Data-driven insights to boost network performance and transform the customer experience

Nokia Cloud and Network Services
Data Science and Analytics Consulting
Communications service providers (CSPs) collect huge volumes of customer and network data. But many struggle to turn that data into actionable insights for boosting revenues, enhancing the customer experience and fending off disruptive new competitors.

Nokia Cloud and Network Services Data Science and Analytics Consulting can unlock the value of your data with strategies that draw on deep telecoms experience and advanced data/algorithm expertise to improve your business and operational outcomes.
Getting the most value from your data

New cloud-based competitors unencumbered by legacy networks and processes continue to challenge CSPs already dealing with the fact of 4G service revenues that have not kept pace with subscriber growth. To lift revenues and margins as you look ahead to 5G, it is more important than ever to seek new value streams and digital disruptions of your own — and that starts by taking advantage of your data.

Having access to timely, actionable, data-driven intelligence is key to ensuring 5G delivers better revenue growth than 4G ever did. Fortunately, that data likely already exists within your network and operations systems. But if you’re like most CSPs, that data is fragmented and siloed across your organization. Few CSPs have the in-house data science and analytics expertise to make the best possible use of it.

Nokia Cloud and Network Services Data Science and Analytics Consulting can equip you with the insights you need to make confident strategic decisions that achieve results based on deep understanding of your network services, capabilities, opportunities and customer experience.

4G service revenue increased by less than 1% between 2012 and 2018 — despite a 63% increase in subscribers. Data is key to preventing that from happening again with 5G.

Turn data into insights and insights into strategy
Unlocking the full potential of your data gives you 360° visibility into the customer experience. That frees you to make more informed decisions on how to transform your network, personalize every customer engagement and become a true digital service provider (DSP).

Nokia Cloud and Network Services Data Science and Analytics Consulting services include:

- **Data science and predictive analytics:** We use artificial intelligence (AI) and machine learning (ML) to provide you with access to the highest quality data, along with the flexibility to explore that data and discover all-new insights.

- **Actionable network analytics:** We analyze all of the network-related drivers that can lead to a negative customer experience, providing the insights you need to prioritize remediation and prevent network issues from happening again.

- **Customer insights analytics:** We look at every touchpoint in the customer journey, identifying which customers are having a good experience (and which ones are not) so you can better target your upsell and retention efforts.

A proven methodology

Nokia Cloud and Network Services Data Science and Analytics Consulting follows a rigorous process to harness the power of your data and maximize business and operational outcomes, supported by industry best practices:

1. **Strategy**
2. **Design**
3. **Explore**
4. **Deliver**
5. **Realize**

**Governance and communication**

- **Value creation model**
- **Data to insights**
- **Insights driven decisions**

**Outcomes**

- **Outcome measurement**

**Organization structure and team management**

- **Capability development**

**Best practices**

- Use case library
- Industry standards and frameworks
- Process catalogue
- Project benchmarking
- Machine learning
Actionable network analytics

Increasing network complexity, diverse data sources and the need to evolve legacy processes make it difficult to get an in-depth understanding of your network services and capabilities. Our team can help you identify, correlate and analyze the network data that is most important to your strategy and goals — and then interpret and apply the resulting insights across your operations, engineering and marketing teams.

With our data-driven analytics readouts and dynamic reports, you can make more strategic decisions on:

Capacity planning
We help you make sense of your data so you can develop smarter approaches to network planning and capacity/load management.

Control and optimization
With our data-driven insights, you can solve resource contention and RAN/core congestion issues while optimizing network performance and cell coverage.

Service assurance and performance management
We can provide AI- and analytics-based use cases and strategies for optimizing both your network operations and the quality of experience for your services.

Benefits
• Counter disruptive over-the-top and internet service provider competition.
• Decrease capital expenditures through smart, targeted network modernization.
• Deploy a new insights framework to make your operations more agile.

USE CASE

Data-driven insights into video applications

Over-the-top video quality of experience (QoE) is a key indicator of overall service quality. Our consultants can help CSPs understand how network changes and events affect the user experience, making it easier to optimize, monitor and maintain the QoE for streaming video content — and to customize offers and packages to reduce subscriber churn.

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Actionable insights using domain expertise in CSP network segments and services for improved network performance and customer experience.
When you understand each customer's individual context — and the many factors that affect their experience across every touchpoint along their digital journey — you’re better able to act on opportunities that give you a clear business advantage. We can help make sense of your customer data so you can optimize your services, boost loyalty and deliver a better experience.

Our team uses multidimensional analytics models to deliver insights in areas such as:

**Customer experience index**
We measure key performance indicators (KPIs) for service delivery against actual customer preferences from satisfaction surveys so you can identify the best targets for upsell and retention campaigns.

