training but significantly reduces the number of available intentions—especially in organisations such as banks, which deal with a wide range of predictable cases.

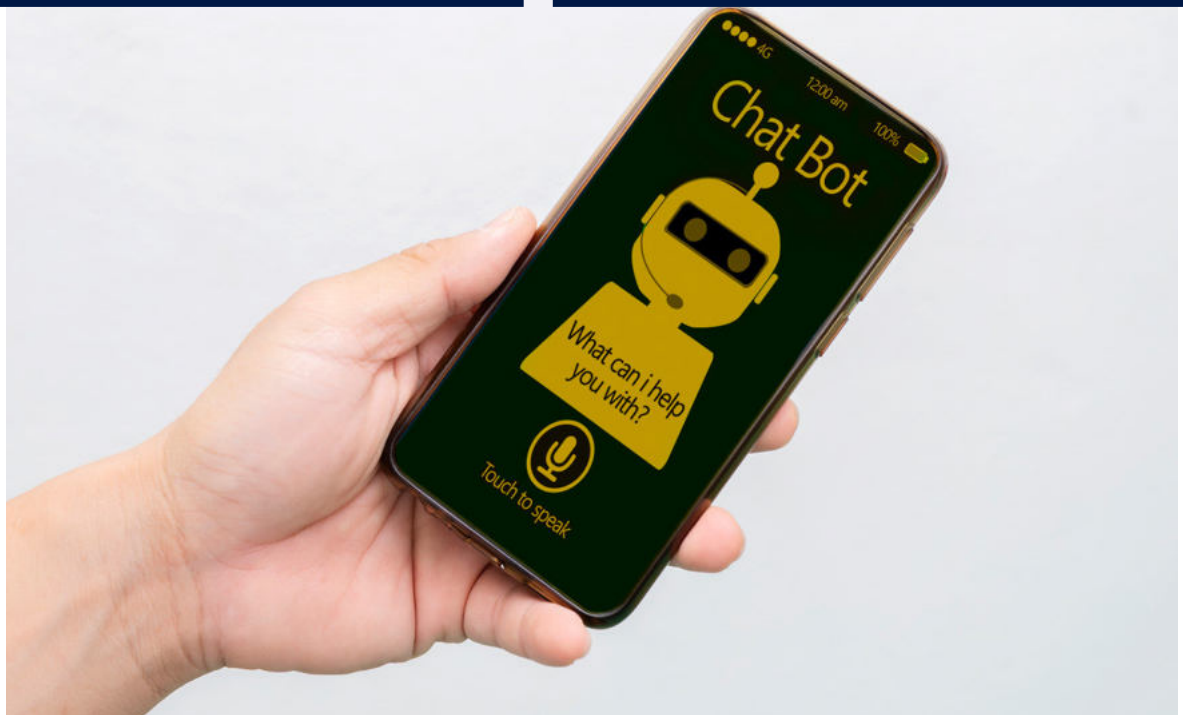
Therefore, limiting intentions results in more complex structures, as the number of use cases for banks increases.

### COLLISION OF CONCEPTS

As the virtual assistant system develops over time, a problem often appears: concepts shared by the different areas of the organisation come into conflict with each other.

