tovie ai

AI in Telecommunication 2022

Market Size, Share & Trends

July 2022

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Introduction

The landscape of the global telecommunications industry has been changing rapidly over the years. But today, the pace of evolution seems to be faster than ever before.

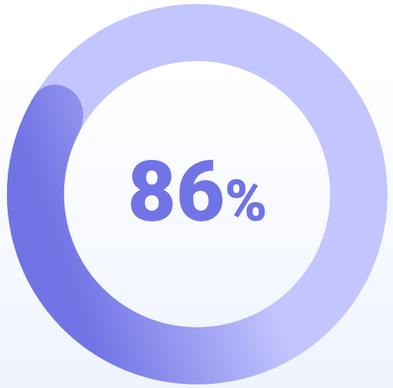
Telecommunications is one of the fastest-growing industries that use AI in many aspects of their businesses, including improving customer experience and network reliability

The introduction of 5G networks, the growing adoption of conversational AI technologies, and the rise of the Internet of Things (IoT) applications coincide with increasing competitive and regulatory pressures.

Moreover, the industry is going through a profound change. With the rise of new technologies such as Artificial Intelligence, 5G, the growth of IoT and more, telcos are able to make a leap towards innovation that will guarantee their competitive advantage against their rivals.

of telecom companies are actively implementing AI to improve their network infrastructure

of enterprise-generated data will be created and processed outside of data centres by 2025



of networking execs believe advanced wireless will transform their organisation within 3 years

