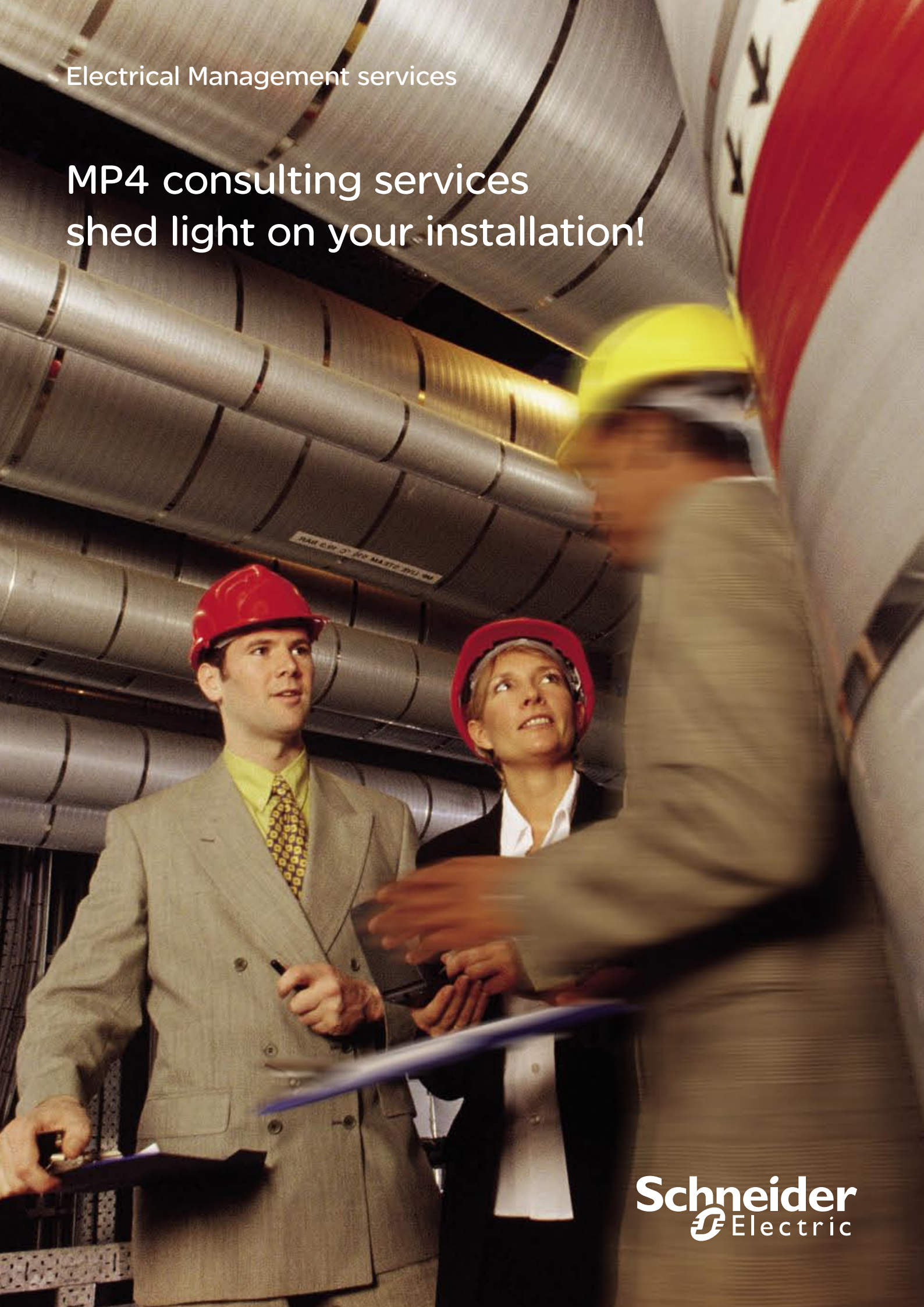


Electrical Management services

MP4 consulting services
shed light on your installation!



