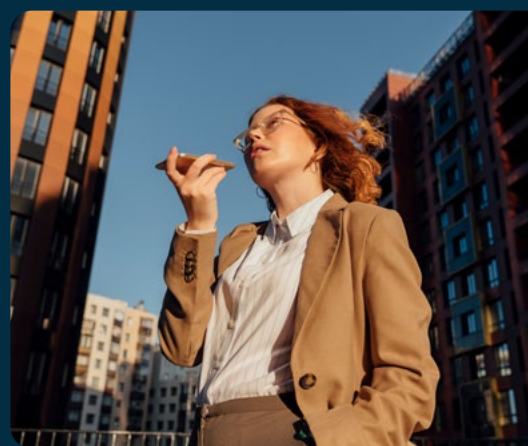# servicenow.

# Put GenAI to Work for Telecom

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**Generative artificial intelligence (GenAI) has exploded into the popular imagination in the past year. Tools like OpenAI's ChatGPT and DALL-E have captivated us with their knack for creating text that reads like it was written by an expert journalist, producing weird and wonderful images, and even making music from scratch.**

GenAI's ability to mimic human dialogue, ideation, and decision-making marks a major inflection point in public adoption. We can all see and use the technology's true disruptive potential for ourselves.

It's also put AI back into the spotlight in a big way. It seems like everyone is talking about GenAI and its potential to transform work and reinvent the enterprise.

But how do you separate the hype from what's possible, not to mention commercially viable? And, turning to telecoms more specifically, what's the best way for the sector to tap into the power of GenAI?

In this paper, we'll answer those questions and more – sharing use cases and steps that telcos can use to accelerate their efforts around GenAI.

> **But first, let's start by defining what GenAI is, and why it could be a turning point for the telecom industry.**

# GenAI: the next inflection point for AI





**GenAI is a type of artificial intelligence that creates realistic, original content by learning from existing data. Unlike conventional AI algorithms, which typically analyze or act on existing data, GenAI is capable of creating novel content – images, text, audio, video, and code – by synthesizing the data it's been trained on.**

GenAI uses large language models (LLMs) to understand and respond to complex questions. These models are trained on massive amounts of data, making note of patterns and associations within the dataset. Eventually, they learn to mimic those outputs and generate new ones, usually based on a prompt or command.

GenAI is a riveting addition to the AI toolset. It builds on the ability of AI in general to automate repetitive tasks and surface new insights, ideas, and innovations with predictive analytics, machine learning (ML) and other methods.
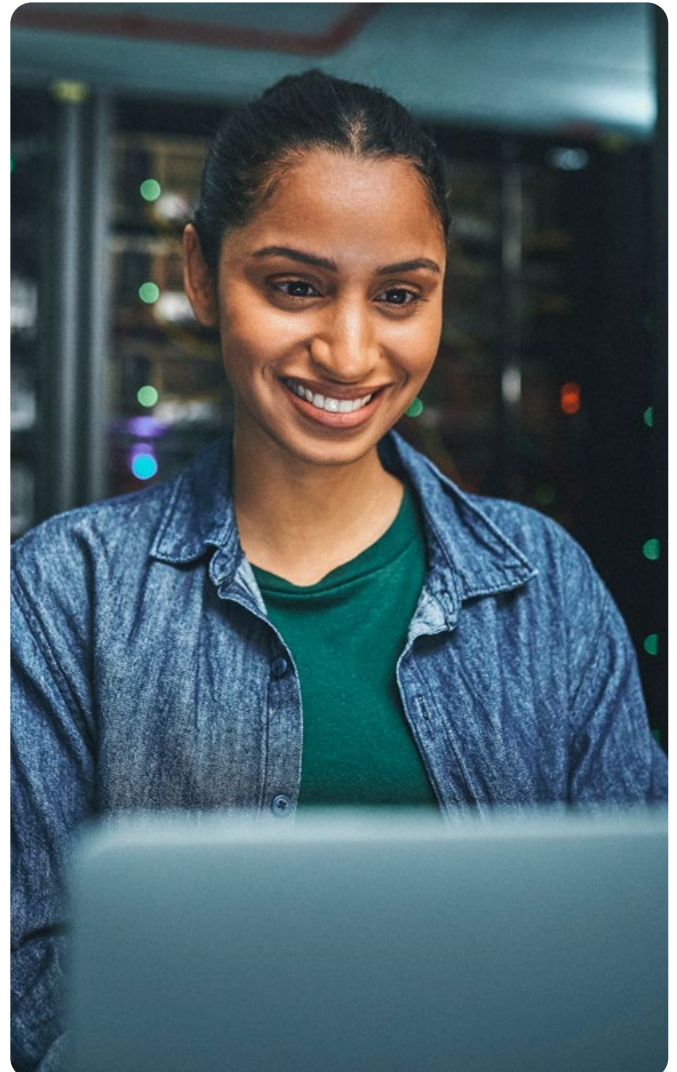
# Time for telcos to act