mobile connections are wired globally

AI in Telecommunication market size

$679m

the global AI market size in telecoms in 2019

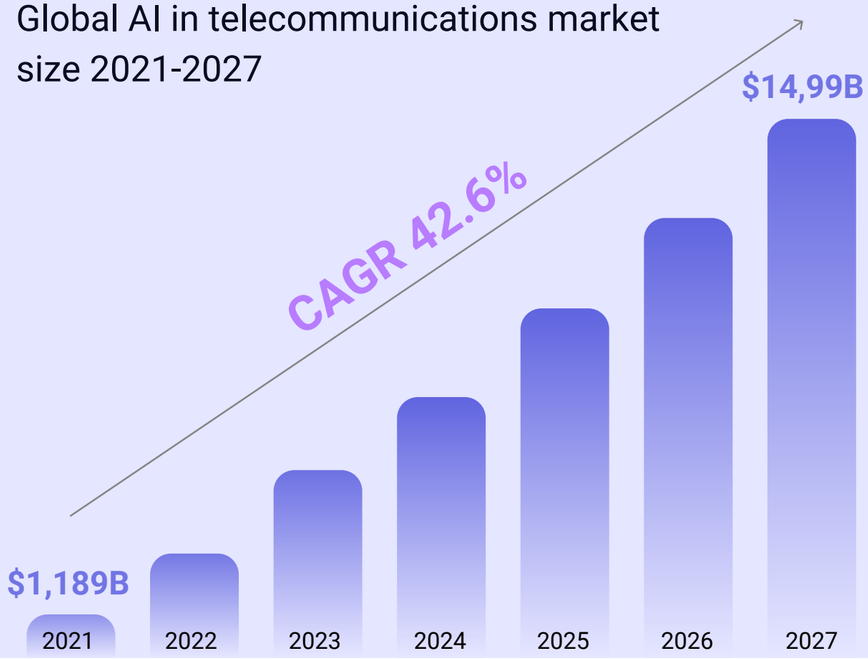
38,4%

annual growth rate (CAGR) of the market from 2020 to 2027

$14,99bn

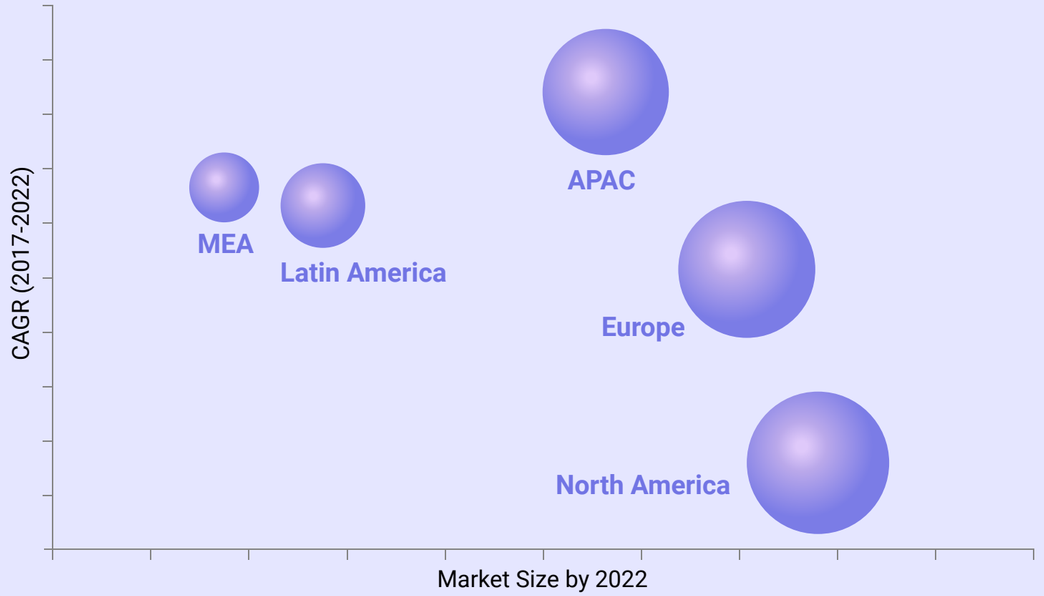
the global AI in the telecommunications market is expected to reach by the end of 2027

Global AI in telecommunications market size 2021-2027



Source: Valuate

AI in telecommunications market, by Region, 2022 (USD Billion)



Source: MarketsandMarkets Analysis

Telecommunication market by companies

IBM

Microsoft

Intel

Google

AT&T

Cisco Systems

Nuance Communications

Sentient Technologies

H2O.ai

Infosys

Salesforce Communications

Nvidia Technologies

Vodafone

Deutsche Telekom

Trends

The advent of 5G technology leads to faster AI adoption by service providers

Rising cyberattacks and early fraud detection & prevention by AI will increase the wide-scale adoption

Growing over-the-top services and video streaming platforms

New customer requests need quality interactions

The growing popularity of virtual assistants and chatbots

The core drivers for AI investment in telecoms

AI would not be possible without Big data

Growing connectivity is a significant factor for telecoms to increasingly use AI to handle the load

Up from 2018 → By 2023

Internet users

+28% 5 bn

Connected devices

+59% 29.3 bn

Broadband speed

+39% 110 mbps

$36.7 bn

is expected to be invested in the telecom industry's AI software, hardware and services by 2025 annually

more than 40%

of AI spending will be accounted for by operators in developed regions such as North America and Europe by 2024. Even though they account for less than 20% of global subscribers

Challenges

Operational costs

Timely management of data collection and analysis has high operational costs. The workforce needs additional resources and tools to ensure quality work without compromising the company's image.

