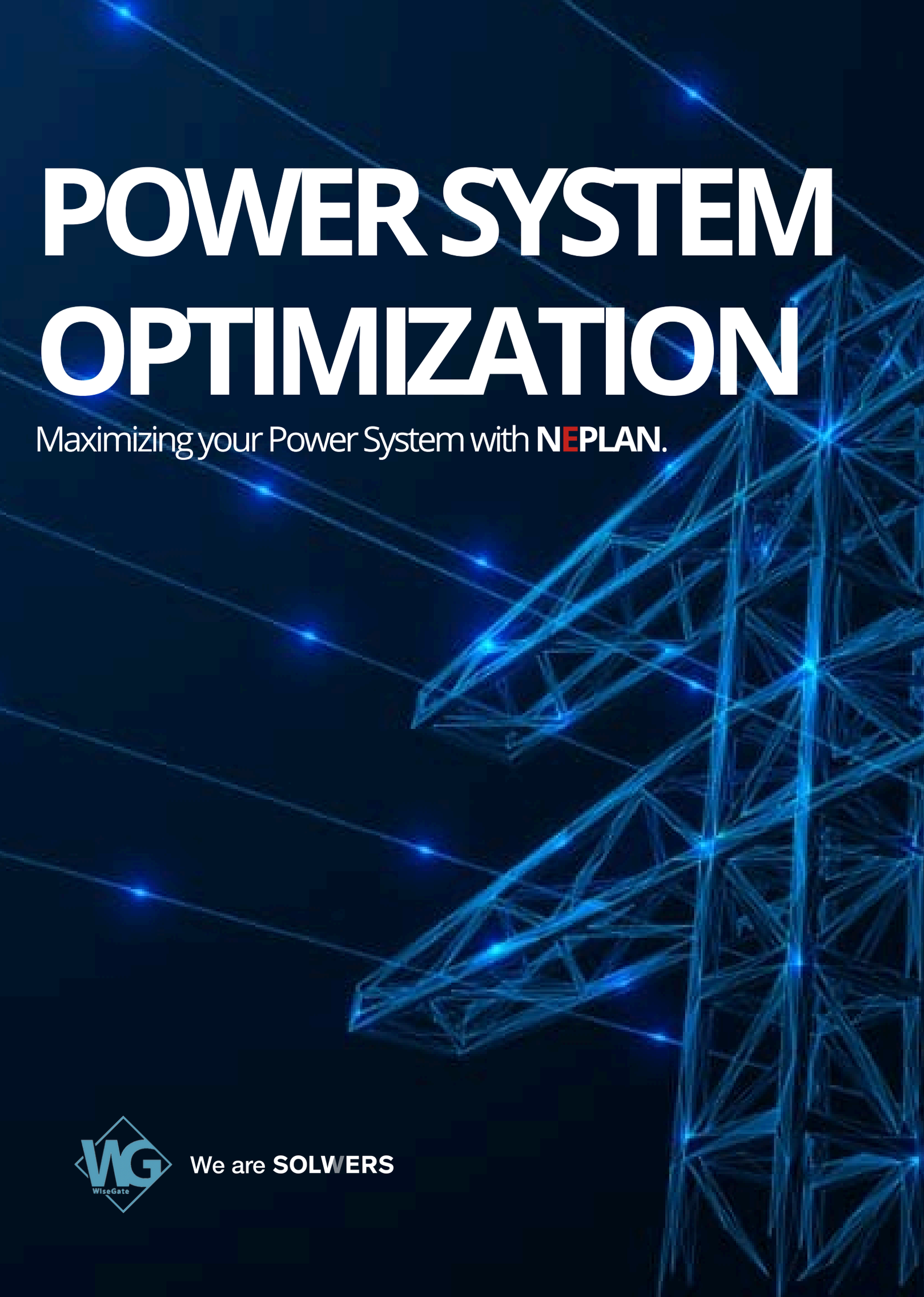
POWER SYSTEM OPTIMIZATION

Maximizing your Power System with **NEPLAN**.



