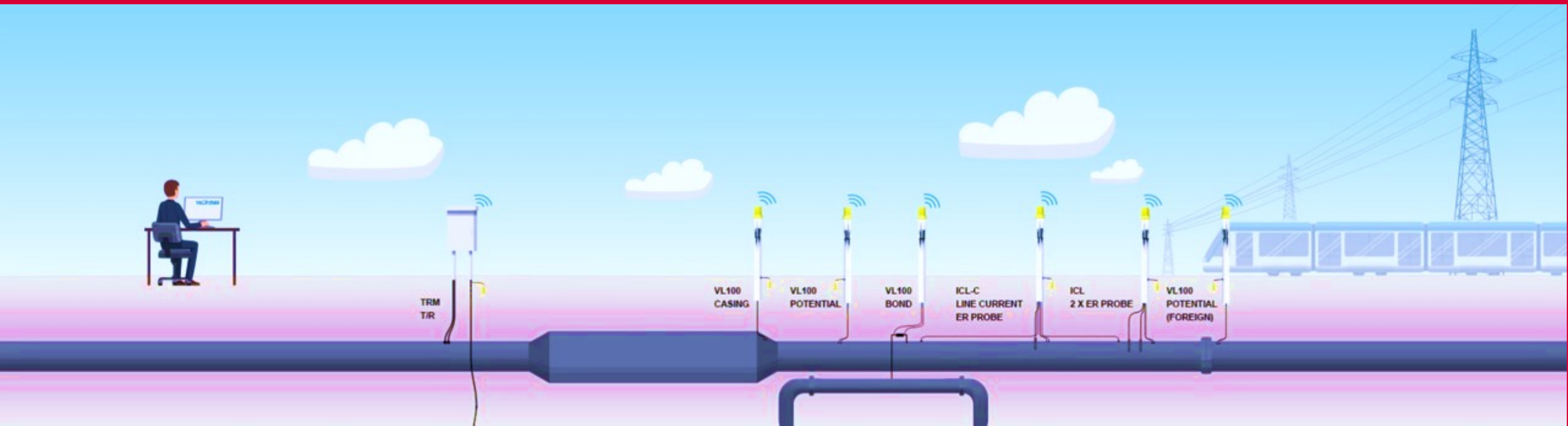
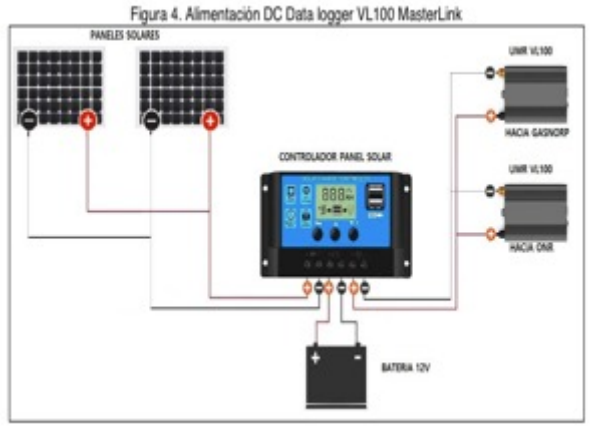
# External Corrosion Monitoring_



# Product: ER Probes_

1. The probe simulates a coating defect. Measuring the electrical resistance of the exposed coupon element and a protected reference element rates the specimen by using simple mathematical algorithms.
2. The simultaneous recording of the corrosion rate and electrical fingerprints enables efficient analysis of, for example, interference conditions. Measuring all parameters (corrosion rate, AC/DC potentials, AC/DC current densities, and propagation resistance) on the same metal surface ensures that all interacting chemical and electrochemical reactions are part of the analysis.

