

# ENERGY-EFFICIENT AI-NATIVE TELCO NETWORKS

The NetAnticipate Framework Helps Communication Service Providers Build State-of-the-Art Energy Optimization Solutions for Sustainable Self-Learning Networks

## CAPGEMINI PROJECT BOSE AND NETANTICIPATE

Project BOSE develop a data-driven energy-saving solution for RAN, Edge, and Core networks. Project Bose runs on top of NetAnticipate, a state-of-the-art AIOps framework that enables data processing, feature analysis, and network data modeling for autonomous network operations.

NetAnticipate offers access to real-time, secure, and governed data through listings in the Snowflake Marketplace.

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**Capgemini has ambitious objectives to reduce GHG-emission for our clients. We want the Telco industry to fulfill its share of these objectives, reducing footprint and saving on electricity costs at the same time. Snowflake provides us with solid cloud-native foundations for our Network Energy Optimization solution. Snowflake’s design and capabilities have offered new levels of scalability and data sharing to our NetAnticipate network AI framework.**

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## JACQUES ASSARAF

Global Telecom Leader, Capgemini



### PLUG-N-PLAY USE CASES

Playbooks to introduce intelligent use cases in the Telco network using a low-code or no-code approach.



### CONTINUOUS INTELLIGENCE

Real-time intelligence with model-driven streaming telemetry, faster inferencing, and advanced closed-loop automation for deeper network state insights.



### ACHIEVING NET-ZERO TARGET

Helping Telcos achieve their net-zero targets by reducing the CO2 footprint by 4% YoY, with existing network elements.



### SEAMLESS MONETIZATION

Leveraging Snowflake’s Native Apps and Marketplace, NetAnticipate offers a seamless out-of-the-box monetization experience for data products that reinforces the “build once, deploy many” paradigm.



### HIGH SCALABILITY

Utilizing Snowflake’s Native Apps, through a highly scalable MLOps workflow via Snowpark on the Data Cloud, enables Collaborative ML and Federated ML with optional inference/scoring to meet carrier-grade intelligence requirements.



### HOLISTIC ENERGY & COST SAVINGS

15-18% energy savings and cost reductions with data-driven solutions across RAN, Edge, Core, and data centers with no negative impact on user’s QoE.

## COLLABORATIVE AND FEDERATED AI/ML

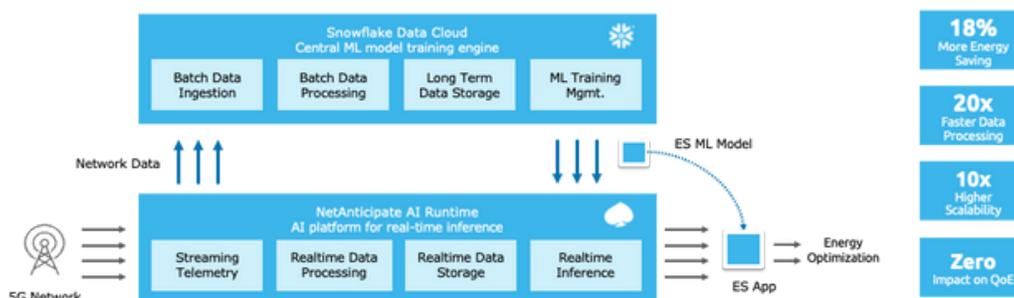
The solution uses advanced AI/ML algorithms with a collaborative and/or federated MLOps workflow to accurately model for and predict network traffic, user mobility, data center workloads, and other factors, to precisely recommend when energy-saving measures can be applied to maximize savings and minimize QoE impact.

## HIGH SCALABILITY

The solution provides a scalable platform for running these AI/ML workflows in the disaggregated network. The underlying closed-loop automation framework enables self-learning, continuously improving the energy saving in the network.

## INTELLIGENT ENERGY SAVING

Telcos across the globe are struggling to tackle the rising carbon footprint in networks; they are missing a holistic energy-saving solution. Capgemini's Project-Bose solution addresses this across RAN, Edge, and Core to realize sustainable mobile networks using a data-driven approach. This helps to reduce CO2 emissions and costs with no negative impact to the end user's QoE.



NetAnticipate enables telcos to implement energy savings within existing networks. It collects usage, performance, consumption data and uses machine learning approach for targeting resource requirement driven equipment power reductions.

Snowflake supports machine learning model training leveraging Snowflake's capabilities for large-scale data storage and exploration, as well as real-time dashboards, through Snowpark and Snowpark optimized Warehouses.

### ABOUT SNOWFLAKE

Snowflake enables every organization to mobilize their data with Snowflake's Data Cloud. Customers use the Data Cloud to unite siloed data, discover and securely share data, and execute diverse analytic workloads. Wherever data or users live, Snowflake delivers a single data experience that spans multiple clouds and geographies. Thousands of customers across many industries, including 543 of the 2022 Forbes Global 2000 (G2K) as of October 31, 2022, use Snowflake Data Cloud to power their businesses. Learn more at [snowflake.com](https://snowflake.com).

### ABOUT CAPGEMINI

Capgemini is a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The group is guided every day by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of over 350,000 team members in more than 50 countries. With its strong 55-year heritage and deep industry expertise, clients trust Capgemini to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering, and platforms. Get The Future You Want | [www.capgemini.com](https://www.capgemini.com)