

2023 Frost & Sullivan Technology Innovation Leadership Award

The Global OSS/BSS Industry
Excellence in Best Practices

Congratulations!

Frost & Sullivan is proud to present Netcracker Technology with this year's Best Practices Technology Innovation Leadership Award in the Global OSS/BSS industry.

Frost & Sullivan's global team of Growth Pipeline experts continually identifies and evaluates growth opportunities across multiple industries, technologies, and regions of the world. As part of this ongoing effort, we identify companies that consistently develop growth strategies based on a visionary understanding of the future and effectively address new challenges and opportunities. This approach involves the deployment of best practices and strategic analytics across a value chain. Against this backdrop, Frost & Sullivan recognizes Netcracker Technology for its valuable achievement.

Frost & Sullivan reserves this recognition for companies at the forefront of innovation and growth in their respective industries. These companies consolidate their leadership positions by innovating and creating new products, solutions, and services that meet ever-evolving customer needs. By strategically broadening their product portfolios, leading companies advance the overall market. Driving innovation and growth is a difficult task made even harder by the strategic imperatives forcing change today, such as disruptive technologies, value chain compression, industry convergence, and new business models. In this context, Netcracker Technology's recognition signifies an even greater accomplishment.

Moreover, this recognition is the result of many individuals (employees, customers, partners, and investors) making critical decisions every day to support the organization and contribute to its future. Frost & Sullivan enthusiastically acknowledges and celebrates their contributions.

Once again, congratulations on your accomplishments. We wish you great success!

Sincerely,



David Frigstad
Chairman
Frost & Sullivan

Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Netcracker Technology excels in many of the criteria in the Global OSS/BSS space

AWARD CRITERIA	
<i>Technology Leverage</i>	<i>Business Impact</i>
Commitment to Innovation	Financial Performance
Commitment to Creativity	Customer Acquisition
Stage Gate Efficiency	Operational Efficiency
Commercialization Success	Growth Potential
Application Diversity	Human Capital

Commitment to Innovation

Netcracker Technology Corporation, founded in 1993 and headquartered in the United States, is a wholly owned subsidiary of NEC Corporation. The company’s portfolio includes business support systems (BSS),

“With Netcracker Technology, customers know exactly what to expect.”

Mei Lee Quah, Director, ICT Research

operations support systems (OSS), customer engagement, and extensive professional services. The company has a solid delivery record, has had success with large IT transformation projects globally, and works closely with NEC for global reach and to take on

the larger, big-ticket projects with its best-in-class solutions. To bring innovation to customers, Netcracker Technology closely monitors industry trends and then works quickly to ensure the latest tools and business models are made available to customers. Netcracker Technology stays at the forefront of innovation by transforming customer engagements, evolving digital ecosystems, and driving growth in revenue and profitability.

For example, Netcracker Technology’s 5G Value Realization and Automation deliver a combination of monetization and operational support, which are both critical areas for communications service providers (CSPs) that require innovation to overcome current challenges. The former solution delivers cloud-native technology, 3GPP-compliant converged charging, and a rich array of partner management and digital commerce capabilities, while the latter offers a comprehensive set of solutions to automate intelligently the full lifecycle of dynamic 5G applications, services, and network slices. Furthermore, The company’s 5G Operations Automation supports CSPs in monetizing 5G use cases by equipping them with unique value

propositions, higher business agility, better flexibility, digital-first experiences, and greater levels of automation and cost management. The solution brings highly sought after differentiated 5G services, new digital experiences, and unique business value to CSPs' customers worldwide.

As a result, the company has been recognized globally for the impact it is making on the CSP business with its innovative solutions that are in commercial use by CSPs worldwide. For example, the company's Network Domain Orchestration Solution brings automation and agility to multidomain networks, thereby enabling CSPs to innovate with dynamic services and slices at higher cost efficiency. CSPs, therefore, benefit greatly from the resultant cost effectiveness because the consolidation of siloed and/or multivendor solutions reduces the necessary resources, time, effort, and support. In addition, the resultant ability to automate across multiple vendors, layers, systems, and lifecycles has made simple what used to be complex. Simplicity as a trait is highly desirable with the increasingly complex networks that have been commonplace in the telecoms industry following the introduction of 5G.