We are **SOLWERS**

“NEPLAN was a game changer for our relay protection. It made calculating short circuit currents across our grid simple, helping us identify equipment at risk during faults. It also allowed us to easily fine-tune the selectivity, minimizing downtime and safeguarding our equipment. With the right expertise in NEPLAN, the tool has been essential in enhancing the safety and reliability of our operations.”

- Larger industry client

Unlock Long-Term Network Optimization

With state-of-the-art software, we conduct advanced simulations to assess the impact of new installations such as potential overloads and ensuring optimal network performance.

From Short Circuit Analysis to Motor Startup behavior, our tool helps us make data-driven adjustments that enhance both efficiency and protection. By implementing proactive, real-time solutions, we ensure your network runs smoothly now and remains reliable well into the future.

We are **SOLWERS**

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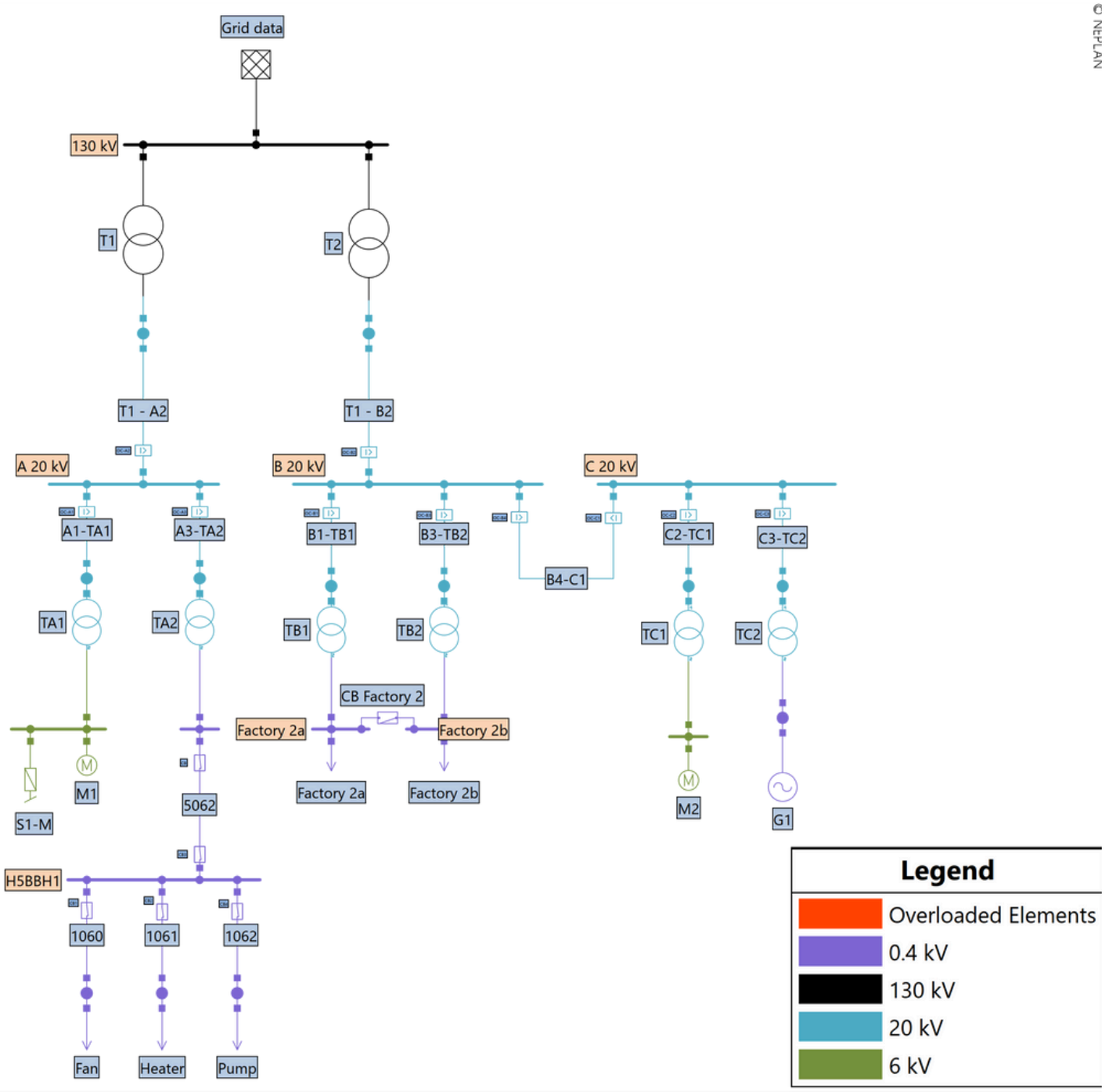
OVERVIEW

