Mobile data traffic has grown 18-fold over the past five years, while mobile services are becoming more diverse, ranging from mobile broadband, through massive IoT, to mission-critical IoT. In order to deliver these services, MNOs need to continue investing in their LTE networks to extend their current capacity, while keeping one eye open for future 5G deployments. This is leading to more dense and complex networks that are more difficult and expensive to maintain. The only way MNOs can meet this challenge in a sustainable manner is to increase the automation of network management by employing self-organizing network (SON) solutions.

Comarch Self-Organizing Network solution (Comarch SON) can easily be integrated within the existing OSS environment and provides plug & play functions, that can be exposed to other OSS applications.

Comarch SON introduces true network automation, thus enabling mobile network operators to significantly reduce OPEX, shorten time to market for new services, and improve customer experience.
**BENEFITS**

- **Providing a customer-centric network**
  Customers expect to enjoy quality services independent of factors that might impact the network quality. In order to satisfy these expectations, MNOs can leverage SON algorithms to manage the complex dynamic behaviour of radio access networks. Self-healing modules can minimize the impact of network failures on services, while self-optimization algorithms can change the configuration automatically, to increase the service quality.

- **Increasing the return on infrastructure investments**
  Provider networks are over-dimensioned because they need to support both the peak and nominal network load. By providing self-optimization algorithms, the Comarch SON solution can automatically change the configuration of the network to optimize the resources for prevailing requirements. This will allow the MNO to better utilize their assets and achieve a corresponding return on investment.

- **Lowering the cost of managing the radio access network**
  MNOs need to invest heavily in the people and operations connected with their radio access network, in order to offer a reliable and performant service to their customers. As the network expands daily, management becomes increasingly expensive. Automating these operational activities will allow MNOs to shift their experts from daily operations to strategic, high yield projects.

- **Reducing time to market for network projects**
  Deploying new network resources or services in the mobile domain is a time-consuming and mostly manual process. By leveraging the algorithms provided by SON for self-configuration, many of these activities can be automated. This allows faster deployment and reduces provisioning errors.

**COMARCH SON FEATURES**

**Advanced CSON solution**
Comarch SON implements advanced algorithms and integrates a wide range of data sources to analyze, detect and implement a desired course of action automatically:

- **Self-configuration:** automatically configure RAN resources deployed in the network.
- **Self-optimization:** optimize RAN configuration based on data received from various data sources (performance, fault, probes).
- **Self-healing:** re-configure the RAN to minimize the impact of network incidents.

**Integrated with the OSS ecosystem**
As an OSS provider, Comarch understands how to deploy and integrate a SON solution in an existing OSS environment:

- Through the SON API interface, the SON solution can easily be integrated with an existing OSS environment, ensuring data consistency across various network applications.
- By providing plug & play functions that can be exposed to other OSS applications and tools, the SON can support provisioning, assurance and optimization processes.
Hands-on support for solution deployment:
Thanks to rich experience in providing planning tools for the radio access network, Comarch understands what is needed to improve the network operations of MNOs.

- Comarch will provide the expertise to guide the MNO in deploying the solution and making sure that the benefits are obtained.

- Comarch understands that self-organizing networks can be daunting, so supports soft roll-outs ahead of fully automatic implementation. So, there is no need for “big bang” deployments.

Future-proof
Comarch brings extensive expertise to other network domains such as mobile access transport to provide E2E service optimization. Comarch continues to invest in new algorithms and technologies.