Schneider
Electric

A plant wide electrical assessment

- > **Maximise production levels** by increasing installation availability and quality
- > **Improve your OPEX** by providing a roadmap to optimise your operations and maintenance
- > **Prioritise** your electrical installation **investments** and optimise your **CAPEX**
- > **Increase safety** reduce levels of electrical risks
- > **Predict failures** & act before they happen
- > **Replicate** some or all recommendations on other sites within your organisation

MP4 Methodology

- > Partnered by your teams and our electrical consultants
- > Supported by professional software embedding Schneider Electric Know-how

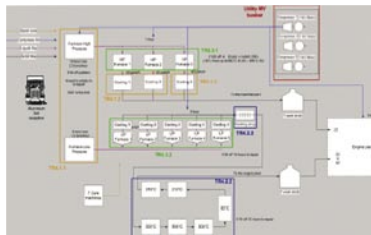


Step 1

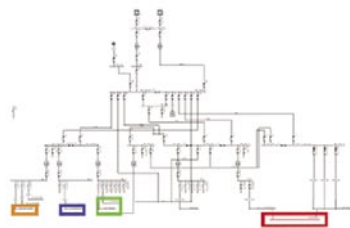
Specify your electrical energy needs and assess your current capabilities

- Understand your process & quantify your risks
- Identify the critical points in your process
- Make the link with the electrical network, and pinpoint the devices or busbars that could trigger these high-risk events
- Locate the main energy consumption points
- Understand your current and future operations & maintenance organisation and capabilities

Example of process modelization and critical points



Example of electrical risk identification

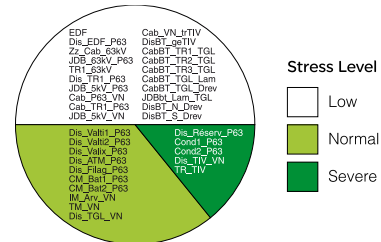


Step 2

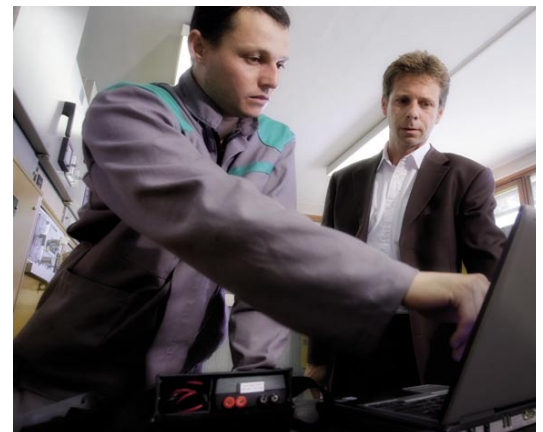
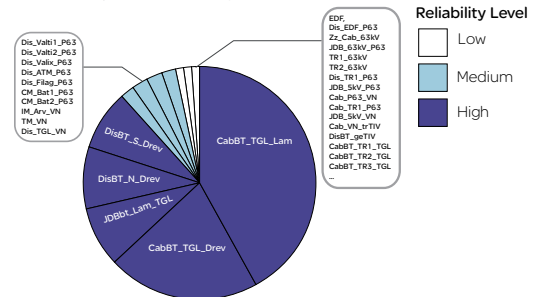
Assess equipment and evaluate network robustness

- For each set of equipment, build a stress indicator based on:
 - environmental conditions (humidity, temperature, salinity, etc.)
 - operating conditions (load rate, number of operations, etc.)
 - equipment ageing
 - Carry out a reliability study to evaluate the robustness of network design with regards to the critical points identified in Step 1
- Classify each set of equipment according to its contribution to the probability of occurrence of the unwanted events

Example of equipment assessment



Example of reliability calculation



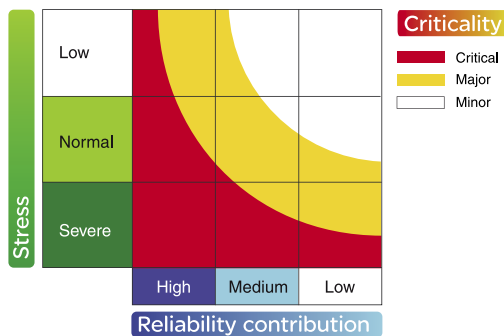
Step 3

Rate criticality levels

Combine stress and reliability levels to rate the criticality of each set of equipment and define the appropriate service policy:

- Critical equipment (predictive maintenance, emergency recovery plan, upgrading action, etc.)
- Major equipment (preventive maintenance, etc.)
- Minor equipment (periodic inspection, etc.)