# UMR Tipo I_

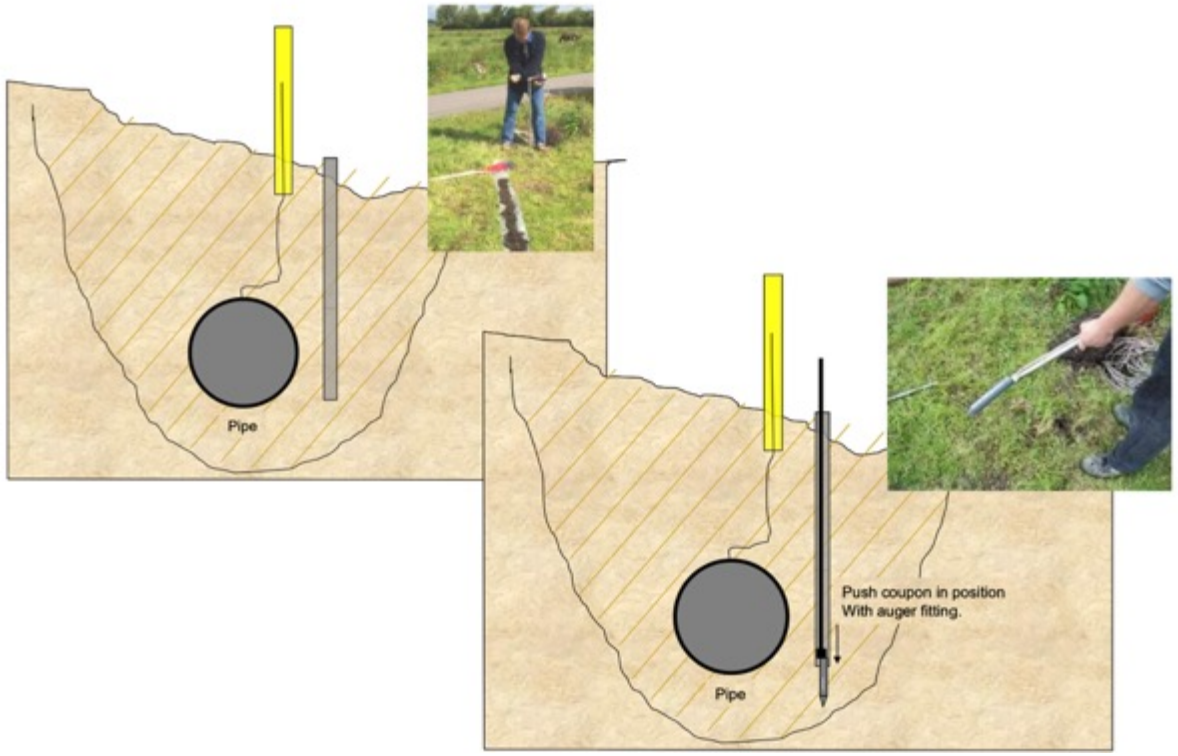




## What's included?_

- ✓ Potential ON

## What's included?_

- ✓ UMR
- ✓ Battery
- ✓ Solar Power




# UMR Type II_

- ✓ Corrosion Rate
- ✓ Potential OFF
- ✓ IR Compensated Potential
- ✓ AC or DC current density
- ✓ Difference in resistance over time


# What's included?_

- ✓ UMR
- ✓ 1 ER specimen
- ✓ CSE Reference Electrode
- ✓ Solar Power + Battery

# UMR Type II Characteristics _

1. Corrosion rate: the highest resolution enabling corrosion diagnostics
2. Coupon Measurements: AC/DC Current Densities, Polarized Potentials, Propagation Resistance
3. Built-in certificate data – no paperwork required
4. Engineering design: especially suitable for AC or DC interference corrosion monitoring
5. Temperature Compensation – Heat Sink – Reference Element – Patented Compensation
6. Rugged design available for soil/high temperature/offshore