**It's not just GenAI that's having a moment: the telecommunications industry is also at a critical turning point.**

After years of growth, the industry has had to contend with much more volatile market conditions, driven by a global economic downturn and rising inflation, which are putting pressure on margins and impacting consumer purchase behavior.

In the past four years, average revenues for the top 10 telecoms operators worldwide grew by just 2.7% annually.

This has coincided with huge capital expenditure outlays, as telcos rolled out several new generations of network – most recently 5G and fiber – in quick succession. On top of it all, the telecoms sector has had to contend with the rise of big tech, bringing intense competition and squeezing telcos' market capitalization.

These converging challenges have compelled CSPs to rethink their operating models. Success in this "AI era" requires more than just keeping up; it demands radical reinvention.

# Could GenAI be the technology
## to spark that change?

**With all the pressures facing telcos, large-scale deployment of GenAI could prove key to driving much-needed growth and renewal.**

CSPs are certainly in a strong position to take advantage of this step-change in technology. With their vast networks, huge customer bases, and critical role in connecting people and businesses globally, telcos already possess many of the important building blocks required for fruitful AI integration.

In particular, AI thrives on large datasets – something the sector has in abundance. Operators already collect and process a wealth of data on customers, purchase history, usage patterns, feedback scores, network assets, and more. On top of that, there's even more data available to purchase or share from partners or third parties.

While CSPs may find themselves starting with an advantage, it's going to take concerted effort, and a shift in current thinking, for GenAI to have the greatest payoff.

The reality is that telcos have yet to fully embrace AI. Models tend to be developed for hyper-specific use cases or areas of

the business, making them difficult to apply at scale, where greater value can be realized. Moreover, AI investments don't always align with top-level management priorities. As a result, they fail to truly take off and never become embedded in business as usual.

Getting full value at scale from both AI and GenAI initiatives alike demands change on a fundamentally deeper and far-reaching level. More transformative implementations of GenAI will require organizations to reshape their technology infrastructure, operating model, and ways of working, as well as invest in a skills-based talent strategy that enables greater agility to respond to shifting business demands.

# Exploring three use cases for GenAI in telecoms

GenAI holds tantalizing potential to streamline many of the tools, systems, partners, and processes that telcos engage with daily. While there are no shortage of GenAI use cases that will free up capital in human-led services and redirect it to innovation, there are three areas where this technology could be truly transformative for telcos.

## 1. Network management

According to research from Spirent Communications and Heaving Reading, mobile operators spend around $20 billion annually dealing with network outages and service degradations. Beyond the cost of dealing with downtime, network incidents can also come at a hefty cost to a telco's reputation and customer retention. [making AI-enabled network management of immense value].

GenAI will help to support autonomous network management by connecting different AI/ML models used across network planning and operations with LLMs that can understand network behaviors and create action plans in areas including network capacity planning and performance.

