



A NEW MANIFESTO FOR THE **FUTURE** OF TELECOMMUNICATIONS

The journey to data-driven digital transformation

How communications service providers can secure a sustainable, profitable future by delivering best-in-class connectivity, innovative services, and excellent digital experiences to their customers



THE CURRENCY OF GROWTH, INNOVATION AND DIFFERENTIATION: SOLVING THE DATA CONUNDRUM

With the 5G rollout in progress, the telecommunications sector has reached one of its most significant turning points in recent history. After a long period of market saturation, revenue stagnation, and eroding margins, communications service providers (CSPs) now have a huge opportunity to innovate and grow.

The 5G era will accelerate the shift to software-defined networks, which will dramatically increase the potential for the launch of new services, especially in the B2B market. To seize the advantage, however, businesses need to transform both themselves and the ecosystem in which they operate.

To capitalise on the huge investment in 5G infrastructure, CSPs are sure that the new services they bring to market will deliver strong returns. This requires more than just 5G technology—it depends on understanding customers and anticipating their needs. That insight is vital to deliver great service experiences while designing effective revenue models, efficient processes and scalable infrastructure, whilst minimising financial risks.

Currently, the volume of data streaming in from millions of customer touchpoints and billions of connected devices grows exponentially. Capitalising on this depends on the ability to capture, catalogue, analyse and act upon data—in real-time, and with end-to-end governance

As 5G opens new horizons for a more connected world, there's never been a more exciting time as CSPs transition to the brave new world of artificial intelligence and machine learning.

DELIVERING AGILITY AND INTELLIGENCE IN A DIGITAL-FIRST, DATA-DRIVEN WORLD

“To prosper in the new era, it's vital to solve the data conundrum. In this manifesto, we'll set out our vision for data and analytics in the communications sector, and why SAS is uniquely equipped to help.”

THE SAS COMMITMENT

At SAS, we're making it our mission to build a technology foundation that enables CSPs to extract rich, contextual insights from every network event and customer interaction, our technology acts as a central "brain" that extends across both network and customer-facing functions.

Based on our decades of experience in helping CSPs around the world to solve their data problems, SAS can help your business unlock transformational insight—enabling you to understand and anticipate customer needs, adapt network capabilities in real time, and harness the full power of the 5G network to deliver innovative products and services.

At the same time, these insights gained from data and analytics, help you optimise your internal processes and operations, mitigate risks, detect threats, and bolster security—enabling safer, more efficient, and more profitable service delivery.

SAS believes the future value of analytics falls into three important areas:

- ▶ **Engage everyone and deploy everywhere**
- ▶ **Empower the ecosystem**
- ▶ **And promote transparency and trust**



DATA-DRIVEN INSIGHTS IN ACTION

Leading CSPs around the world have already harnessed SAS to:

1

Personalise next best actions based on online and offline customer data and event-based targeting on social channels – leading to a 10x increase in conversions.

2

Automate detection and monitoring of new and existing fraud schemes—significantly reducing losses and outperforming existing predictive models by 30%

3

Maximise adoption of a growing product portfolio by analysing customer usage patterns and automatically suggesting appropriate value-add services.

4

Harness contextual triggers to guide customer care activities—helping to drive 40% growth in personalised upselling by delivering more than 50 million targeted offers over two years.

THE FIVE PILLARS OF DATA-DRIVEN DIGITAL TRANSFORMATION

To secure a sustainable future, SAS recommends delivery on five key principles:

1

DRIVE DIGITAL, CLOUD, AND WORKFORCE TRANSFORMATION

The shift from physical to cloud and digital will require much faster and more automated delivery cycles for services. Backed by the cloud infrastructure and tools to enable agile, iterative development, CSPs need to increase leverage of AI and ML techniques. This means hiring the best and brightest from the data science talent pool—and building a working environment that frees them to do their best work every day.

2

PROVIDE EXCEPTIONAL CUSTOMER EXPERIENCE

To compete in increasingly saturated markets, CSPs must respond to ever-increasing customer expectations and maintain loyalty by providing best-in-class customer service. Harnessing data to understand customers' needs and anticipate their requirements is critical to ensure delightful customer journeys across all channels.

3

DELIVER INNOVATIVE NETWORK SERVICES

5G marks a fundamental change in the way network services will be delivered. CSPs are getting ready to take advantage of opportunities such as network slicing to bring new services and more finely grained levels of service assurance to the market. They understand that real-time network analytics powered by artificial intelligence (AI) will be the key to delivering on this potential.