The overview displayed in NEPLAN provides a comprehensive visual representation of the electrical network, offering a clear and intuitive summary of key components and system performance. This snapshot allows for efficient evaluation and analysis, serving as the foundation for deeper exploration into specific modules and detailed system evaluations in the following pages.

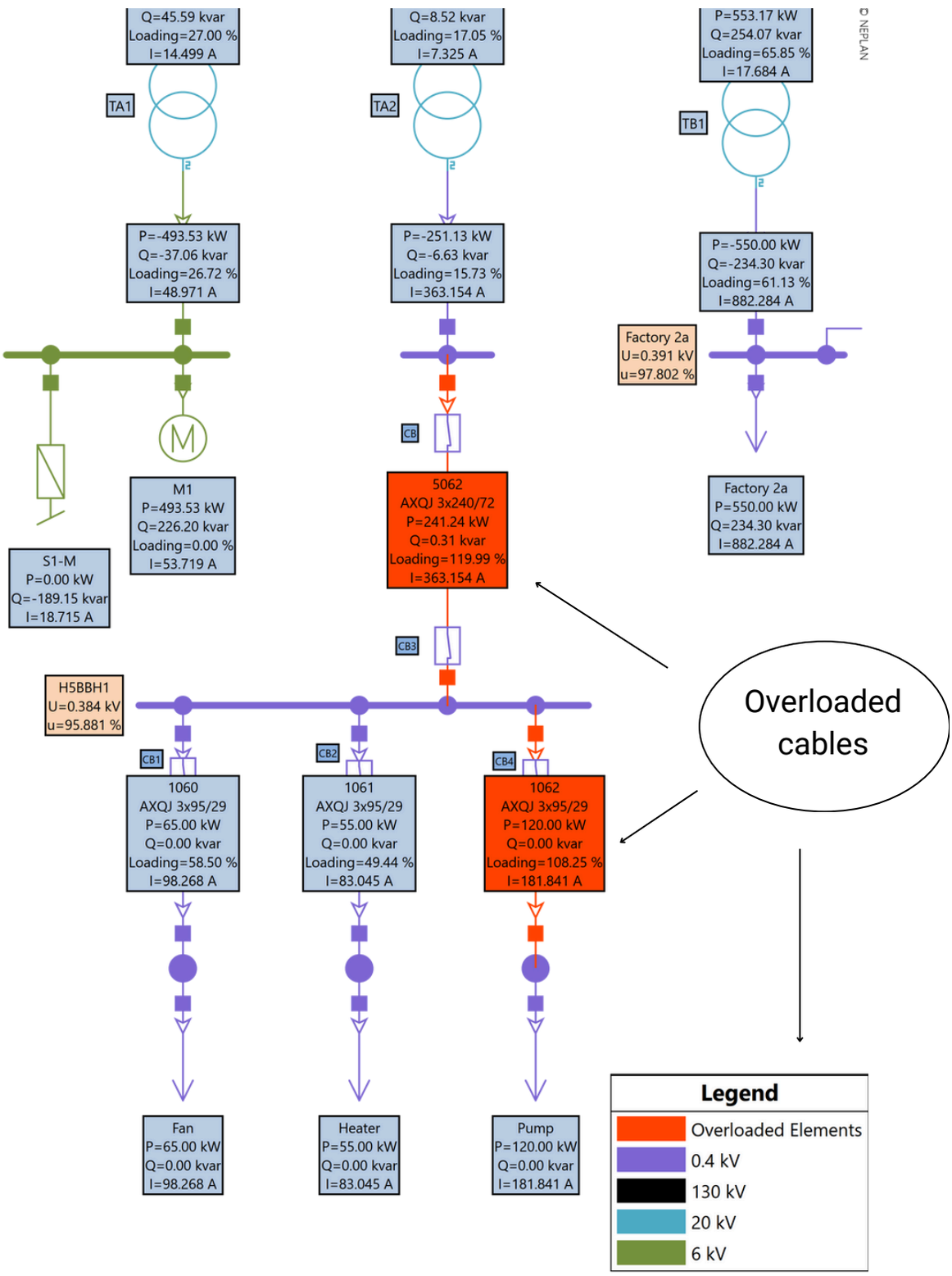
The comprehensive overview in NEPLAN highlights key network elements and their interactions within the electrical system.



