Utilities are facing increased pressure to ensure the reliability of their energy grids. As a result, maintenance operations must be carried out regularly to avoid damages on the power lines which could lead to power outages and have an impact on customers and economic activities. But maintaining infrastructure takes investment and resources. Industry leaders rely on Cosmo Tech Asset, our Simulation Digital Twin solution to respond to these challenges.

**Key Benefits**

- **Reduce Operational Conflicts**
- **Reduce TOTEX**
- **Lower your Risks**

**Simulation-driven asset management**

- Simulate the operational execution of current and future maintenance policies.
- Test and validate OPEX/CAPEX allocation options and compare their ability to reduce overall costs without downgrading performance and risk KPIs.
- Identify the best asset mapping to specific lifecycle strategies.
- Evaluate the performance of scenarios with regards to an organization’s value framework and corporate risk matrix.
TenneT Explores New Ways to Optimize Maintenance of Its Tower Network

TenneT is a leading European TSO, providing electricity in the Netherlands, and is the largest green energy provider in Germany, ensuring a constant supply of electricity over a network of 23,500 kilometers of high and extra-high voltage lines with a fleet of more than 100,000 towers.

Optimizing the maintenance and life cycle of this fleet, while minimizing costs and risks, is therefore an essential asset management strategy for TenneT. As a result, TenneT explored with Cosmo Tech Asset, our simulation digital twin solution. By leveraging both predictive and prescriptive analytics and targeting the KPIs of asset management as a whole, the simulation software enabled the TSO to find new ways to optimize maintenance and augment the robustness of its operational execution in face of unexpected equipment failures.

**KEY FEATURES**

- **Simulate asset physical lifecycle**
  Simulate effect of time, physical degradation, loss of structural integrity, occurrence of defects or failures.

- **Simulate asset financial lifecycle**
  Evaluate the financial value of your assets throughout their lifecycle and assess the interest charges paid in your balance sheet for each asset.

- **Simulate sustainability plan**
  Simulate the full asset management plan & incorporate maintenance and renewal policies.

- **Sensitivity analysis**
  Test the sensitivity of the simulated plan against uncertainty on key parameters or key strategic levers.

- **Unlimited what-if analysis**
  Design & simulate scenarios to predict the impact of your strategic decisions on an entire network or organization.

- **How-to optimization**
  Prescribe the optimal strategy that complies with budget constraints, outage capacity and tune HR allocation into one integrated plan.

**12% Operational Risk Reduction**

The exploration of Cosmo Tech Asset shows good potential to allow us to confidently meet our network reliability challenges, taking into account the changes in our environment and the incorporation of future digitization into the business. The simulations showed us a potential reduction of operational risks by 12%, while keeping the same resource allocation.

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**Interested in learning more?**
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