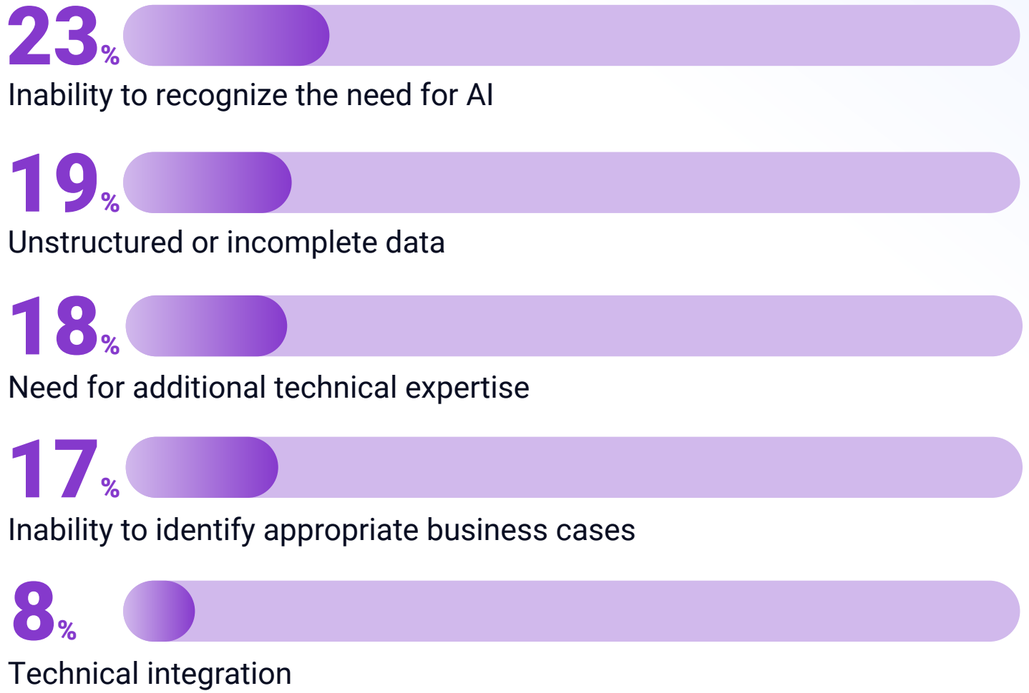
Customer demands

Telecommunications service providers face daily challenges in communicating with customers in real-time or on-site, sometimes making them lose trust in the company. In this crisis, responsiveness, personalization and omnichannel communication are more important than ever.

Security and data breaches

Numerous surveys show that people remain doubtful about the security of their data and fear identity theft and financial loss. There is a need to make the environment safe and secure for customers , which in the long run will help prevent any data breaches.

Although the global market for AI in telecommunications is growing rapidly, its adoption can still be challenging for many companies. Aside from a failure to recognize the need for AI or to identify suitable business use cases, the most common challenges to implementing AI in telecommunications are:



Source: O'Reilly

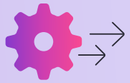
The added value of AI in telecom

AI can be used to turn vast amounts of previously unused data into fertile ground for growing new services, improving the quality of existing services, taking customer service to the next level, and streamlining business operations.

$11 bn will be generated by AI in telecom companies by 2025

For customers

The use of AI in telecommunications services means a much higher level of personalization (based on order history, data consumption patterns, data profiles, frequency and duration of calls, etc.), right down to individual service plans and offers, as well as improved voice call quality and data connectivity for online conferencing.



From the operators' perspective

The added value of AI in the telecommunications industry is mainly focused on the backend, where it helps to optimize data transmission, dynamically adjust network settings, perform calculations on edge IoT devices, extract useful information from large data lakes, etc.

Conversational AI benefits

Telecommunications companies use AI mainly for customer service. For example, by using telcobots and telco virtual assistants to answer multiple queries, troubleshoot problems, and protect users from unwanted calls.

Chatbots analyze requests, identify sales opportunities, and inform subscribers about other services that might interest them. A huge advantage here is telebots' ability to handle the bulk of requests without human intervention.

AI can help telecoms minimize operating costs and also improve customer service. Collected data and personalised service can also help companies develop better products and services to give customers what they really want.

31.5 chats

are attended and resolved by live agents a day

12 minutes

average duration of each chat

4 minutes

average waiting time for an agent

Conversational AI benefits

Enhance customer support

Customers who look for answers to their questions in FAQs and knowledge forums become perceptibly frustrated. With the conversational chatbot, customers can resolve technical problems, find out about the latest upgrade deal and even change their address with a simple request, 24/7/365.

Increase sales and customer engagement

Use a conversational chatbot to increase cross-selling among existing customers by offering personalized plans and services based on purchase history or user profile. At the same time, chatbots can help potential customers choose the right product for their needs.

Boost staff productivity

Allow employees to focus on more complex tasks while the chatbot performs repetitive or time-consuming activities, such as searching for information on plans and additional services, to find the best option for the interested user.

Provide hyperscale with chatbots

With an AI-driven chatbot handling up to 65% of conversations, you can reduce the time it takes to process support requests, leaving more time for increased sales and revenue opportunities.