LOAD FLOW

We use the software to analyze load conditions and the impact of any new cables and transformers to ensure the network can handle the load, preventing costly failures and optimizing efficiency.
By identifying current and potential overloads, proactive maintenance with quick simulations and real-time calculations can be done.
The program supports both small and large networks, offering energy-saving adjustments for sustainable development.

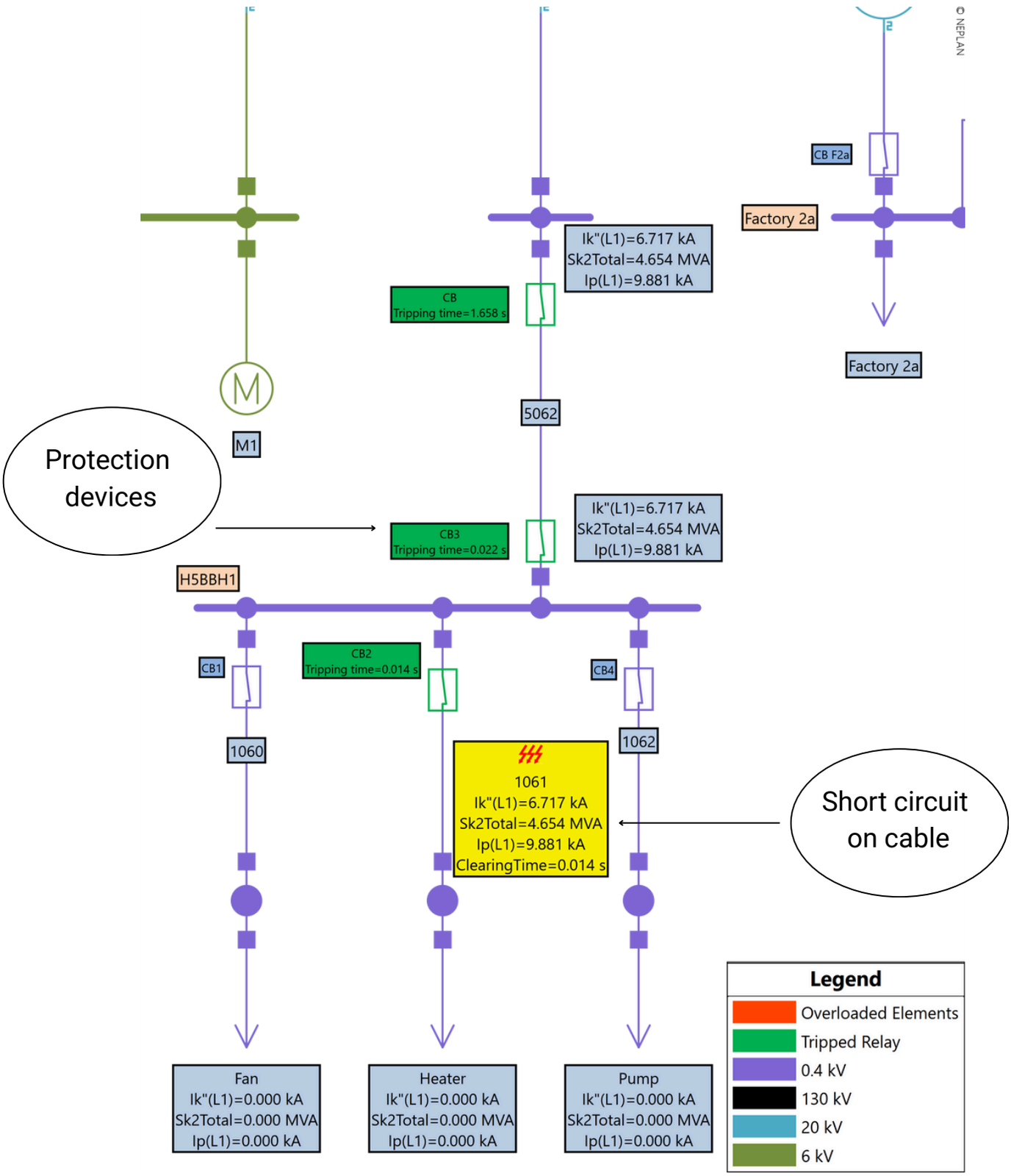
The Load Flow simulation analyzes load conditions, assesses new cables and transformers. It identifies overloads for proactive maintenance, efficiency optimization, and sustainable energy solutions.



