

Autonomous intelligent networks may earn \$900B annual revenue to the telecom market

The transition from to L2/L3 levels of autonomy leads to a two-fold decrease of direct operational expenses on ICT-infrastructure management and services.

MOSCOW, RUSSIA, November 30, 2021 /EINPresswire.com/ -- J'son & Partners Consulting, one of the leading consulting companies in Technology, Media, Telecommunications, and Financial Services, has evaluated the global autonomous intelligent networks market. Implementation of highly autonomous intelligent end-to-end NMS/OSS/BSS processes by ICT-infrastructure operators and service providers enables extremely high economic benefits.

The transition from L0/L1 levels of autonomy to L2/L3 leads to a two-fold decrease of direct operational expenses on ICT-infrastructure management and services provisioning. On a scale of the global telecom services market, it means annual margin increase of telecom service providers to \$144B.

Along with a decrease of direct operation costs, the transition enables telcos to provide Network as a Service (NaaS) together with the ability to keep the extremely high level of average ICT-resources utilization – up to 90%. Potentially, it will allow a new market segment to generate \$900B of revenue annually and \$585B of margin.

Results of the research show that the economy volume depends directly on the level of autonomy and intelligence achieved by an operator — the higher the level of autonomy and intelligence within groups of processes and the broader the coverage throughout the NMS/OSS/BSS stack of operations are the higher the volume of economic outcome is.

The first launch of NaaS took place five years ago. Still, the real breakthrough of its commercialization started in 2020 when leading cloud providers elaborated clear cooperation strategies with telcos to provide converged IT/telco services of distributed multi/hybrid clouds, where NaaS acts as a vital part of the offering. The rapid growth of distributed cloud services market may entirely turn the potential of NaaS into telcos' revenue and margin as early as 2030.

Commercialization of NaaS and autonomous SDN&NFV networks go hand in hand with their standardization, which results in the standardization of new business models and roles for telcos and other ICT providers. Implementation of autonomy and intelligence to NMS/OSS/BSS-

processes differs greatly depending on these business roles.

The most mature and thriving in implementing autonomy and intelligence to their NMS/OSS/BSS-processes are the leading cloud computing providers and converged computing-networking services, owning hyper-scale data centers and backbone networks. In terms of new business roles, they act as operators of infrastructure domains (datacenters, backbone networks) and applications providers.

Global cloud providers such as AWS, Google Cloud, Microsoft Azure, IBM Cloud, Oracle Cloud are new players in developing autonomous networks. They actively stimulate telecom operators to implement innovative services and deploy next-generation network infrastructure and build cloud platforms intended to automate and intellectualize the almost complete stack of NMS/OSS/BSS processes. The advantage of global cloud providers is the possibility of the pilot deployment of developments on their global infrastructure, which allows them to receive feedback and launch solutions quickly. Niche players focused on providing highly-valued cloud telecom services such as SD-WANaaS, SECaaS, CDNaaS shall be considered among the most mature ICT providers as well. They are far ahead of traditional telcos and may be candidates #1 for end-to-end network slice providers.

Traditional telcos' future business role is to become operators of peripheral infrastructure domains: edge computing, access, and transport networks. Traditional telcos are less mature and still do not leverage the full potential of autonomous networks. A noticeable lag in NMS/OSS/BSS autonomy level between leaders of cloud services market and traditional telcos is caused by the necessity to apply "brownfield" scenario: the need to revise their product portfolio and business model, which is extremely difficult for corporate structures with 50-100 thousand of employees.

Nevertheless, as a part of the integrated offering from leading cloud providers, some traditional telcos have recently succeeded in launching next-generation services for distributed hybrid clouds: bandwidth on demand (BoD) on backbone networks, networks slices, and MEC on 5G networks. It marks a turning point for traditional telcos in their transformation towards autonomous networks and domain providers of NaaS. It is worth mentioning that the possibility for economically effective provisioning of NaaS is emerging already at the L2 level of autonomy.

Analysis of product portfolios of telco equipment and software vendors shows that even at the level of intra-domain autonomous management, their offerings do not cover the needs of operators arising from the implementation of the independent network concept. At the level of cross-domain control, vendor solutions lack functional completeness and openness. At the same time, the vendors are already using technologies of cognitive thinking, machine learning, and artificial intelligence capabilities to identify and eliminate network events and ensure network security proactively.

Geographically the breakthrough in provisioning of NaaS based on autonomous NMS/OSS/BSS-

processes took place in North America, where up to 60% of the global cloud services market is concentrated. Other regions are far less active. If this is not changed, the decreasing consumption of network-dependent voice services and margin decrease on data services will completely ruin telcos' potential to return investments into expansion and upgrade, leading to the degradation of services quality and availability.

Considering that full-scale transformation towards autonomous networks is already launched by the most advanced traditional telcos in North America and followed by telcos in other countries, the conservative approach based on the slow and fragmented improvement of NMS-stack shall be considered only as a "proof of concept." However, from a strategic point of view, there is no alternative to the total replacement of the existing NMS/OSS/BSS stack for fully autonomous intellectual ones. Otherwise, the economic impact will be less than 0,5% of telcos' revenue, while they won't achieve effects of radical decrease of direct operating expenses and a possibility to provide new services keeping a high level of ICT-infrastructure utilization.

New business models depend on each other: if the operator increases its efficiency, it impacts other operators and providers selling or consuming its resources. It means that leading cloud services providers are interested in the radical improvement of traditional telcos efficiency and their ability to provide MEC and NaaS. The detailed results are represented in the full version of the report, available [on the website](#).

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