4

FOCUS ON REVENUE AND COST OPTIMISATION

To offset significant investments in 5G infrastructure and free up capital for innovation, CSPs are increasingly focussing on internal efficiencies, especially in areas such as smart network planning and energy consumptions, price optimisation, marketing efficiency and customer service. Analytics is key to making the right decisions at the right time across all these areas.

5

ENHANCE CREDIT RISK AND FRAUD DETECTION OPERATIONS

With the rising tide of bad debt, fraud continues to increase. To protect their bottom line, CSPs are enhancing their credit risk analysis and fraud detection prediction capabilities to optimise collections, protect vulnerable customers, accurately forecast, and keep fraudsters at bay.

PILLAR 1: DRIVE DIGITAL, CLOUD, AND WORKFORCE TRANSFORMATION

As CSPs increasingly shift away from managing physical assets and towards providing 5G digital services, the whole organisation is changing. Making this transition not only requires new people and new skills. It also necessitates new ways of working, and new systems and processes to support these new working practices.

In particular, CSPs understand the need to replace today's siloed data landscape and complex reporting tools with a platform that democratizes access to analytics and makes it easy for business users to serve themselves with insight.

The democratization of data to a much wider audience doesn't just help empower key stakeholders within the business to make data-driven decisions. Crucially, it also frees highly skilled data scientists to deliver real value by working on innovative projects, rather than routine reporting tasks.

Over the longer term, CSPs who are demonstrating their effective use of data science are becoming more attractive places for top data experts to work, creating a virtuous circle that makes hiring and retention easier, and fuelling the engine of self-sustaining data-driven transformation.

On the technology side, development cycles will also need to become faster and more agile to enable CSPs to put new AI models into production faster and manage their lifecycles more efficiently. Digital solutions running on flexible, scalable cloud-based platforms are the most effective way to accelerate these processes.

WHAT SAS DELIVERS

SAS is working with CSPs to redefine business-as-usual as they drive digital transformation throughout their business models.

By connecting customer and network data from across the enterprise into a single, well-organised catalogue and providing user-friendly, low- or no-code analytics tools, SAS provides the tools to help CSPs use their data more effectively while ensuring proper governance and information security. This makes it safer for non-technical business users to perform analyses and answer queries themselves.

By combining expertise in customer and network analytics with cloud-based or hybrid delivery models, SAS provides a central platform for all your analytics needs, leveraging both SAS and open-source technologies within a trusted framework that provides flexibility, scalability, accuracy, accountability, and governance.



PILLAR 2: PROVIDE EXCEPTIONAL CUSTOMER EXPERIENCE

Exceptional customer service is critical to maintain growth in saturated markets by building loyalty, reducing churn, and increasing share-of-wallet.

To deliver outstanding service, it's vital to eliminate complexity, inconsistency, and friction from all customer experiences

Data: Connect customer and network data to provide real-time information about every event that could impact the customer experience and/or provide context about their needs—from call quality and bandwidth issues to interactions with marketing or customer care teams.

Insights: Apply customer and network insights to the design of new products and services. Build personalised digital journeys that satisfy each customer's individual needs, while taking full advantage of the potential of next-generation networks.

Action: Intelligently automate processes by integrating insights to accelerate delivery and improve customer service. Prompt customer care teams with the right actions at the right time to deliver unbeatable service that reduces churn and increases revenue.

WHAT SAS DELIVERS

More than 75% of Fortune 500 CSPs are already working with SAS to transform their operations by harnessing intelligent automation to improve the customer experience. With a 360-degree view of all customer activity and comprehensive customer profiles, CSPs can design smarter customer journeys, underpinned by rich insights to make every touchpoint engaging and relevant.

SAS also helps CSPs create a frictionless customer experience by breaking down data silos and supporting smarter, faster decisioning across key areas including customer care, network management, and the detection of fraudulent activities.

This enables CSPs to continue to build more customer-centric operations, attract, grow and retain a new generation of customers, and strengthen their position in the value chain by fending off competition from over-the-top service providers.

PILLAR 3: DELIVER INNOVATIVE NETWORK SERVICES

To flourish in a 5G world, CSPs are looking to monetise new capabilities such as network slicing, which will enable them to offer bespoke services tailored for individual customers and use cases. This has the potential to transform the B2B market by unlocking new revenue streams whilst offering their customers opportunities to advance.

Network management is becoming more dynamic, and the speed and scale of operations, especially at the edge of the network, requires CSPs to move towards autonomous networks making services quicker, more cost efficient, and simpler to deploy and manage.

WHAT SAS DELIVERS

CSPs are working with SAS to implement AI-powered solutions for traffic forecasting, smart capacity planning, and intelligent software-defined network management. An example of results achieved are 10-20% saving in RAN capacity upgrades and up to 25% reductions in site visits.