Improve customer retention

Two-way proactive messaging makes it easier for customers to connect with your brand in a way that makes them feel personal and take action, such as renewing or paying bills.

Reduce the number of calls

Conversational AI technology can encourage customers to switch from voice calls to text messaging, increasing efficiency and satisfaction for all parties.

How AI is used in telecom

Conversational AI can be used to provide human-like communication between a telecommunications company and its customers. Because AI can handle an unlimited volume of calls, customers will never have to wait for an agent to speak to them, yet they will receive a first-class service.

With the ability to integrate seamlessly into existing business systems, conversational AI can also provide a personalized experience for customers so they don't have to repeat information that the company already knows. This personalization also supports the ability to deliver proactive alerts about payment, product usage and promotional offers.

40%

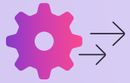
of telecom companies have garnered substantial benefits from cognitive technology

63,5%

of telecom companies are actively implementing AI to improve their network infrastructure

Consumers

have more flexibility in their choice of telecommunications service providers than ever before. Telecom operators should focus on serving and retaining customers by providing convenient, personalized support in the channels customers love.



Telecom operators

provide seamless customer service, which is the key to their success. Customers' expectations change rapidly and they are not afraid to switch to another provider if the service they receive is inadequate.

AI use cases in telecom companies

Virtual assistants in telecom

$8bn

is the amount of expenses saved for businesses annually thanks to virtual assistants

68%

increase in Vodafone's customer satisfaction after the introduction of the TOBi chatbot

$1.2bn

virtual assistants will help telecom service providers save on customer service management in 2022, delivering a compound annual growth rate (CAGR) of 17% over the next five years

Intelligent virtual agents based on AI technologies are gaining momentum in the telecom sector, leading to **improved service quality and customer satisfaction.**

Telecom service providers have turned to virtual assistants **to streamline the handling of a huge number of support requests** for troubleshooting, billing, maintenance, device configuration, etc.

Long waiting periods are the bane of good customer service, which human-run call centers are very prone to. By scaling conversations down to simple inquiries, chatbots can respond to a huge number of customer queries at impressive speeds. That, and the ability to provide uninterrupted service 24 hours a day, 7 days a week.

AI use cases in telecom companies

Fraud detection and prevention

Telecommunications are among the industries most vulnerable to cyber-fraud and cybersecurity schemes. In this case, fraud is the misuse of phones and mobile phones or services to illegally obtain money from a service provider or its customers. The main purpose of fraudsters is to gain access to customer or operator accounts in order to create debts in favour of the criminal.

Fraudulent activity increased dramatically in 2020, during the onset of the COVID-19 pandemic. The growing proliferation of web and digital payment applications has led to an increase in online frauds and scams. According to a report by F5, Inc, a US-based security solutions provider, phishing incidents increased by 15% in 2020.

$20.98bn

the fraud detection and prevention market reached in 2020

$3.6bn

is the amount of loss that malicious attacks inflict on businesses per year

€29bn

is the cost of telecommunications fraud annually

AI use cases in telecom companies

Fraud detection and prevention

The most common methods can be broken into different categories ranging from crude to highly sophisticated scams:

Vishing calls

Vishing (a combination of the words “voice” and “phishing”) is a telephone scam in which scammers trick victims into divulging their personal, financial, security or money transfer information.

International Revenue Sharing Fraud (IRSF)

This is by far the most devastating fraud scheme to date. It involves transferring money from one service provider to another based on an inter-operator trust between service providers. Patient fraudsters wait for the logs to expire before taking further steps to launder money.

One ring and cut Wangiri

In Japanese, “one call and cut” is a telephone scam in which criminals trick victims into calling premium-rate numbers. The scammer sets up a system to dial a large number of random phone numbers. Each call rings only once, then hangs up, leaving a missed call on the recipient’s phone. Users often see the missed call and, believing it to be legitimate, call back to the number with the premium rate.

50%

of all inbound cell phone calls are robocalls or spam

60%

of all consumer complaints to the FCC are about robocalls

651,176 minutes

were wasted by spammers in 2020

To find out more about how mobile operators can protect their subscribers from spam calls and fraud activity visit https://tovie.ai/solutions/mobile-assistant

AI use cases in telecom companies

Robotic Process Automation in telecom

Robotic process automation (RPA) is a technology that configures computer software to collect data and manipulate applications the way humans do.