SHORT CIRCUIT

Using NEPLAN, we conduct all types of short circuit simulations (including 3-phase, 2-phase, 2-phase to earth and earth faults) that provide a clear and informative view of how the short-circuit develops in the network. The simulation also considers the contributing effects from motors in the network and can be performed according to all standard regulations.

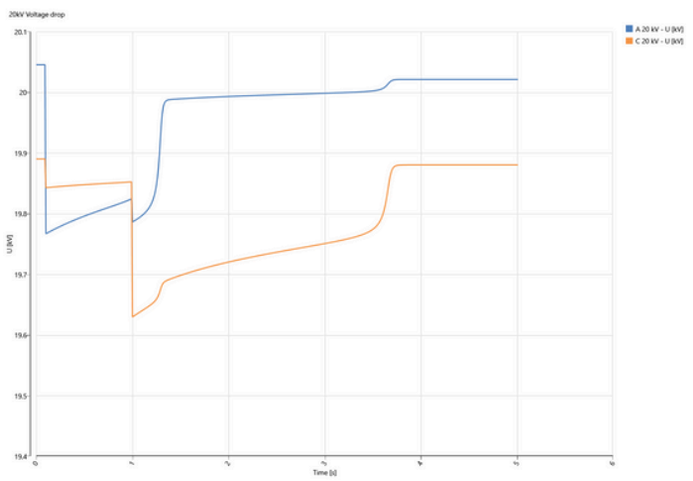
The Short Circuit simulation results in a clear depiction of fault development in the network, including various fault types and motor effects, all while adhering to standard regulations.



