Future-proof solutions to accelerate the digitalization of power grids

Enhanced Workforce

gridspertise
accelerating your electric future

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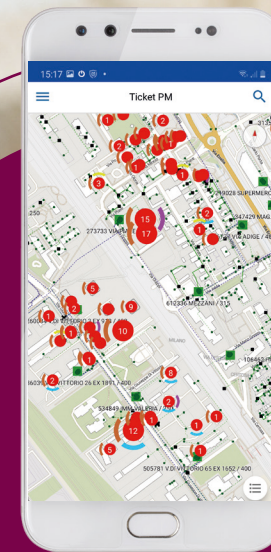
THE CHALLENGE

Guaranteeing a **prompt** and **safe intervention** in case of outages, as well as in ordinary maintenance, is crucial to **ensure the continuity of power service** and **operational efficiency of field workers**. The aim is to cut down **intervention time** while increasing efficiency, **health and safety**.

Accelerating your workforce management with practical modular digital tools

Reduce maintenance time

Streamline tasks execution

Reduce logistics costs

COSTS

Increase operational safety

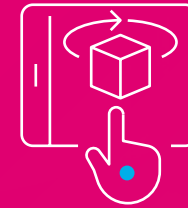Enhance intervention in extreme conditions

THE SOLUTION

The **Enhanced Workforce Management** solution is composed of a **modular set** of practical, functional and rapid **apps**: GIS Mobile, AR for Content Retrieval and **Virtual Reality for training**.

GIS Mobile

Grid navigation and control

Augmented Reality grid projection

AR smart contents retrieval

Fast retrieval of key operational safety contents and instructions in Augmented Reality, available also off-line

Virtual Reality for training

Customized **Virtual Reality** scenarios that recreate real life settings and simulate work challenges in a safe environment.

GIS Mobile

Mobile application dedicated for checking and navigating the power grid, integrating any customers' GIS system.
On top of navigation, is designed to manage all the electric components and update accordingly your central system.

Offline operation

The application stores all the necessary data on the device in order to work even in absence of network connectivity: this is crucial both in areas without data network coverage and in case of outages.

Advanced Features

Personnel can modify or add portions of network directly in field to update to central GIS system.
Real-time integration with SCADA systems is possible, allowing field operators to query and operate controlled systems remotely.

Real-time response

The application is optimized to respond in real time allowing the operator to find and navigate data in fractions of a second even on entire national networks.

GIS Mobile Savings

Average saving per single task

Scheduled Activities	6 min
Unscheduled Activities	8 min
Topology Updates	5 min
Remote Control	9 min

GIS Mobile - AR grid projection

The application projects the electrical network superimposed in **Augmented Reality** on the **external world surrounding the field worker**.

The operator can see and find **any network device even when hidden by buildings** or, **during extreme events**, debris, mud or snow.

Offline operation

It allows you to search for network devices even in the event of total absence of data coverage and intervene when other applications are "blind".

Advanced Features

The application can be used to see the whole network within a distance chosen by the user or to be guided to the precise point of a specific component.

GIS Mobile
AR grid projection Savings

Average saving per single task

	Time savings range	From **3-4 minutes** to **several hours**
	Time of intervention (depending on application scenario)	• **Few minutes** for network devices that are not visible under normal conditions (e.g. underground substations) • **Hours** in case of major catastrophic events
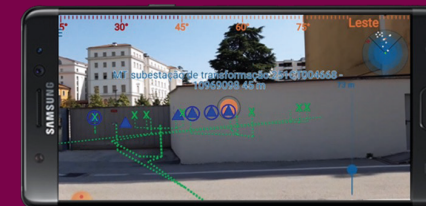
AR smart contents retrieval

This application allows the **immediate retrieval of the multimedia content (video, photo, manual, document)** related to a certain equipment or to a specific control of it.

It allows you to have a simplified access to up-to-date information, documents and procedures to field workers by simply framing a component with a smartphone, even if it is partially visible/covered.

An AR layer over the component image will allow to be linked to the proper content and in the exact point (e.g. page, video frame,...) required.

- Single point of content
- Reduction in intervention time
- Ability to operate offline
- Increase operational safety
- Reduction of errors in interventions
- Further benefits in case of use with smartglasses

AR smart contents retrieval

Time saved in finding the content of interest varies according to the complexity and type of multimedia material.

up to ~10 min

Virtual Reality for training

Gridspertise offers both **a consistent portfolio** of training scenarios and **the development of customized scenarios** for specific needs.

The scenarios allow multiuser experience and execution over **high-end VR stations, cheap portable VR viewers** and even **PC with 2D navigation**.

Benefits

- Take advantage of the Utilities expertise to purchase scenarios with well known levels of difficulty
- Reduced logistics and travel cost to move the experts
- Easy repeatability and dissemination of training
- Ability to simulate hazard scenarios that cannot be replicated in reality
- Centralized content management to facilitate the assignment of the trainings
- Improvement of traceability quality due to analytics functionalities

Functionalities

- 3D Object Catalog
- Global Scenario Catalog
- Collect data about training sessions, KPI and errors
- Analytics about training session. Monitoring of training execution and KPI
- Management system platform for the distribution

USA

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