

SUCCESS CASE 30.2026

CENTRAL PROGRAMMING OPTIMIZER

AI-POWERED OPTIMIZATION OF NETWORK WORK PROGRAMMING AND EXECUTION



THE CHALLENGE

As electricity distribution networks evolve and investment programs increase in scale and complexity, efficiently planning and coordinating field activities becomes increasingly challenging. Within E-REDES, programming activities traditionally involve multiple stakeholders across Network Planning, Project Design, Programming Centers and Operational Areas. These processes are often highly manual and iterative, requiring repeated coordination cycles to align priorities, capacity and execution schedules.

Limited integration between systems, information asymmetries and frequent re-programming requirements can create duplicated effort, lengthy decision cycles and delays in project execution. At the same time, ensuring that the right projects are assigned to the right teams at the right moment is critical for maximizing operational efficiency, accelerating investment delivery and improving service quality. E-REDES therefore identified the need for an intelligent solution capable of optimizing planning and programming activities across the entire execution lifecycle.

THE SOLUTION

Central Programming Optimizer is an Artificial Intelligence-powered solution designed to transform how E-REDES plans, prioritizes and manages fieldwork execution. The solution introduces a centralized optimization engine that supports decision-making throughout the programming lifecycle, improving coordination between planning, programming and operational teams.

The platform automates annual portfolio prioritization by analysing project pipelines using data-driven rules and historical insights, creating a more objective and efficient prioritization process. It also automates monthly work allocation by matching project design requirements with available operational capacity, significantly reducing manual effort and accelerating planning cycles.

In addition, the solution acts as an intelligent re-programming assistant, supporting schedule adjustments, resource reallocation and the management of cancellations or capacity constraints. By reducing coordination loops, unnecessary meetings and information asymmetries, the optimizer creates a more integrated and efficient planning environment while improving visibility across the entire execution process.

MAIN ACHIEVEMENTS

- Introduced AI-enabled optimization capabilities across programming, prioritization and capacity management processes.
- Reduced programming-related labour activities by an estimated 10–20%, improving operational efficiency and reducing manual workload.
- Accelerated planning and programming cycles through automated portfolio prioritization and capacity matching.
- Improved coordination between planning, programming and operational teams by reducing information asymmetries and duplicated effort.
- Increased visibility, predictability and transparency across fieldwork planning and execution activities.
- Supported faster CAPEX delivery and more efficient field operations through smarter resource allocation and execution planning.

KEY SUCCESS FACTORS

A key success factor is the centralization of programming intelligence within a single AI-enabled optimization engine capable of supporting decision-making across multiple planning horizons. By combining historical operational insights, project pipeline information and capacity data, the solution creates a consistent and objective framework for prioritization and execution planning.

Another important factor is the integration of portfolio planning, resource allocation and re-programming functions within the same environment. This integrated approach reduces inefficiencies associated with fragmented processes and improves collaboration between organizational units involved in project delivery.

The ability to dynamically support schedule adjustments and capacity reallocation further enhances operational flexibility and helps ensure that delivery resources are continuously aligned with business priorities

WAY FORWARD

E-REDES will continue exploring the use of Artificial Intelligence and optimization technologies to further enhance planning and execution processes across the Networks business. Future developments may expand automation capabilities, improve forecasting accuracy and strengthen the integration between planning, programming and operational systems.

By transforming programming activities from a largely manual process into a data-driven and AI-supported operation, Central Programming Optimizer represents an important step towards smarter network management. The initiative contributes to greater efficiency, improved investment delivery, enhanced field operations and increased predictability in the execution of network infrastructure programs.