With RPA, telecom service providers can automate internal operations such as data entry, reconciliation or verification, customer support, and cross-sell and up-sell with AI-enabled calls.

RPA applications enable CSPs to reduce costs, increase accuracy, efficiency, and improve customer service.

Today, the level of automation is still limited compared to the level of automation that can be achieved with existing technology. However, this does not change the fact of how the lack of RPA hurts the customer service of telecom operators.

Employees spend 10%-25% of their time on repetitive computer tasks

IT departments spend 30% of their time on basic low-level tasks

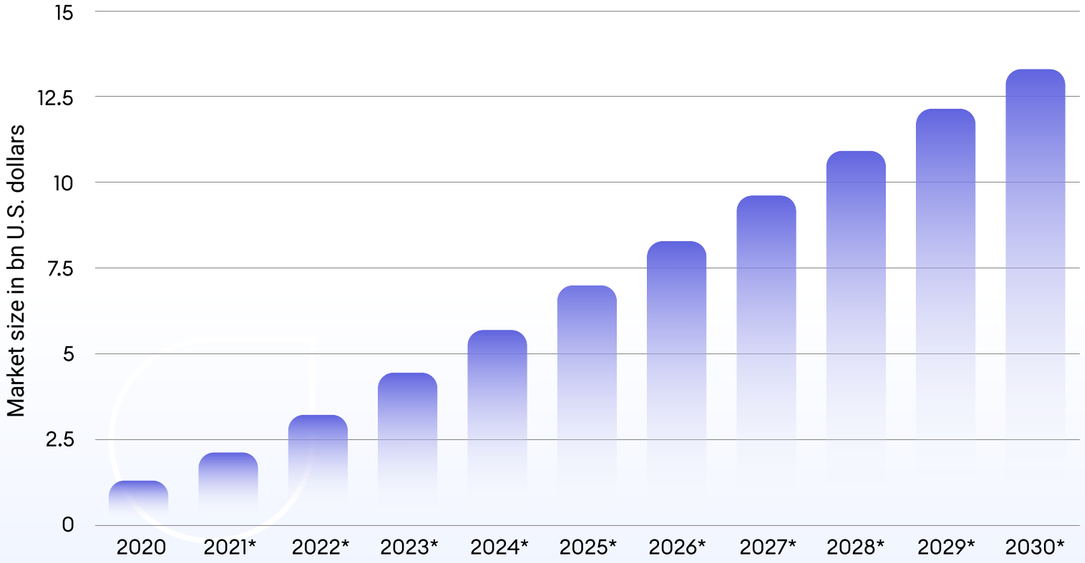
50% of companies spend between $5- $25 on manual invoice processing

A typical rules-based process can be 70%-80% automated

AI use cases in telecom companies

Robotic Process Automation in telecom

Robotic process automation (RPA) market size worldwide from 2020 to 2030 (in bn U.S. dollars)



$1.40bn
was a global RPA market size in 2019

5 years
the timeframe in which RPA will reach near-universal adoption by businesses

$11bn
is estimated to be a global RPA market by 2027, expanding by 34% between 2020 and 2027

