



CASE STUDY

# FUTUREPROOFING ASSET MANAGEMENT AND HARMONIZING WAY OF WORKING FOR TENNET

TenneT is the Transmission System Operator (TSO) for the Netherlands, and a significant part of Germany. The grid operator owns and operates over 24,500 kilometers of high-voltage lines, cables and thousands of high voltage equipments in the various substations. The organization has 6,000 employees who design, build, maintain and operate the grid, onshore and offshore. MaxGrip was asked to work with the TenneT asset management team to take their risk-based asset management to a higher level and harmonize the way of working across the regions.

**CHALLENGE:  
EFFECTIVE MAINTENANCE  
STRATEGIES**

The asset management organization of TenneT had two noticeable challenges that they wanted to address. The first is very practical: a growing, ageing asset base called for a more efficient and effective maintenance approach to lower the workload. Another point of improvement was harmonizing the Dutch, German and offshore way of working, including implementing a single source of truth. To overcome these two challenges, TenneT wanted to implement Reliability Centered Maintenance (RCM) with extra attention paid to a uniform way of working for all.

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A data-driven risk-based approach helps to determine which maintenance activities are most effective to maintain reliability. Moreover, it will boost maintenance performance, reduce risks, improve safety and lower cost while still being compliant to Dutch, German and European legislations.



“We have involved MaxGrip because they have a lot of domain expertise and experience in APM change projects within global companies. MaxGrip’s methodology fits us well. They are able to take the reigns, get internal buy-in and realize results. The consultants have aimed to transfer ownership of a project as soon as possible to us. This is important to me: our own people can take over and take our asset performance to the next level.”

*Thijs Schuring, international head maintenance strategy at TenneT*

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## **APPROACH: STAGED RCM DEPLOYMENT**

To lay the foundation for a robust RCM program, MaxGrip created an improvement roadmap based on a current-state assessment. The steps to take focused on ranking the assets based on their criticality, carrying out Failure Mode and Effects Criticality Analyses (FMECAs) and then put maintenance strategies in place based on those inputs. MaxGrip consultants focused on keeping the Dutch, German and off-shore teams for both asset management and Grid Field Operations (GFO) actively involved to enhance collaboration and uniform outcomes. Based on this improvement plan, we started with a limited scope for the first stage of the deployment.

### **Stage 1: pilot project**

- Scoping how asset management is done for all different teams and harmonizing the way forward by defining a common process and way of working.
- Carrying out the criticality ranking of three object types (circuit breakers, disconnectors and power transformers). The outcomes were discussed with and validated by TenneT asset managers across the regions.

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- The next step was to organize FMECA workshops which were facilitated by a MaxGrip consultant. Key stakeholders of the Dutch, German and offshore asset management and GFO organizations were present. Together they proactively identified all potential failure modes and their effects on the system.
- All outcomes of the criticality rankings and FMECA sessions provided the basis for new, uniform maintenance processes to prevent failure and improve maintenance effectiveness.
- Each country's current way of working and processes were compared to the new maintenance strategy. The differences and the consequences were documented and relevant actions were taken including the change in needed resources.
- The new maintenance strategy was released for upload in the SAP S/4 HANA EAM system as a standard or template.
- Project management throughout the first stage was important to get internal buy in for the change. The MaxGrip consultants were in regular contact with cross-company key stakeholders, ensured regular internal communication and provided structure in the way of documentation, planning and safeguarding progress.



### Ramp up in stages two to six

The second deployment stage is now under way with a ramp up to eight object types. In this phase TenneT is taking the lead whereas MaxGrippers are taking a back seat by supporting and coaching TenneT project leads. MaxGrip is providing TenneT with templates and blueprints for the way of working to e.g. carry out a criticality ranking, facilitate FMECA sessions (this includes moderator training sessions), get a robust maintenance strategy in place and get internal buy-in across the board by applying change management. After this second stage, another four stages will be completed.

## THE RESULTS

## YEARLY SAVINGS AND COLLABORATION ACROSS THE BOARD

The project is ongoing with three stages taking place in 2023. The plan is for TenneT to increase their ownership while MaxGrip will gradually scale down their involvement. So far, the results are:

- €1,05 million savings year on year for stage 1 components;
- The deployment of Reliability Centered Maintenance is on track which provides standardized processes and a future-proof maintenance strategy across the international organization;
- TenneT notices that their Dutch, German and offshore asset management and GFO organizations collaborate more intensively. This shows in the uniform way of working and increase of knowledge sharing;
- The structured way of working that MaxGrip has set up, ensures that things get done and all stakeholders have transparency on the process, progress and goals;
- Transferring knowledge on risk-based asset management topics within TenneT, including (moderator) trainings.



MaxGrip is a global Asset Performance Management consultancy that enables asset-intensive organizations to improve their bottom line by optimizing asset performance and accelerating digital transformation. Our experts work with leaders in a broad range of industries, including Oil & Gas, FMCG, Power Generation & Distribution, Water and Wastewater, Infrastructure and Metals and Mining.