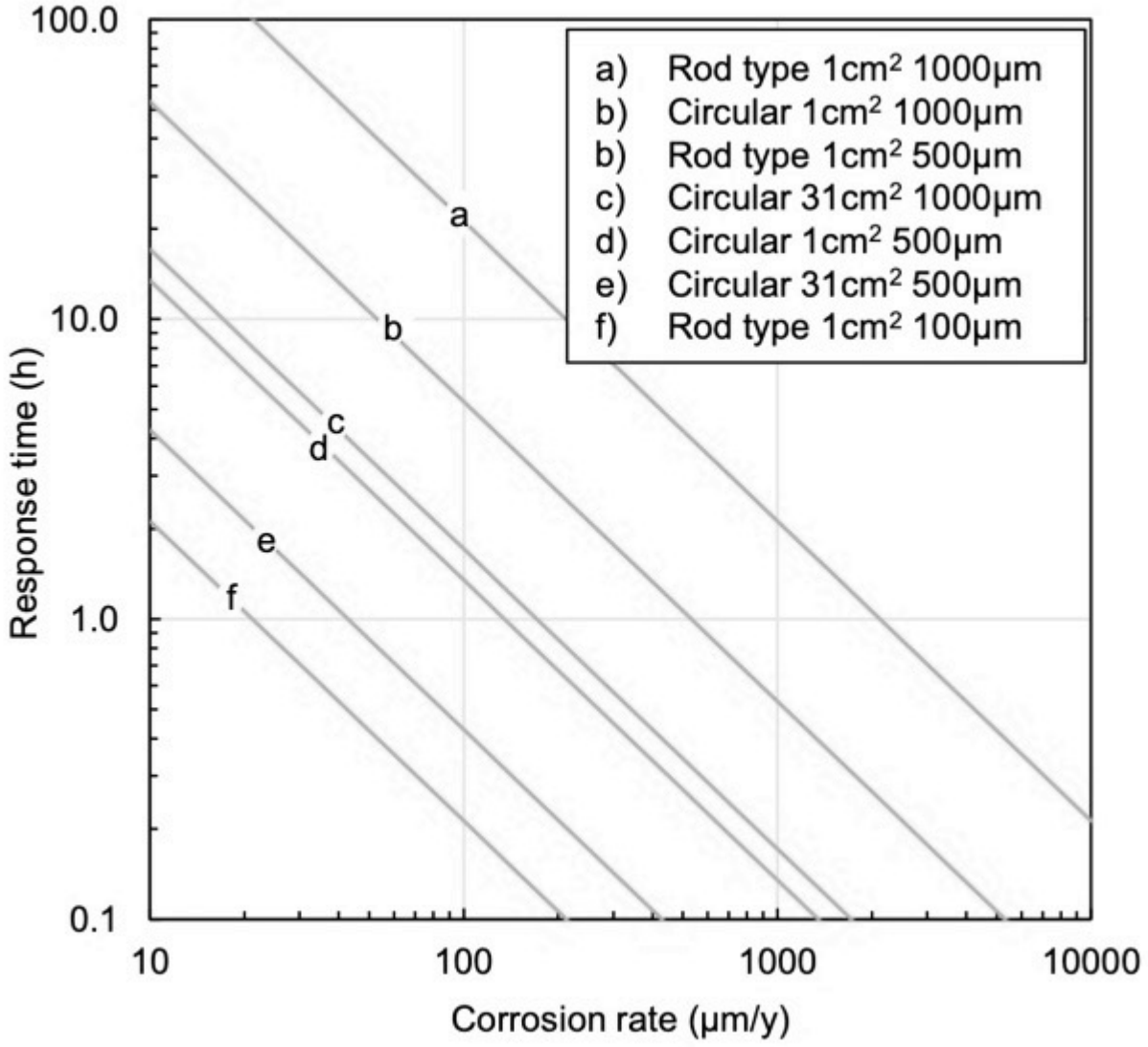
# Class: ER Probes_




Measuring all parameters (corrosion rate, AC/DC potentials, AC/DC current densities, and propagation resistance) on the same metal surface ensures that all interacting chemical and electrochemical reactions are part of the analysis.

# Sensitivity_

- Response time of a specimen to different corrosion rates. This sensitivity should be divided by the attenuation factor based on the length of the cable (below).
- For example, the specimen recommended for AC interference monitoring will be able to detect a corrosion rate of 25 µm/y (1 mpy) within 24 hours.



# RMU Rectifier_


Synergistic remote monitoring units for on/off potential inspection campaigns that allow a better understanding of the behavior of the PC system.