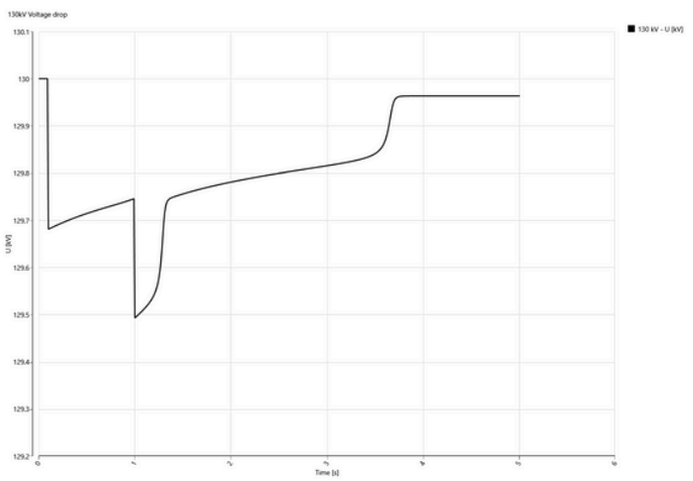
MOTOR STARTER

By simulating the motor's behavior during startup, we can assess how the network will be affected and make necessary adjustments to ensure seamless operation. We can evaluate both the impact of the motor startup on the internal network and on the customers. This proactive approach allows us to provide the best possible conditions for smooth, uninterrupted operation.

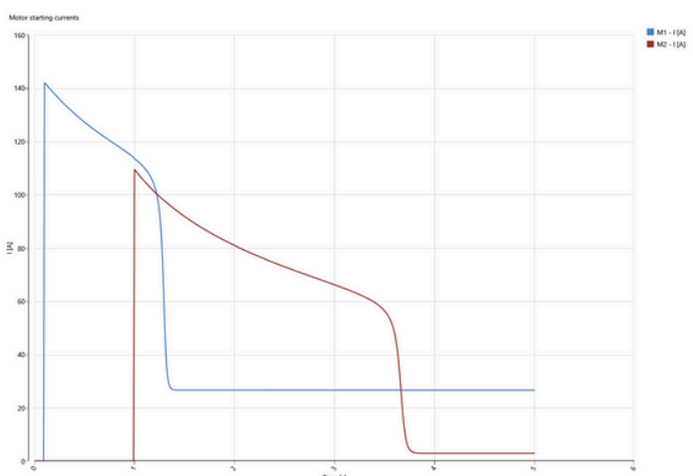
The simulation of Motor Startup behavior shows its impact on both the internal network and customers, allowing for adjustments to ensure smooth and uninterrupted operation.



