Intelligent RAN Operations

Improve radio network quality with Machine Learning

NOKIA

With the introduction of 5G, there are more network elements, sites, and cells than ever before

This increases the amount of configuration parameters, dependencies, and incidents in the network, creating significant cost pressure for network operations.

Existing manual-intensive tools with simple automation are not enough to ensure the network quality and prevent operational costs from increasing.

Energy prices are soaring everywhere

Close to 80% of a mobile network's energy is consumed by base station sites.

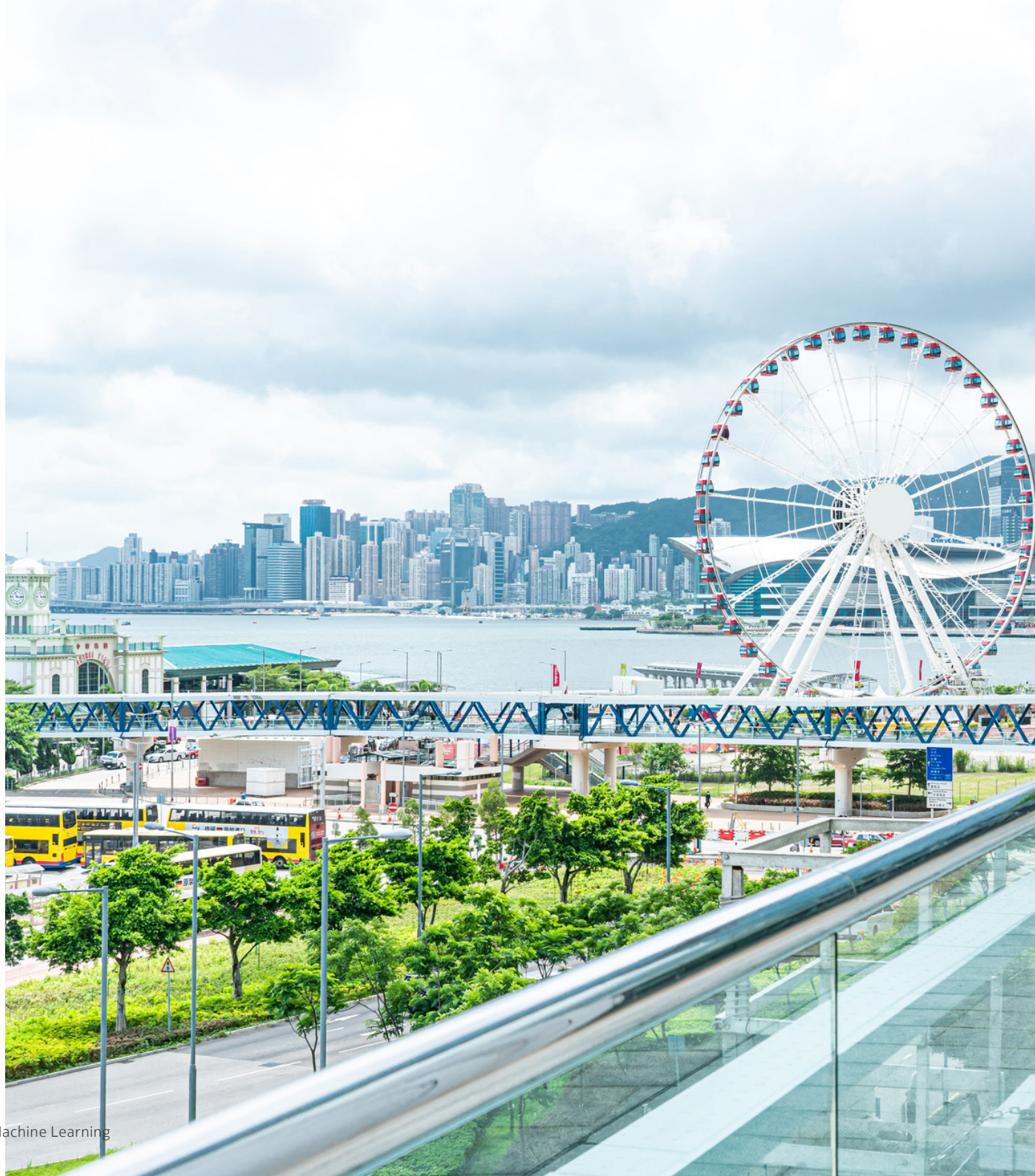
Mobile operators face an overall increase of 10-30% annually in mobile network energy use.

In a multi-technology network, manual operations are too time-consuming and resource-intensive. Innovative approach is needed for reducing network energy consumption while improving operational efficiency.

Automated routines

Most network outages are caused by human error and analyzing issues manually takes a lot of effort. Automated routines with Machine Learning algorithms help eliminate typical human mistakes and make introduction of new services faster.

It also frees time for your workforce to concentrate on more value-adding tasks.