# RMU Rectifier_

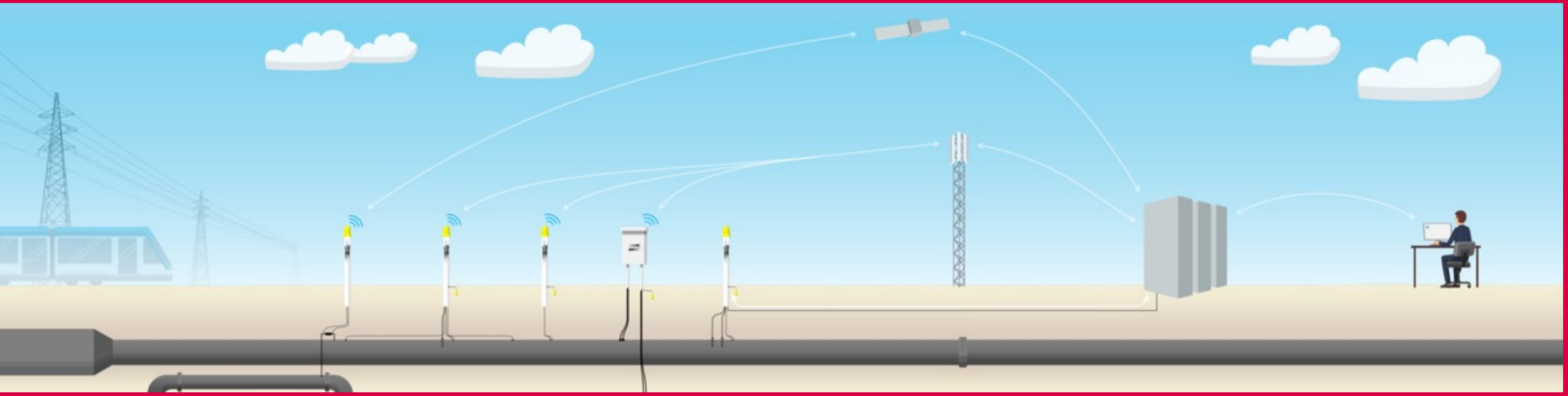

# Capacity_

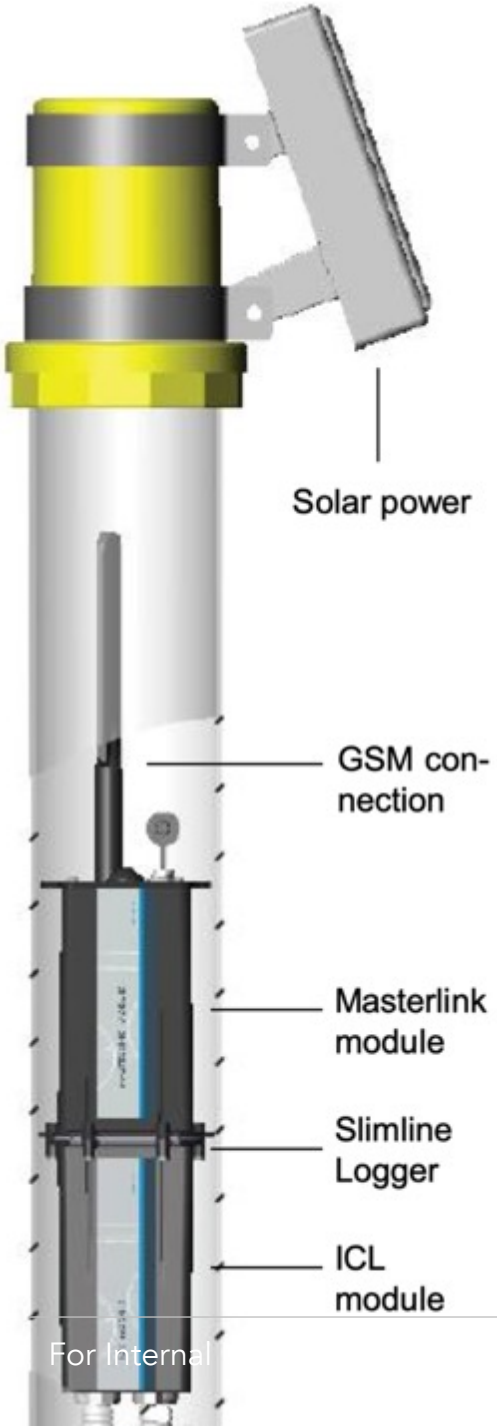
- ✓ Current Measurement and DC Output Voltage
- ✓ Alarm for no AC power
- ✓ Rectifier or door opening alarm
- ✓ Potential On/Off
- ✓ PC System Interrupt (Cycling)

# What's included?_

- ✓ UMR
- ✓ Enclosures & Accessories
- ✓ CSE Reference Electrode
- ✓ Solar Power + Battery