Netcracker Technology has been recognized by customers and industry observers, including Frost & Sullivan, for its customer-centric focus and for achieving excellence in delivering digital transformation projects that help CSPs worldwide create value through innovation, such as by unleashing broader and more seamless digital experiences, enabling hyperautomation, and facilitating new business models.

Commitment to Creativity

An intense industry focus on digital services and customer experience in challenging markets has resulted in CSPs investing in solutions that help them innovate, deliver exceptional customer experiences, drive higher business agility and flexibility, gain greater levels of automation, and maintain costs at the right levels. In terms of their digital transformation journeys, CSPs need to modernize, digitize, and leverage cloud capabilities to make optimal use of artificial intelligence/machine learning (AI/ML), Big Data analytics, DevOps, and Agile practices to achieve better outcomes and a greater business impact.

In 2022, the company launched its Netcracker Digital Platform to help CSPs accelerate new business growth and to act as a single point of reference for customers looking for an end-to-end digital transformation solution. The platform addresses CSPs' need to create new growth opportunities by leveraging emerging technologies, including 5G, cloud, and edge computing, through digital transformation while driving business cost efficiency, adapting to market demand in a timely manner, and maximizing company profitability. The solution supports innovative monetization models with ecosystem-driven business models that help CSPs create profitable value chains and become B2B2X enablers. Moreover, the solution drives business efficiency through intelligent automation, OSS/BSS consolidation, and digitalization.

The Netcracker Digital Platform provides real-time charging capability for services, partners, and business models; comes with support for in-slice and cross-slice charging; and supports immersive digital experiences through gamified loyalty programs and personalized recommendations. The solution helps CSPs become more self-sufficient by providing them with the necessary tools to execute Agile, DevOps, and multi-cloud programs and to co-develop and drive innovations with customers securely.

Commercialization Success

Netcracker Technology is leading the global OSS/BSS industry in technology innovation, particularly in automation, orchestration, and support for digital transformation. During 2022/2023, the company's track record of taking innovative technologies to market with a high success rate was acknowledged through a string of regional and global awards. Netcracker Technology has been recognized by customers and industry observers, including Frost & Sullivan, as a global innovator and disruptor that leverages technology to address customers' needs. Worthy of praise is its Cross-Domain Service Orchestration that automates the creation, deployment, and full lifecycle management of multivendor services and network slices within and across network domains. Furthermore, the company is acknowledged for its comprehensive set of solutions to automate intelligently the full lifecycle of dynamic 5G applications, services, and network slices.

In Asia-Pacific (APAC), the company has a stronghold in Japan, a key market for 5G private networks (called

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Local 5G), and has good customer relationships with Nippon Telegraph and Telephone Corporation (NTT), which is the largest company in Japan and among the largest companies worldwide, in addition to other leading telecom companies in the region. Frost & Sullivan recognizes Netcracker Technology as the winner of the 2023 APAC OSS/BSS Company of the Year award for its excellence on multiple fronts, including meeting unmet needs and exceeding

customer expectations in the region.

In the Middle East, Netcracker Technology supports leading-edge mobile operators, such as Zain KSA, Vodafone Oman, du, Etisalat UAE, and STC, in their successful achievement of numerous innovative initiatives. As a result of working at the forefront on areas such as private 5G networks, multi-cloud, and edge, the company has been recognized by customers and industry observers, including Frost & Sullivan, for its leading-edge innovative private 5G automation solution that encompasses Netcracker Digital Marketplace, edge orchestration, and edge monetization. In addition, the company is recognized for its ground-breaking innovation in virtualization and cloud initiatives, including its extensive partner program, thereby highlighting its dedication to developing and delivering innovative solutions for customers.