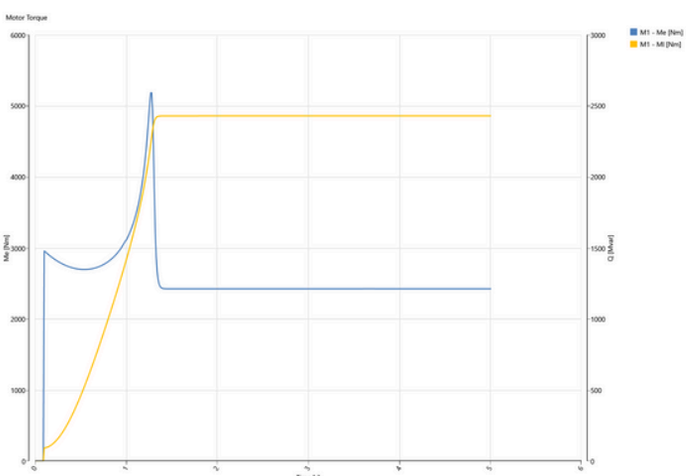
Voltage drop at 20kV



Voltage drop at 130 kV



Motor starting currents

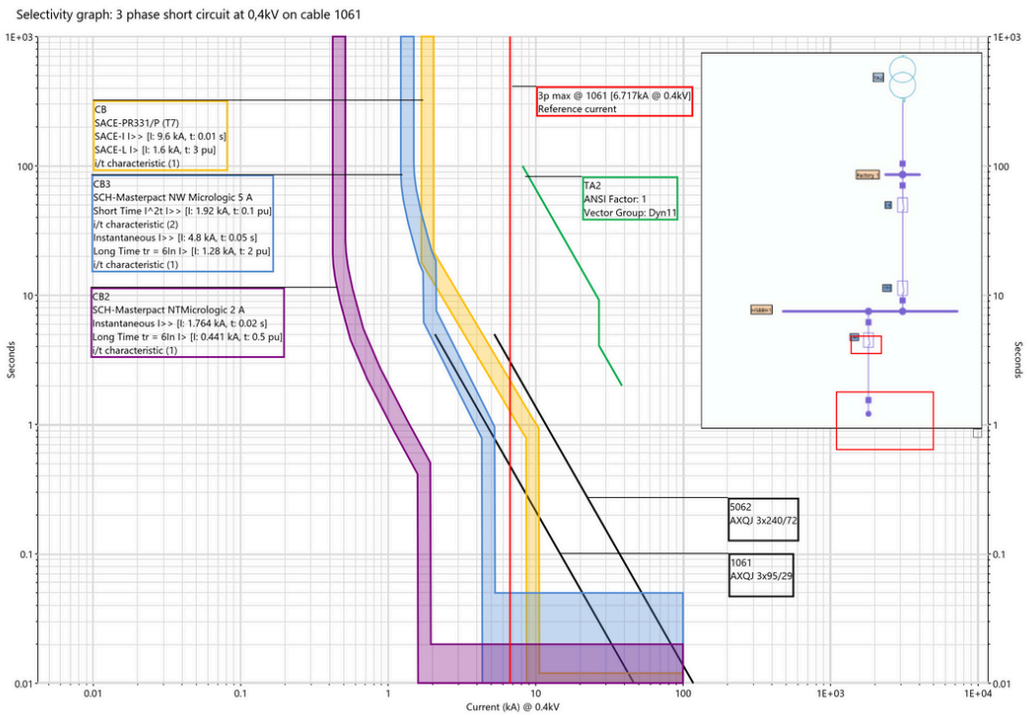


Motor torque behavior

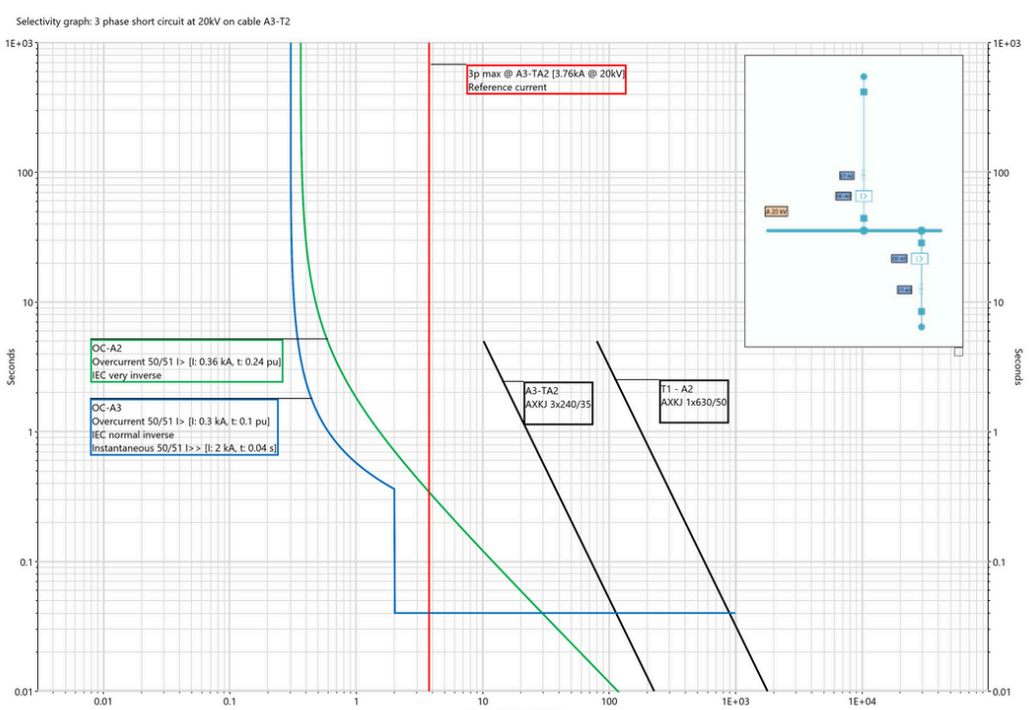
SELECTIVITY

We perform selectivity simulations for all overcurrent and short circuit protection devices. With the comprehensive and accurate device library, these simulations always reflect real-world conditions. Additionally, we can evaluate existing selectivity, ensuring that current protection settings are optimal. If adjustments are needed, they can be swiftly implemented, ensuring optimal protection while delivering both immediate and long-term time and cost savings.

The Selectivity Simulation assesses overcurrent and short-circuit protection devices, using a real-world device library. Adjustments can be quickly made to ensure optimal protection and achieve time and cost savings.



Selectivity at 400V

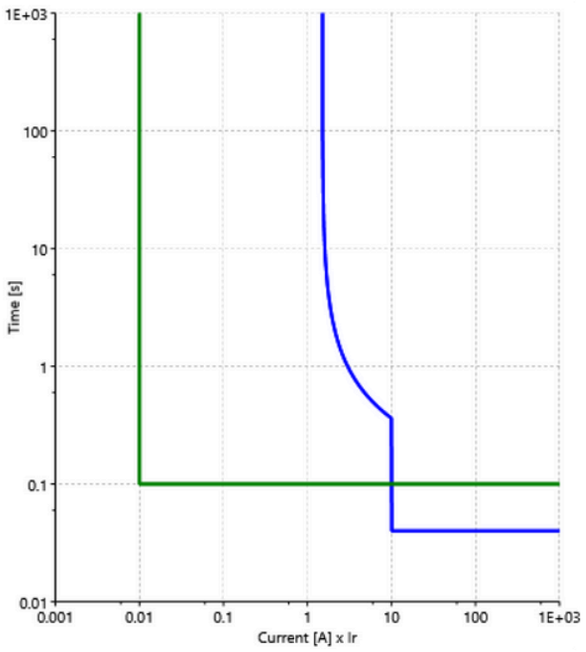


Selectivity at 20kV

DOCUMENTATION

NEPLAN streamlines the creation and management of electrical network documentation, including relay setting sheets. These documents capture key data such as protection settings, relay values, and network configurations. NEPLAN makes it easy to track and