Example of criticality matrix

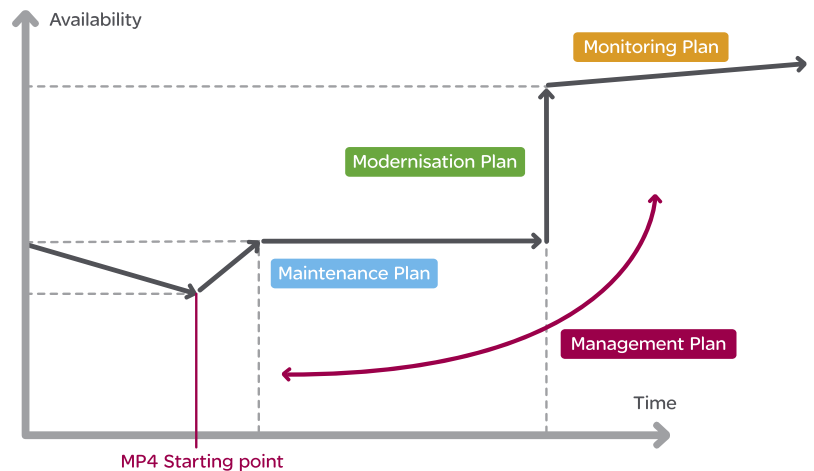


Step 4

Draw up plans and share conclusions

Based on the outputs of Step 3, the following deliverables are consolidated:

- List of critical safety issues
- Upgrading actions necessary to restore nominal installation performance
- 4 plans to:
 - Optimise your operating expenditure (Maintenance Plan)
 - Improve your performance (Modernisation and Monitoring Plans)
 - Track the implementation of actions including training, spare parts management, recovery plan, etc. (Management Plan). The priority of each recommendation and its economic balance sheet are assessed
- Formal presentation of conclusions and recommendations to ensure good understanding and buy-in by all parties involved



MP4 deliverables

4 improvement plans including critical safety issues



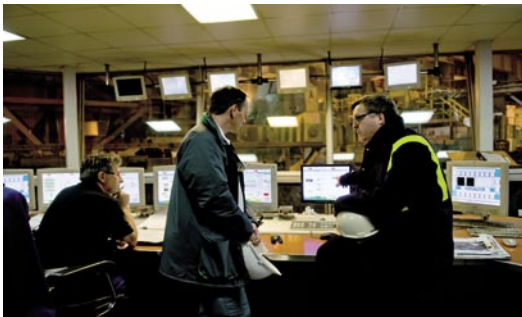
Maintenance Plan

- A description of the level of maintenance to be performed
- The stress and reliability levels of critical devices
- A strategy for the maintenance plan schedule



Modernisation Plan

- A list of equipment at the end of its service life and proposals of available retrofit solutions
- Advice on improving installation performance
- Suggestions on how to adapt your installation to meet your new business requirements



Monitoring Plan

- A predictive approach to anticipate potential device failure
- Energy quality and availability indicators
- Opportunities for energy savings in relation to the various solutions deployed



Management Plan

The plan outlines recommendations targeting:

- The safety of people working on the equipment
- Service contracts with respect to your subcontracting policy
- Management of spare parts
- Competency management including expertise and training
- Data management through direct access to the Schneider Electric expert system

The MP4 report allows you to identify critical safety issues such as:

- Incorrect breaking capacity
- Absence of interlocking devices
- Inappropriate protection of people
- Unprotected access to live parts, etc.



MP4 references

Automotive



Food & Beverage



Oil & Gas



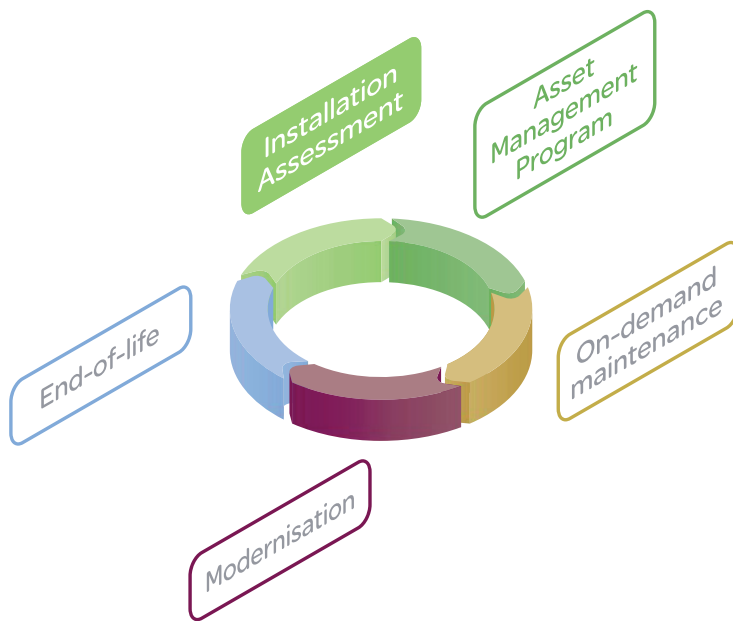
Health & Pharmaceutical



Mining, Minerals, Metal



Infrastructure
Airports, water treatment plants



This offer is included in our full range of services for your electrical distribution.

Contact your local representative for further information!

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