**Data monetization**
We provide the insights you need to engage with customers at the moments that matter to them, launching (and monetizing) compelling new data-driven services and business models.

**Proactive care analytics**
We can help you introduce a data-driven framework based on advanced analytics and AI/ML to proactively reduce customer complaints and reduce resolution times for customer-affecting issues.

**Benefits**
- Launch profitable new services based on real customer preferences and behaviors.
- Improve the customer experience with targeted, personalized offers and interactions.
- Optimize and streamline complex sales, marketing and other business processes.

Reducing churn requires CSPs to look at more than just the data from their customer relationship management (CRM) systems. Our team can help identify the factors that cause churn from a broader set of attributes, including mobile and fixed network quality. We also analyze the behaviors of customers who have churned, enhancing churn models so CSPs can focus more on customer retention rather than costly acquisition.
Data science and predictive analytics

To effectively analyze and gain valuable insights from complex and evolving data sources — without adding hard-to-find data science expertise in-house — you need an analytics operations model as well as library of AI/ML use cases for addressing various domains across your organization.

Our data engineering experts can help you implement best practices in data analytics and AI/ML methodologies, providing the foundation for making smarter, data-driven business decisions.

**Data analytics advisory and assessment**
We help you define, implement and optimize the most appropriate analytics strategies, tools, algorithms and operating models for your business.

**Insight discovery and problem analysis**
We can provide intelligent insights and recommendations in areas such as root cause analysis either on demand or as a subscription.

**Dashboards and reports**
Our custom reports and dashboards built using visualization tools make it easy for you to monitor your network KPIs for analytics-based decision making.

**Model integration**
Our team can help you integrate analytics models and AI/ML use cases (such as churn prediction or predictive maintenance) with various Nokia solutions as well as third-party cloud platforms.

**Benefits**
- Improve the way you manage and monetize your existing data — and uncover new data sources.
- Enhance your products and services with a better understanding of customer behavior.
- Make your business and operations models leaner through efficient, analytics-driven processes.

**USE CASE**
**Making better 5G investment decisions**

CSPs can make better decisions on where to invest resources — such as where to deploy multi-access edge computing to accommodate increased video usage with 5G — by correlating and analyzing multiple dimensions and measurements of data at the same time. We can help bring together network, service, subscriber, device and application data to inform smarter capital expenditures and optimize technology deployment strategies.
Proven know-how, real-world results

By uncovering all-new insights about your customers and your network, our data science and analytics experts can help you grow revenue, increase customer satisfaction, optimize your resources and improve process efficiency. Through our consulting engagements, we’ve delivered tangible results to CSPs around the world:

- **Revenue**
  - **North American operator**: $20M Increase in roaming revenue

- **Customer experience**
  - **West African operator**: 42K Reduced churn customers

- **OPEX**
  - **Middle Eastern operator**: 15% Savings in network maintenance

- **CAPEX**
  - **North American operator**: 1% Savings in network capital investment

- **Productivity**
  - **West African operator**: 2h Time saved per user per site
Full-spectrum consulting services

Nokia is unique in the consulting services arena: we have worldwide software and network expertise, real-world experience in 5G, IoT and cloud solution deployment, and broad perspective on how CSPs are tackling the digital transformation challenge. With insights from our global customer engagements, we create and implement end-to-end transformation blueprints for the most complex, multi-vendor and future-facing environments.

Check out our full suite of Nokia Cloud and Network Services Advanced Consulting practices

- **Business Consulting**
  Digitally transform your business with results you can measure.

- **Security Consulting**
  Tackle today’s toughest network security challenges with confidence.

- **Technology Consulting**
  Get the best performance out of your existing and future technologies.

- **Data Science & Analytics Consulting**
  Turn data into insight and insight into strategy to grow your business the way you want.

- **Operations Consulting**
  Realign your processes for greater agility — and conquer operational complexity.

- **Target Operating Mode Consulting**
  Become a truly digital organization with as-a-service platforms, infrastructure and networks.

Want to know more? **Contact us** to learn more or to start a Nokia Cloud and Network Services consulting engagement.
About Nokia
We create the technology to connect the world. Only Nokia offers a comprehensive portfolio of network equipment, software, services and licensing opportunities across the globe. With our commitment to innovation, driven by the award-winning Nokia Bell Labs, we are a leader in the development and deployment of 5G networks.

Our communications service provider customers support more than 6.4 billion subscriptions with our radio networks, and our enterprise customers have deployed over 1,300 industrial networks worldwide. Adhering to the highest ethical standards, we transform how people live, work and communicate. For our latest updates, please visit us online www.nokia.com and follow us on Twitter @nokia.

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