For example, if an incident occurs on part of an operator's network, GenAI can identify the issue and initiate an automated workflow, notifying the relevant teams, recommending next actions for them to take, identifying what customer segments will be impacted, and sending them personalized alerts about the issue.

After the fact, GenAI can also collect data on the incident response, learning from past events to optimize response and resolution of future issues.

Ospirent™

**Gartner.**

## 2. Contact center

By 2026, Gartner estimates that conversational artificial intelligence (AI) deployments within contact centers globally **will reduce agent labor costs by $80 billion**. There is ample opportunity for telcos to capture their share of these efficiency gains.

In the telco contact center, not only can GenAI shoulder the burden of time-consuming tasks like transcribing calls, it can also inject them with a new layer of intelligence, summarizing customer interactions and suggesting next-best actions for human agents to take.

With the ability to synthesize conversations across multiple channels and agents, telcos can elevate agent productivity, speed time-to-resolution, and reduce cost-to-serve.

GenAI can also take existing virtual agents to the next level, enabling them to better understand customer sentiment and engage in more conversational, human-like interactions. In time, intelligent virtual agents could also be trained to handle more transactional interactions independently, initiating tariff changes, upgrades, or contract renewals.

**IFS**

## 3. Service support

In its **State of Service 2023 Global Report,** IFS reveals that 46% of field service organizations are struggling to meet customer service-level agreements (SLAs). GenAI could lend a helping hand here, supporting a range of scenarios from predictive maintenance and intelligent scheduling to providing real-time monitoring for identifying issues and optimizing routes.

When out in the field, GenAI can support technicians with guided assistance for troubleshooting, installation, and maintenance. Applying GenAI to network devices and infrastructure like routers, switches, and firewalls can speed up diagnostics and analysis.

It can even help with installation, parts, and troubleshooting, improving operations center uptime and field service efficiency to help telcos keep tighter control over costs and lift customer satisfaction.

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# ServiceNow & NVIDIA: Accelerating GenAI adoption

**Using NVIDIA software, services, and accelerated infrastructure, ServiceNow is developing custom LLMs, trained on data specifically for the ServiceNow Platform.**

**Learn more** →

This will expand ServiceNow's already extensive AI functionality with new uses for GenAI across the enterprise — for IT departments, customer service teams, employees, and developers — to strengthen workflow automation and rapidly increase productivity.

# Steps to success

GenAI represents a step change in evolution of AI. Its impact on productivity could potentially add trillions to the global economy. If telcos are serious about seizing their share of this immense opportunity, they should not delay. Now is the time to start harnessing the power of GenAI to reinvigorate margins, tap into new sources of value and reignite growth.

Everyone knows they need to act quickly – so what do they do now? We've outlined four steps telcos can take to hit the ground running.

## 1. Think tactically

While it's key to have a strategic, longer-term vision and roadmap for GenAI, there are also tactical steps that telcos can take to introduce AI techniques that favor fast time-to-value.

Start by narrowing down the most impactful and easily solvable use cases; these should target concrete improvements and tangible business outcomes. Think about what data, techniques, and toolsets you'll need to implement your use cases; if any of these aren't readily available or rapidly attainable, then you're probably going to struggle to realize business value fast.

## 2. Prepare your foundations

To learn and improve its decision-making and creative capabilities GenAI demands data of high quality and in large volumes. Your data and its underlying foundations will be key enabling factors for what your business can achieve with GenAI. That means you'll want to take the time to prioritize data strategy, management, and quality as fundamental building blocks for unlocking the full potential of your GenAI initiatives.

GenAI and the LLMs that power this technology also bring new infrastructure demands, including higher compute and data storage requirements. Does your company have the right technical infrastructure, operating model and data governance structure to meet them?

You'll need to think about budget too. How much are you able to allocate to fund current and future GenAI projects? Assess the cost and benefit of using GenAI versus other AI/ML approaches that might be more cost effective and better suited to particular use cases.