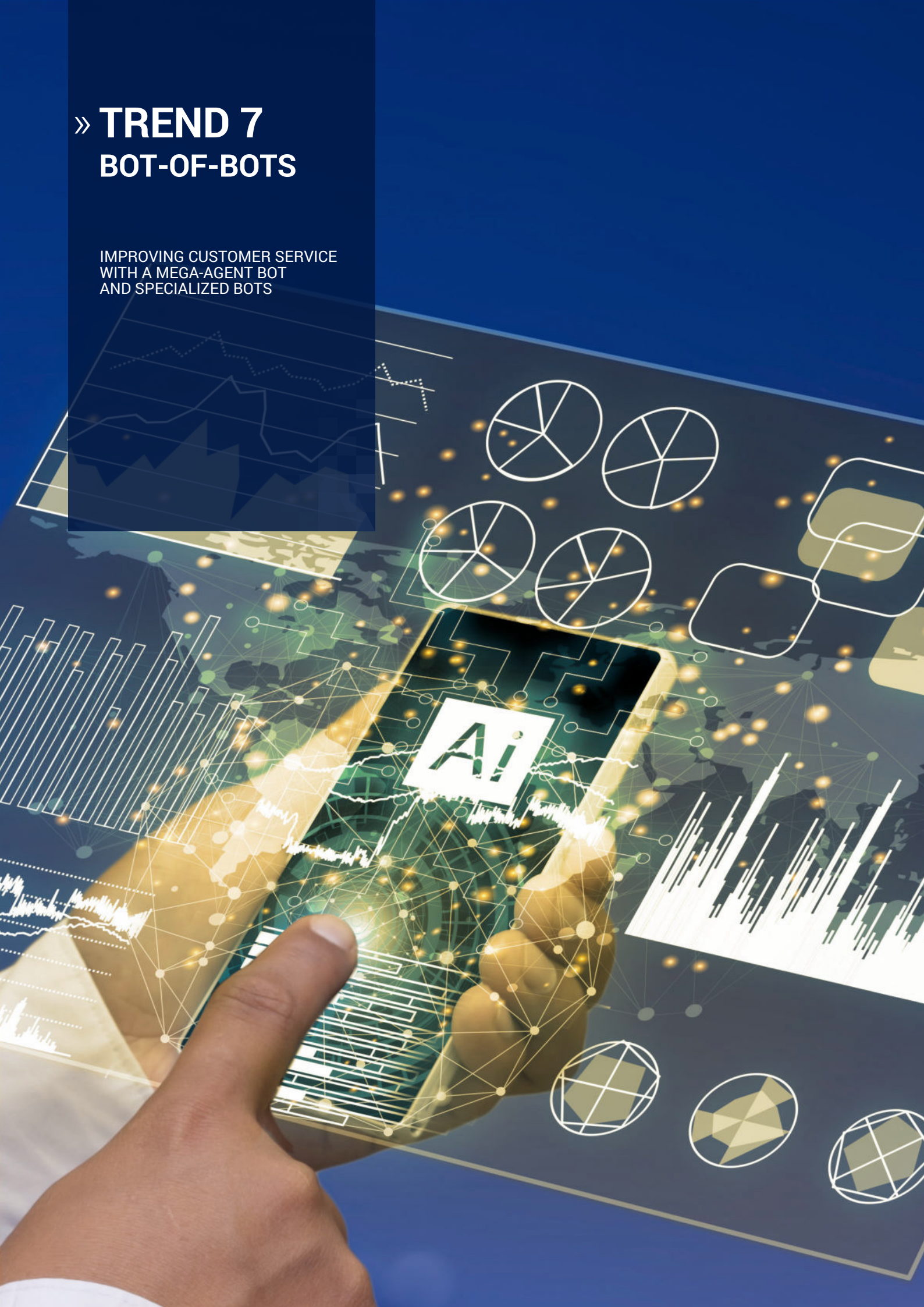
For example, this can happen in banks when the customer wants to contract a financial product or service, which is a concept common to many areas of the organisation. This multiplicity implies that different intentions are activated with the same text.

The bot-of-bots model allows us to overcome this obstacle quite well. It makes it easier for each business area to train its own virtual assistant and to design separate use cases with more precise results.



# » TREND 7
## BOT-OF-BOTS

IMPROVING CUSTOMER SERVICE
WITH A MEGA-AGENT BOT
AND SPECIALIZED BOTS



## KEY CHALLENGES

**TECHNOLOGICAL CHALLENGES**

- To make it possible for the mega-agent virtual assistant—once the query has been established—to continue listening to the interaction with the customer and to be able to regain control of the conversation after the specialized virtual assistant finishes responding.
- To develop tools that allow the mega-agent bot to leverage search technology in deciding which of their specialized bots can provide the best response to the customer's query. For this to be possible, quality training models must be created which automatically detect the customer's intention and assess the possibility of it colliding with another intention.

**ORGANISATIONAL AND CUSTOMER CHALLENGES**

- To efficiently and simultaneously organise the training activities of the different specialised virtual assistants, while avoiding bottlenecks. This will reduce the risk of incorrect answers, providing customers with a better service.
- To maintain consistent tone and behaviour across the virtual assistants, ensuring the most homogeneous experience possible for all customers.

### A TEN-YEAR PROJECTION