Nokia takes your network operations beyond automation with Intelligent RAN Operations

With Nokia Intelligent RAN Operations, you can:

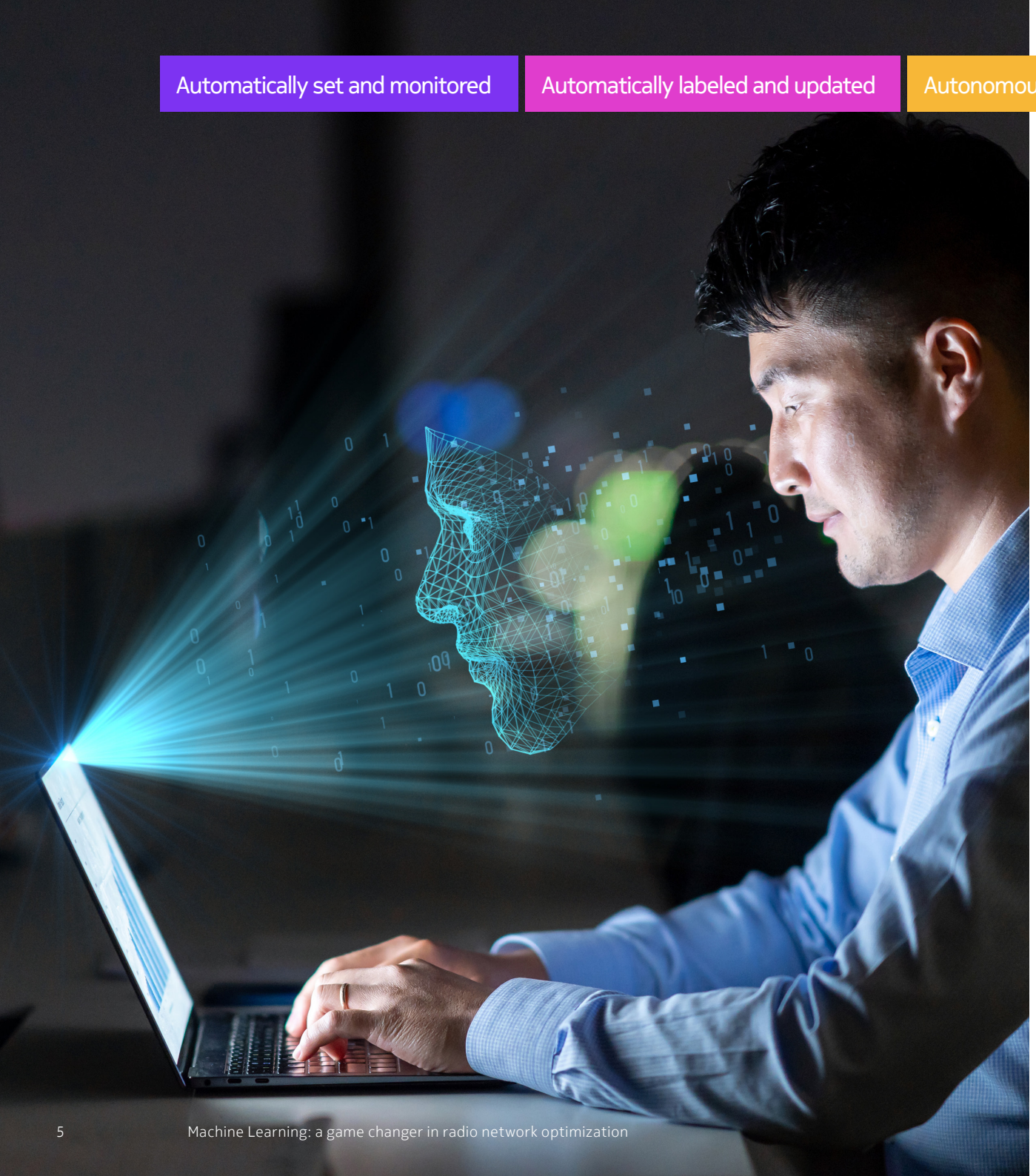
- Reduce base station power consumption.
- Optimize radio network autonomously.
- Automate network operations routines with Machine Learning .
- Develop custom applications with SDK.

This solution helps keep the complexity of operations and the costs at bay while improving radio network quality in the 5G era

Nokia Intelligent RAN Operations is a comprehensive solution that consists of Nokia Self Organizing Networks (SON) solution for radio network optimization and Nokia Network Management with a toolbox that makes managing the evolving network easy.

It implements innovative Machine Learning algorithms that help you cope with network complexity, improve radio network quality, reduce radio network energy consumption, and improve overall efficiency.

Automatically set and monitored | Automatically labeled and updated | Autonomously selected | Autonomously verified



Cognitive SON

Autonomous operations model

Human intelligence for defining network performance objectives combined with Machine Learning for identifying the issues and applying the right solution module(s).

- Cloud-native feature that works with existing EdenNet deployments.
- Intelligent network analysis and per cell problem context definition.
- Intelligent orchestration of SON EdenNet modules.

Intelligent alarm correlation

Nokia Intelligent RAN Operations helps automate network operations routines with Machine Learning

- With Vodafone Germany, we implemented Intelligent alarm correlation to boost network quality and reduce the need for manual alarm handling.
- Intelligent alarm correlation has shown significant results based on better identification of root causes and patterns.

Reduction in alarms to be solved thanks to fast identification of the lead alarm or root

>70%

Accuracy in grouping alarms into patterns related to the same issue

>90%

Intelligent energy saving features

- These features reduce radio network energy consumption by up to 15%, which helps you achieve your sustainability targets and reduce costs.
- Our intelligent solution ensures that your network performance meets the service level that end users are expecting while achieving energy savings.
- Machine Learning and zero-touch optimization of the network help improve overall operational efficiency.

Reduction in base station power consumption

15%

Reduction in number of alarms to be solved

70%

Faster RAN problem solving with Cognitive SON

160x

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At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering the future where networks meet cloud to realize the full potential of digital in every industry.

Through networks that sense, think and act, we work with our customers and partners to create the digital services and applications of the future.