# Remote Monitoring Integration & Compatibility

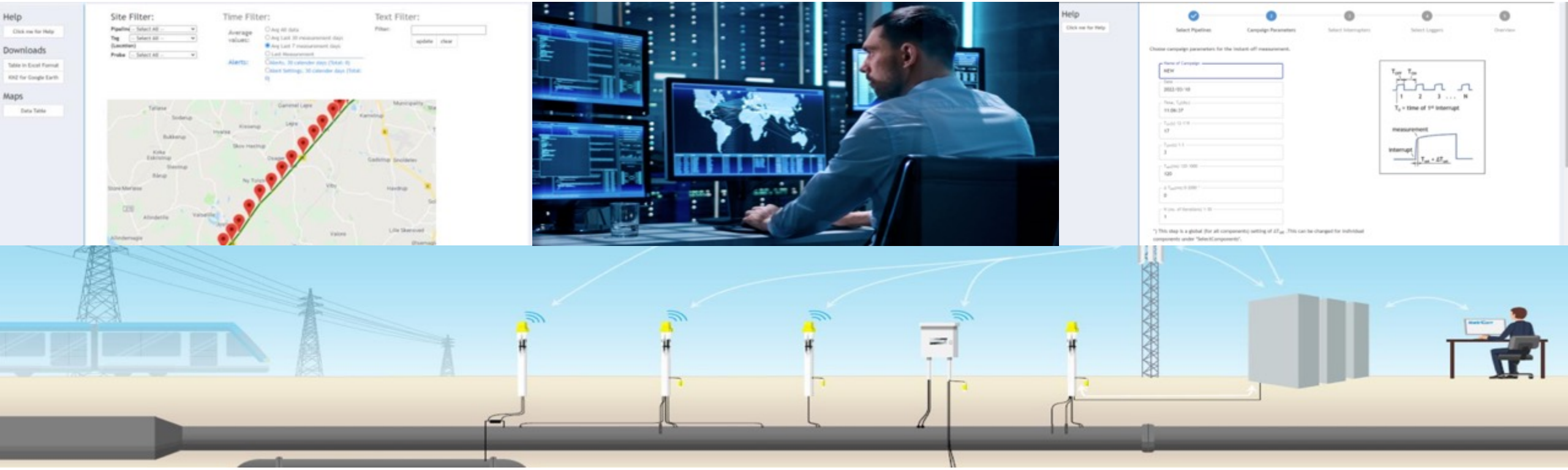





# Product: Remote Monitoring_

1. GPS or GPRS monitoring units
2. Directly compatible with ER specimens
3. Allows ON/OFF potentials, current densities and corrosion rate to be taken
4. Powered by long-lasting battery backup with additional internal solar source option
5. Cavity Test Stations for UMR Location