Similarly, in Europe, the company has been recognized by customers and industry observers, including Frost & Sullivan, for its excellence in OSS/BSS and digital transformation, such as, for example, its part in Virgin Media O2's company-wide transformation journey after providing a next-generation billing platform and professional services that can deliver a best-in-class self-service experience for customers. The merged entity of Virgin Media and O2 can now cost effectively launch innovative services and deliver a personalized and superior customer experience across channels. An upcoming milestone for Netcracker Technology includes one of the largest IT transformation programs in the Nordic region. Netcracker Technology is working with Nuuday on a strategic initiative to modernize OSS/BSS as part of the CSP's journey to be among the most digital and advanced CSPs in Europe.

Application Diversity

As part of Netcracker Technology's digital BSS offering, the 5G Revenue Management Solution enables CSPs to monetize 5G fixed wireless access (FWA) and 5G private networks as two additional services apart from enhance mobile broadband (eMBB), thus generating revenue and driving the return on investment (ROI) on 5G infrastructure. The solution provides consumers and enterprise customers with prepaid and postpaid payment method options on a single platform, reducing costs and unlocking new revenue opportunities with consumer services, such as cloud gaming, holographic video calls, ultra-high definition (UHD) mobile streaming, and enterprise services (e.g., network slice-as-a-service).

The company's affordable solution features a converged charging engine to support 5G and 2G-4G networks and is extendable to any service, from OTTs to home security, health, the connected industry, transportation, and smart cities. Charging can be processed at the edge, quota management is dynamically adaptive, and stream-based charging aggregation is supported. Additionally, the solution supports multitenancy so that CSPs can offer billing-as-a-service, charging-as-a-service, and other similar software-as-a-service (SaaS) models to other CSPs or enterprises using the flexible subscription personalization feature. Netcracker Technology's innovative solution can cost effectively serve multiple applications and multiple environments.

Furthermore, Netcracker Technology's Digital BSS offering can help CSPs become central to each user's metaverse experience by simplifying how metaverse, blockchain, AI, and digital twin work together to create innovative 5G-driven opportunities for CSPs and their partners, leveraging a platform model and monetizing relationships within the metaverse community and across platforms. The simplified and automated platform facilitates the design and management of the partner ecosystem, for real and virtual world entities, with embedded connectivity. The platform incorporates new digital rewards and gamification techniques to attract both partners and users and to create a fun environment that will encourage use and prolong the time spent on the platform. The solution's new customer interaction capabilities can enable customers with VR headsets to communicate with a CSP's agent avatar and co-design and manage their own services and partner services, for real and virtual world entities, leveraging AI to understand customer insights better.

Customer Acquisition

Netcracker Technology is known as a reliable partner that defines its success based on the success of its customers. Attributable to this customer success is that the company has taken measures to ensure that its solutions, services, methodologies, and best practices all come together to help customers synergistically achieve their goals, whether it is to modernize existing infrastructure, launch new services, or improve operational efficiency.

Netcracker Technology's Digital Transformation Services help CSPs define a transformation strategy, model an optimal solution blueprint, implement a microservices-based solution, provide analytics-driven operational support, and help with continuous solution evolution to provide end users with cutting-edge services. To reinforce stronger outcomes, the company continually invests in ecosystem enablement to ensure the constant evolution of its cloud-native, future-proof solutions. For example, the company partners with hyperscalers, such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud

Platform (GCP), to ensure flexible public cloud hosting capabilities. In addition, the company cooperates with system integrators (SIs) and third-party vendors to ensure the seamless integration and interoperability of their solutions. The company actively works with customers in collaborative environments to facilitate innovation and knowledge sharing, thereby providing customers with the opportunity to participate in co-development and value co-creation processes.

The company undertakes the ongoing evolution of methodologies and best practices by developing and optimizing operational and business processes and by correspondingly developing the necessary supporting toolsets, such as the DevOps toolset and the advanced automation toolset. The company extensively enables advanced solution capabilities, faster and more flexible software releases, and efficient operations. Netcracker Technology has designed clearly established delivery steps to ensure solutions are implemented in a consistent and efficient manner, thereby minimizing the risk of delays or disruptions.