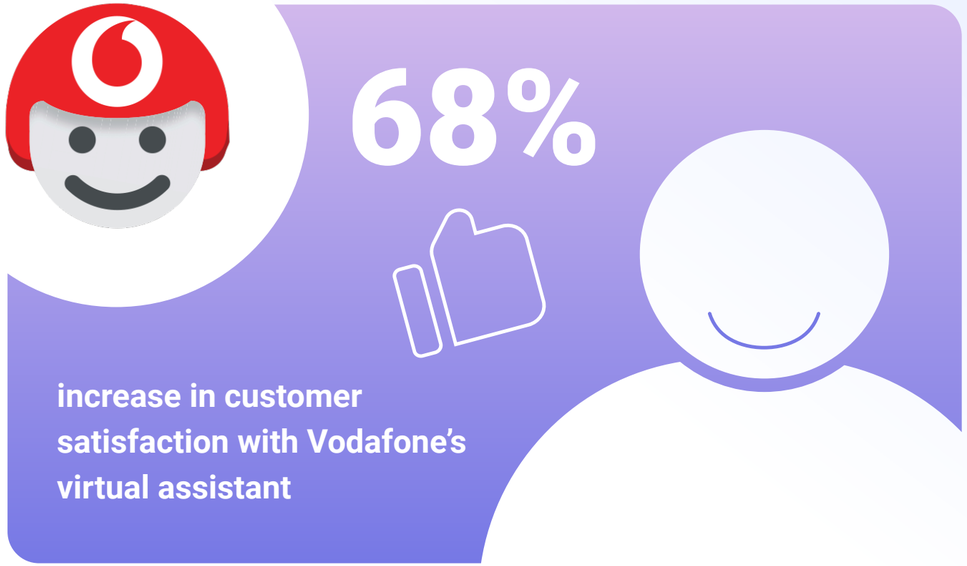
Over 53%
of all organizations have already begun their journey in RPA. Moreover, this number is expected to grow to 72% in the next 2 years

76%
of organizations have embraced automation due to COVID-19 and the shift to remote work

AI for telecom: Real-life examples

Vodafone

Vodafone Group Plc is a British multinational telecommunications company. It predominantly operates services in Asia, Africa, Europe, and Oceania.



About TOBi

Vodafone launched its personalized virtual assistant, TOBi, to engage with customers across four digital messaging channels. TOBi provides its AI assistance through a chatbot, which itself is software used to conduct personalized online chat or text-to-speech communication with customers.

In addition to its use at Vodafone, the chatbot is known for its unique features in many countries, where it is used as a travel guide or even as an HR assistant.

Handles 100% of all messaging conversations and 30% of all conversations with a first contact resolution rate of 70%

Understands more than 100 intents and can receive photos and process voice input

Accelerates customer service across multiple platforms in all markets

AI for telecom: Real-life examples

Deutsche Telekom

Deutsche Telekom AG is a German telecommunications company that is headquartered in Bonn and is the largest telecommunications provider in Europe by revenue.

T-Mobile is the brand name used by some of the mobile communications subsidiaries of the German telecommunications company Deutsche Telekom AG in the Czech Republic (T-Mobile Czech Republic), Poland (T-Mobile Polska), the United States (T-Mobile US) and by the former subsidiary in the Netherlands (T-Mobile Netherlands).

Tinka – the clever chatbot of T-Mobile Austria

Deutsche Telekom is investing heavily in AI at various levels. From the Tinka chatbot, capable of answering more than **1,500 customer questions**, to intelligent business planning tools, this CSP is actively incorporating AI elements into its infrastructure and service portfolio.

24/7
assistant

>270
customers per day

120,000
questions per month

4 of 10
customers already prefer chatbots in customer dialogue

Favourite Questions:

HomeNet installation, billing details and the best mobile settings

AI for telecom: Real-life examples

Nokia

Nokia Corporation is a Finnish multinational telecommunications, information technology, and consumer electronics company.

In 2017, Nokia launched a virtual assistant for telecom engineers. MIKA, or Multi-purpose Intuitive Knowledge Assistant, is the first digital assistant “trained” specifically for the telecom industry to provide automated assistance that saves time and allows highly skilled workers to focus on critical tasks.

MIKA provides quick recommendations for common networking issues and directs users to relevant knowledge base resources and diagnostic tools.