For 5G, SAS offers a solution called Network Data Analytics Function (NWDAF), which streamlines the way core network data is produced and consumed, supporting the generation of insights to take actions to enhance end-user experience.

We partner with CSPs to deliver packaged B2B advanced analytics AIoT use cases to provide to their enterprise customers such as industry connect condition-based monitoring and predictive maintenance.

PILLAR 4: FOCUS ON REVENUE AND COST OPTIMISATION

Over the past years, some CSPs have seen margins decline as over-the-top (OTT) providers have disrupted traditional revenue streams. 5G offers an opportunity to enter new markets, however the investment required is high.

One sustainable way to fund innovation is to maximise operational efficiencies—for example, by routing expensive processes such as customer interactions to digital channels and automating the handling of simple questions to improve marketing effectiveness and decrease customer service costs. Other areas which have been digitalised are optimising pricing and using intelligent decisioning to increase the yield from collections campaigns.

WHAT SAS DELIVERS

SAS offers hyperautomation solutions that enable CSPs to build sophisticated, AI-powered workflows that can automate even the most complex business processes from end to end.

Low-code tools make it easy for anyone to build, manage and refine automation flows, without needing to write a line of code, and enable the development and deployment of powerful machine learning models in weeks rather than months.

The result is a significant reduction in the time it takes to build and run AI models, leaving data professionals with more time to work on innovative projects, and empowering business users to act on validated insights and make smarter decisions faster than ever before.





PILLAR 5: ENHANCE CREDIT RISK AND FRAUD DETECTION

In 2021, CSPs experienced a 28% increase in fraud, which is estimated to have cost the industry \$39 billion globally - the equivalent of 2.2% of total revenue.¹ At a time when CSPs need every penny to invest in their 5G future, this level of loss is unsustainable.

Real-time analytics is vital to help combat consumer fraud, when a customer places an order, they expect a confirmation in seconds. If fraud checks take too long, there's a significant risk of abandoned transactions and lost sales. Supply chain errors and fraudulent practice such as dealer fraud is also a growing problem.

Credit risk analytics is a related issue, where different world factors are triggering rising levels of bad debt. Real-time analytics helps to assess new customers' creditworthiness, as well as providing decision support during collections processes to protect vulnerable customers and help design affordable repayment plans.

WHAT SAS DELIVERS

SAS offers a vast heritage in risk and fraud analytics including the partnerships we have established over decades with the world's leading banks and insurance providers.

SAS provides CSPs with access to state-of-the-art predictive agile modelling techniques for credit scoring and fraud detection, as well as end-to-end solutions for customer-centric collections optimisation and procurement integrity monitoring.

¹ CFCA report CFCA Welcome Pack





DELIVERING SUSTAINABLE INNOVATION

SAS is optimistic about the future: analytics, machine learning and AI will help us all navigate complexities and help address problems to succeed in the future.

When more and more businesses achieve this, we will spend less time reacting to disruption and more time proactively moving the world forward.

By partnering with SAS, CSPs are putting themselves in prime position to take the opportunities presented by next-generation networks and seize competitive advantage by becoming truly data-driven digital businesses.

TRANSFORM OPERATIONS

-  Design innovative services and get to market faster than the competition.
-  Gain contextual customer insight and deliver personalised experiences.
-  Optimise the rollout and management of next-generation networks.
-  Ensure return on investment for 5G services by monetising services effectively.
-  Use advanced analytics to measure and monitor key ESG metrics on the path to net zero targets.

EMPOWER YOUR WORKFORCE

-  Democratise access to data and analytics for line-of-business users.
-  Free up your most valuable resources to work on the most important problems.
-  Build a reputation in the industry as a hub for cutting-edge data science.
-  Attract and retain top-tier data experts to create competitive advantage.

WHAT CSPS HAVE ACHIEVED WITH SAS

Real-world benefits achieved by SAS clients in the UK and worldwide:



CUSTOMER EXPERIENCE

Improved net promoter scores by 30 points in 18 months

Reduced customer churn by more than 50%



SALES AND MARKETING

Delivered marketing campaigns 4x more effective

Increased conversion rates on customer offers by 5x

Improved ad targeting and inventory utilisation by 10%



NETWORK MANAGEMENT

Improved network asset utilization by 5%

Saved 3-5% on 5G RAN investments



OPERATIONS AND FINANCE

Reduced bad debt by 50%

Reduced fraud by 70%



LEARN MORE

To learn more about how SAS can help you take maximum advantage of the 5G revolution, visit www.sas.com/TMT