This comprehensive approach enables the achievement of customers' digital transformation objectives more quickly and effectively while maximizing the value of investment for customers. The company constantly enhances its portfolio and offerings by continually investing in new features, functional capabilities, and underlying technologies to address customers' ever-evolving needs. The company's solutions focus on innovation, quality, and customer satisfaction and are designed to be scalable and adaptable, allowing for adjustments to digital transformation strategies as business needs evolve over time.

Growth Potential

Netcracker Technology is taking a strategic approach to meeting CSPs' business objectives in the region, including reaping the benefits of cost efficiency from digitalization, accelerating the achievement of sustainable goals for efficient resourcing and responsible energy use, and co-innovating with a better ROI and agility, all driven by partnerships to diversify and capture new markets, verticals, and customer groups.

The company's future growth potential is expected to come from a combination of local market footprints, multi-vertical expertise, a cutting-edge emerging technology foundation, and an end-to-end automation portfolio. Overall, CSPs are progressing toward achieving openness, transitioning to technology companies (techcos), and incorporating large language models (LLMs), thus offering more potential for growth. These areas can bring cost effectiveness for innovation, capabilities to enable innovation, and a better customer experience, all of which will go a long way to increasing the potential for monetizing innovation.

Netcracker Technology's Digital BSS is already enabled with an LLM-based Netcracker Customer Assistant that acts like a professional customer service representative. The solution accelerates Microsoft's LLM technology adoption by managing the risks of sensitive data leakage, lack of telecom knowledge, and the potential for incorrect outputs or hallucinations. The Netcracker Customer Assistant adapts generative AI for telco-specific customer care scenarios, such as offering a human touch, in the telecoms industry context to improve customer satisfaction and by leveraging the potential for hyperautomation to reduce

customers' support workloads and operational expenditure (OPEX), which will contribute toward strengthening CSPs' brands and reinforcing customer loyalty.

Conclusion

In 2022, Netcracker Technology continued to showcase clear differentiation from its close competitors. Innovation has been a constant theme for the company as it plays a key role in addressing the needs of CSPs by helping them innovate, cope with changing markets, and disrupt in the 5G era. The company's cutting-edge, innovative solutions accelerate network transformation toward the achievement of network automation goals and result in new business models and revenue streams for CSPs.

Several global and regional awards in 2022/2023 are a testament to the company's contribution to the global digital landscape and the industry as a whole. The company continues to work to exceed customer expectations and help CSPs succeed by leveraging technology innovation.

With its strong overall performance, Netcracker Technology earns Frost & Sullivan's 2023 Global Technology Innovation Leadership Award in the OSS/BSS industry.

What You Need to Know about the Technology Innovation Leadership Recognition

Frost & Sullivan's Technology Innovation Leadership Award recognizes the company that has introduced the best underlying technology for achieving remarkable product and customer success while driving future business value.

Best Practices Award Analysis

For the Technology Innovation Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization Success: Company displays a proven track record of taking new technologies to market with a high success rate

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

Business Impact

Financial Performance: Strong overall financial performance is achieved in terms of revenues, revenue growth, operating margin, and other key financial metrics

Customer Acquisition: Customer-facing processes support efficient and consistent new customer acquisition while enhancing customer retention

Operational Efficiency: Company staff performs assigned tasks productively, quickly, and to a high-quality standard

Growth Potential: Growth is fostered by a strong customer focus that strengthens the brand and reinforces customer loyalty

Human Capital: Commitment to quality and to customers characterize the company culture, which in turn enhances employee morale and retention

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at <http://www.frost.com>.

The Growth Pipeline Engine™

Frost & Sullivan’s proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

[Learn more.](#)

Key Impacts:

- **Growth Pipeline:** Continuous Flow of Growth Opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership



The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- **Mega Trend (MT)**
- **Business Model (BM)**
- **Technology (TE)**
- **Industries (IN)**
- **Customer (CU)**
- **Geographies (GE)**



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