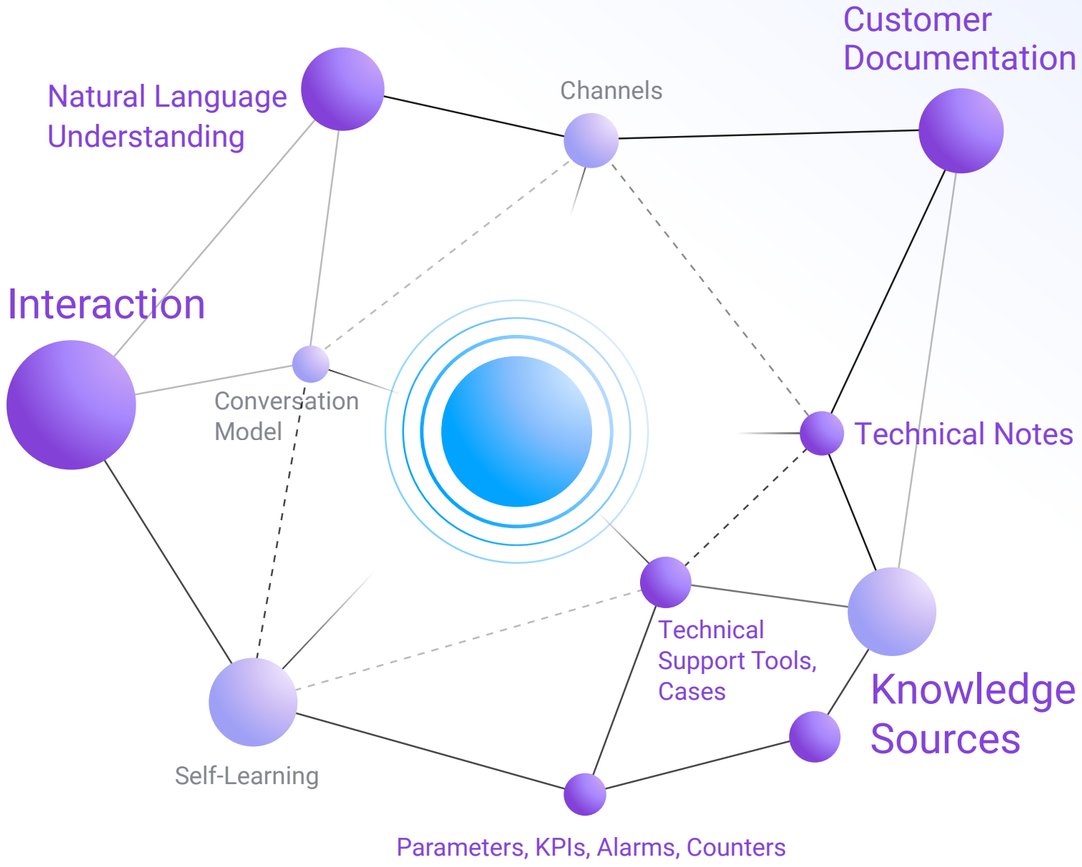
Nokia Digital Assistant

40%
more efficient information access

up to 2 hours
information refresh rate

19
knowledge libraries and live system information

Designed for telecom engineers



AI for telecom: Real-life examples

Lumen Technologies

Lumen Technologies, Inc. (formerly CenturyLink) is an American telecommunications company headquartered in Monroe, Louisiana, that offers communications, network services, security, cloud solutions, voice, and managed services.

Angie is an AI-powered sales assistant that drives warm leads through its sales funnel

CenturyLink tasked the AI Assistants, which they named Angie, with reaching out to smaller prospects that did not have a designated sales representative. This led to 300 calls being set up for four of the company's sales reps, which quickly turned into a case of enabling.

By being able to follow up with leads quickly and at scale, as shown by the likes of CenturyLink, telecommunications can not only provide better value to customers but also enhance internal satisfaction amongst the workforce through utilizing IVAs.

CenturyLink to follow up with 800 qualified telemarketing leads per week who are legitimately open and ready to engage with salespeople

The company is now contacting 90,000 qualified prospects every quarter, which has resulted in increased excitement among the sales team and an 8-1 ROI on a monthly basis

AI for telecom: Real-life examples

Telefónica

Telefónica, S.A. is a Spanish multinational telecommunications company headquartered in Madrid, Spain. It is one of the largest telephone operators and mobile network providers in the world.

In 2018, Telefónica announced the launch of Aura, an artificial intelligence-powered digital assistant that will transform the way customers interact with Telefónica and manage their digital lives with the company.