## 3.  Be aware of the risks

Remember that any new technology – especially one as fundamentally disruptive and fast-changing as GenAI – also opens a new world of risks. GenAI brings with it the potential for deepfakes, copyright issues and other malicious uses that could harm your organization, your employees, and your customers.

You'll need to work with security and risk management leaders to consider the full spectrum of risks – reputational, security, fraud, and regulatory – that could stem from GenAI, and put together a plan for addressing and mitigating these potential threats.

## 4.  Remember the human element

Every role has the potential to be impacted by GenAI, whether it involves automating more routine work or acting as a co-pilot and assisting with certain tasks. GenAI will also introduce new work for humans to perform, such as fine-tuning prompts for AI tools, confirming the accuracy of AI-generated outputs, and ensuring the responsible use of AI-powered systems.

As GenAI adoption gains pace, it won't just be used by those in technical roles, it will be interwoven in the fabric of almost all work. In fact, much of GenAI's value could derive from how it becomes embedded into everyday tools and workflows. Most of your workforce will not need to become GenAI specialists, but they will need to become comfortable and familiar with using this technology. This makes it important for you to focus on upskilling your talent base and making sure your people can keep up with this technology-driven change.

# No time to lose

**Telcos have reason to be optimistic about the prospects of GenAI, but they must also be ready for the challenges of reshaping their operations. This moment marks a new era, with the next five years likely to usher in more industry change than the previous five decades.**

To fully leverage the power of generative AI, telcos need to make bold moves, leaving legacy behind in favor of charting a fresh path forward.

This includes reimagining their IT architecture, organizational structure, and culture to regain margins, drive innovation, and tap into new sources of value.

When it comes to making the most of a technology as revolutionary as GenAI, good things will come to telcos that don't wait.
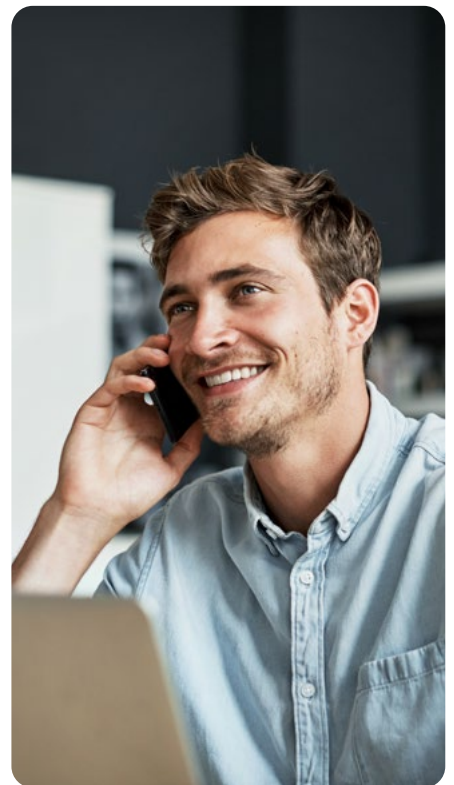
# About ServiceNow for Telecom

**ServiceNow ignites growth for Telecommunications with automation designed for digital ecosystems. By automating workflows across the end-to-end service lifecycle, modern CSPs can plan and build networks with ordering, care, and assurance in mind, all on one platform.**

Digital-first services launch faster, frictionless experiences inspire loyalty across customers and employees, service operations are automated, and network investments align with business goals. Ultimately, this defines a modern digital telco—uniting the entire service lifecycle on one platform for seamless experiences that grow revenue, unleash productivity, and reduce costs.

To learn more about ServiceNow's solutions for telecoms, please visit: www.servicenow.com/solutions/industry/tmt/telecom

and to learn how to accelerate productivity with generative AI experiences on the Now Platform(r), please visit: https://www.servicenow.com/now-platform/generative-ai.html

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