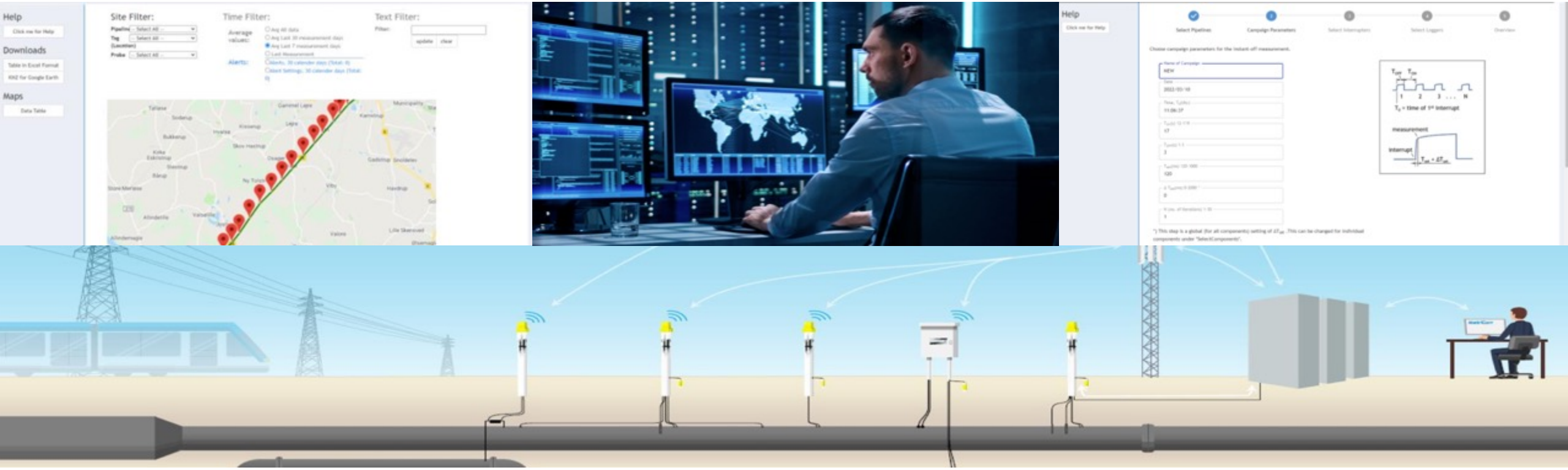
# Data: Comunication Ecosystem_



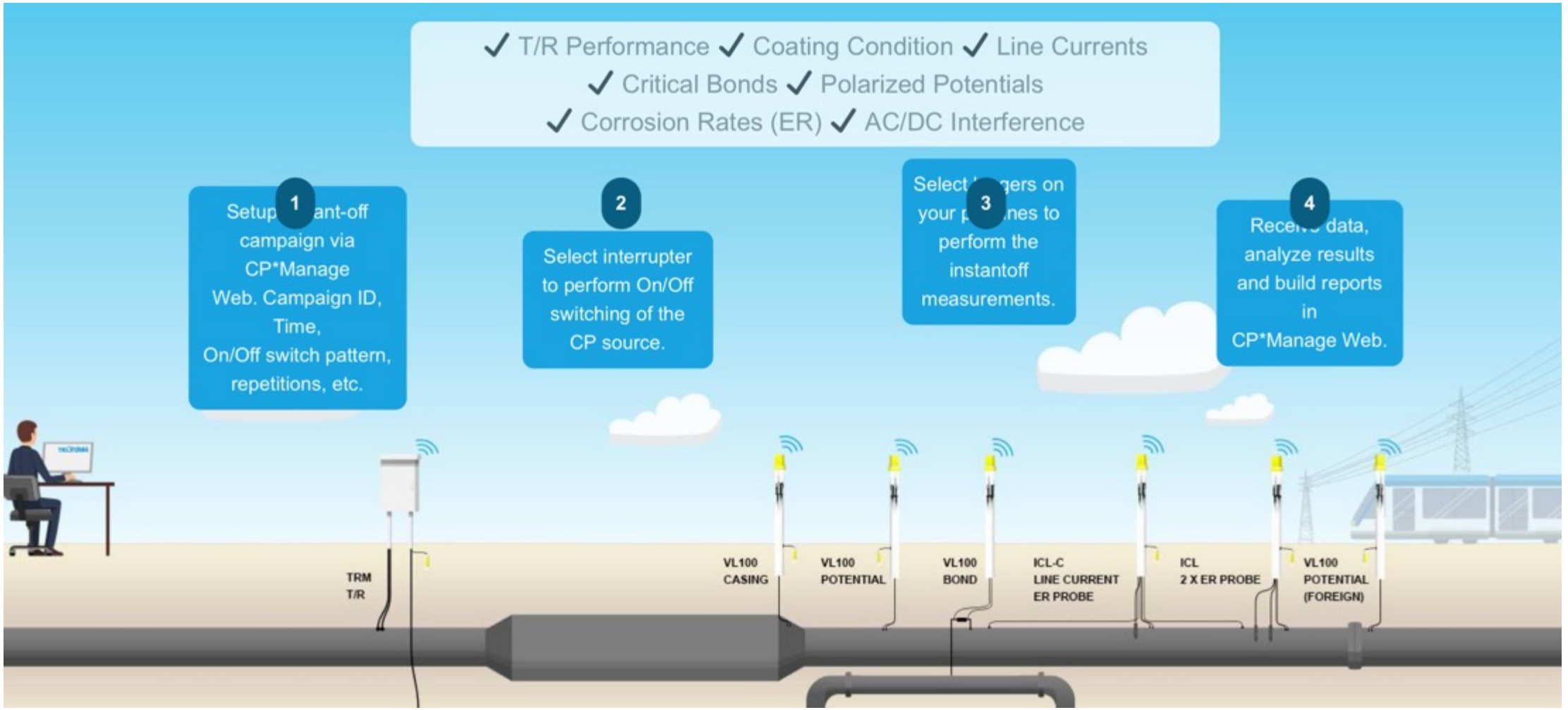
# Advantages_

1. Location in remote or problematic areas
2. Remote operation of the URPC
3. Minimizes excavations
4. Operation with any permanent CSE
5. Long-lasting
6. User-friendly platform that integrates all systems

# Data: Comunication Ecosystem_



# Remote Monitoring:Types_



# Units: Offer

ER PROBE
-2 specimens per point are considered, with their facilities for installation on existing pole

Added Value
- Installation of permanent reference electrode for measurement of ON and OFF potentials in coupon (additional value in economic offer


Measurement
Base Offer: Corrosion Rate
Additional: Corrosion Rate, On/Off Potentials, AC & DC Current Densities, AC Potentials


fits you_

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