update protection devices and their locations, ensuring protection schemes stay current. This efficient process enables quick updates and supports excellent long-term network planning and safety.

The relay setting sheet records protection settings, relay values, and device locations, ensuring accurate configurations and supporting proactive updates for improved safety and reliability.



Element name:
OC-A3

Location:
A 20 kV
Un = 20 kV

Destination:
Cable A3-TA2

Ir = 200 A

Type:
Protection functions: I>, I>>, IoDir>

CT: 200/5 A
CT Io: 100/1 A

Relay unit	Current setting	Curve type	Time setting	Other	Description
Overcurrent 50/51	i/pu = 1.5 i/kA = 0.3	NI	t/pu = 0.1		I>: Overload - IECNormalInverse
Instantaneous 50/51	i/pu = 10 i/kA = 2	DT	t/s = 0.04		I>>: Overcurrent - DefiniteTime
Driected E/F 67N	i/pu = 0.01 i/kA = 0.001	DT	t/s = 0.1		IoDir>: EarthFaultDirectedForward - DefiniteTime

Aktuell Version:			Skapad av: AxSt Datum: 20250319	Ändrad av: Datum:
Version	Datum	Sign	Beskrivning	
	Neplan exempel Device: OC-A3			Blad: 1

Our specialized expertise in electrical power and the use of NEPLAN as a tool allows us to enhance efficiency and optimize solutions tailored to your specific needs

WiseGate

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