Telefónica's Aura reduces customer service costs generated from phone inquiries

Since the digital assistant was launched in February 2018, it has attracted 470,000 users

The Aura service has been rolled out to six of Telefonica's markets worldwide: Argentina, Brazil, Chile, Germany, Spain and the UK

The assistant is delivered to customer devices via a mobile application, but also via other third-party channels including Facebook, Google and Microsoft

In the UK, O2 has been using Aura to power a customer services chatbot

Mobile Personal Assistant by Tovie AI

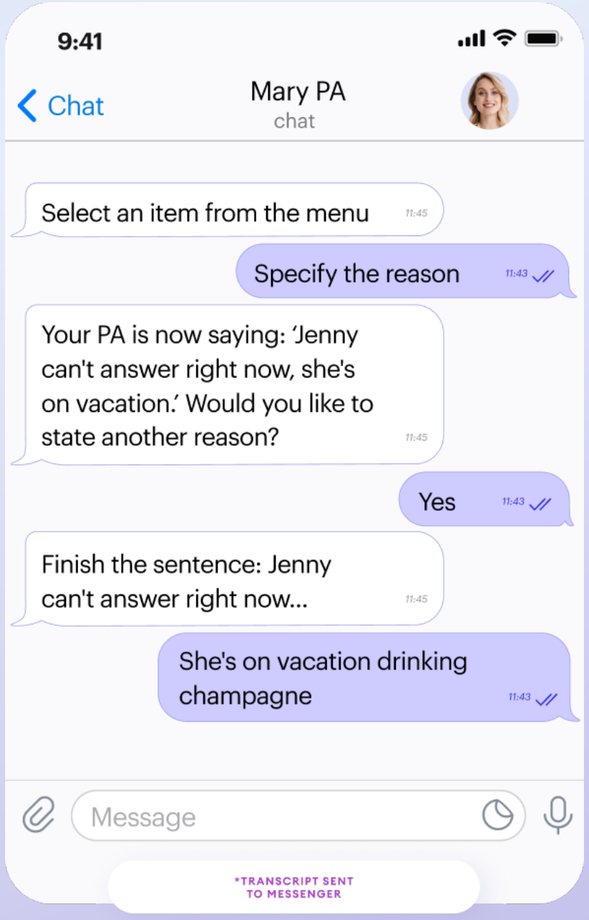
The Mobile Personal Assistant is a solution designed specifically for telecommunications companies. AI-powered assistant engages in a conversation if the user is busy, unavailable, or doesn’t want to pick up calls from an unknown caller

- **Protects from robocalls**
- **Extends incoming call duration**
- **Picks up the phone when the subscriber is busy**
- **Takes a call when the subscriber is offline**

Inbound/Outbound calls Telegram WhatsApp Facebook Messenger

Protect your customers against spammers and cement your title as the most advanced telecom operator

Book a Demo ›



Conclusion

The rapid growth of AI in the telecoms market reflects its growing importance in the industry. As more and more companies increase their investment in cognitive technology, it’s important to keep up with them.

AI in the telecoms market is increasingly helping to manage, optimize and maintain infrastructure and customer support operations. Network optimization, predictive maintenance, virtual assistants, RPAs, fraud prevention and new revenue streams are all examples of the use of AI in the telecommunications industry, where the technology has helped create added value for enterprises.

Using AI, telecom companies can expect to further accelerate growth in this highly competitive space.

However, when dealing with complex or unfamiliar technologies, choosing the right service provider to support you along the way is equally important. If you are looking for a provider with a solution tailored to your telecom company, find out more about the Mobile Personal Assistant.

About Tovie AI

At Tovie AI, we set ourselves a goal to make an interaction with a robot, virtual assistant, or a simple bot to be as natural as possible.

Our comprehensive tool ecosystem, end-to-end solutions, accurate NLP engine, and customized analytical reports enable our users to test the market and get the most out of their investment.

For more information, visit tovie.ai or contact us at contact@tovie.ai

Sources

Tovie AI, Tractica, Juniper Research, Deloitte, IDC, Statista, MarketsandMarkets Research, ABI Research, Vodafone, Capgemini, Grand View Research, PwC, Ernst & Young Global Limited, Liveperson, Valuates Reports, MIT Technology Review, OCCRP, O'Reilly, Softengi, Artificial Solutions.