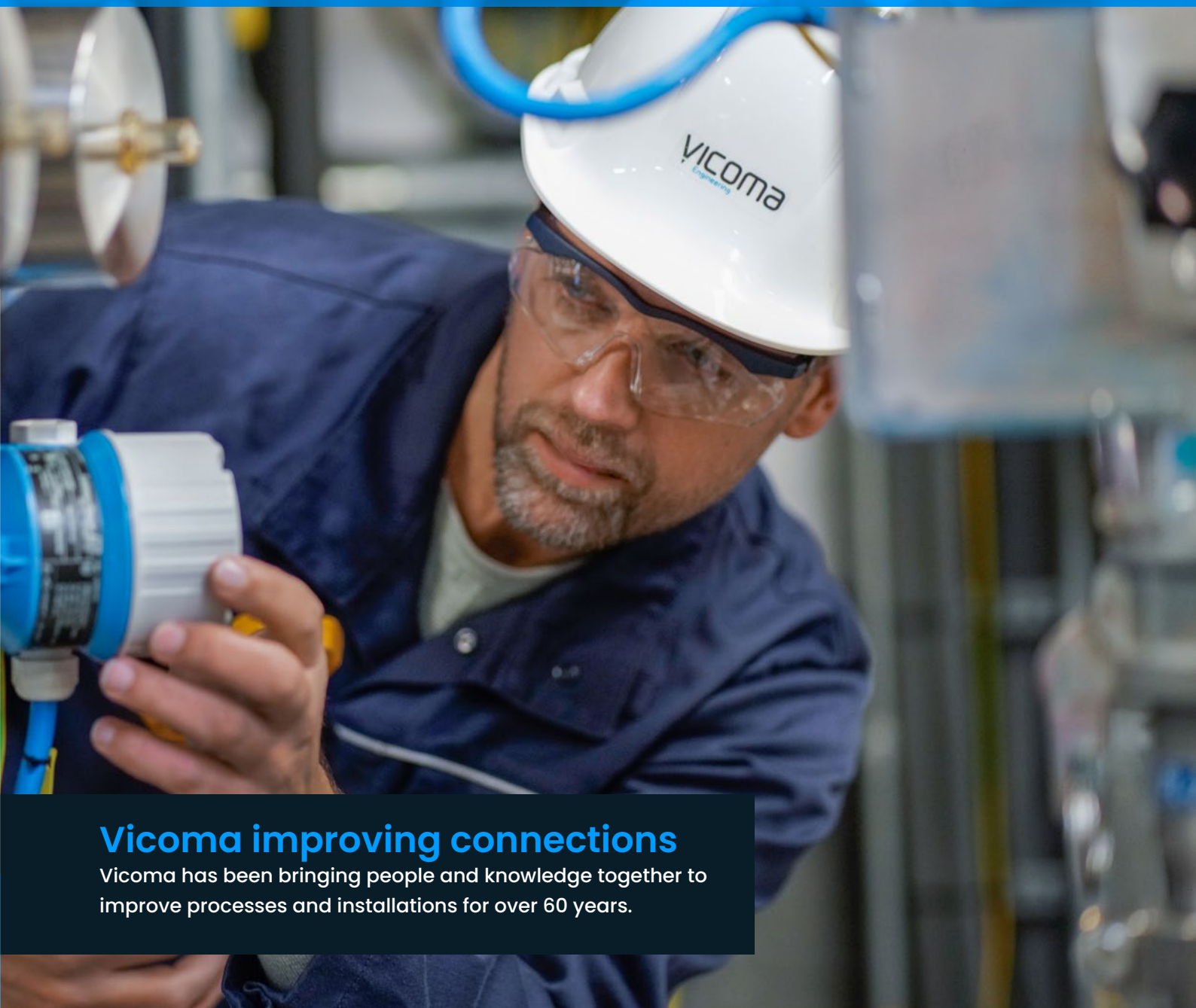
vicoma
Consultancy & Engineering

For safety and efficiency

Remaining Life Assessment



Vicoma improving connections

Vicoma has been bringing people and knowledge together to improve processes and installations for over 60 years.

Prevent potential electrical hazards and ensure proper functioning?

Conduct a Remaining Life Assessment

It is essential that electrical installations function safely and efficiently throughout their life. But all kinds of factors can cause system degradation over the years. So, in addition to the NEN 3140 and NEN 3840 inspections, it is important to carry out a Remaining Life Assessment (RLA). This is an evaluation of electrical installation's health condition. The results of the RLA can be used to ascertain how long it can continue operating safely and efficiently. The assessment helps identify potential electrical hazards. By making adjustments to the installation or to certain procedures, you can prevent hazards and guarantee performance.

NEN 3140 and NEN 3840

As part of NEN 3140 or NEN 3840 inspections, an inspector measures the insulation resistance (low voltage) or partial discharge (high voltage). These measurements are necessary to determine the electrical parameters and potential leakage currents between phases, and between phase ground and phase neutral. When the limit value of insulation resistance is reached, it is an indication that the distributor is nearing the end of its service life. Signs of wear and tear such as damaged insulation, loose connections or overheating can also indicate potential malfunctions or safety risks. These aspects are examined with a thermographic camera during the NEN 3140 and NEN 3840 inspections.

Remaining Life Assessment

In addition to performing NEN 3140 and NEN 3840 inspections, Vicoma can play a role in the Remaining Life Assessment of electrical installations. Next to the outcomes from a NEN 3140 or NEN 3840 inspection, there are other aspects that contribute to maintaining the safe and reliable operation of electrical installations.

Examples of technical reasons:

- Components of the existing installation may no longer be available. This can extend the downtime in the event of a failure or malfunction.
- The distributor may no longer meet current safety requirements. The arc energy may be too high to operate the distributor on site. This means the distributor can stay in operation, but any maintenance work can only be done if it completely de-energised and it should only be operated remotely.

Examples of economic reasons:

- Servicing an old distributor can be expensive and generally needs to be done by specialists.
- A faulty distributor can lead to additional costs due to production downtime.
- The distributor can be a cause for bottlenecks when expanding the installation.

Detailed assessment

Vicoma can optionally carry out an in-depth evaluation of the installation for you. Included in the evaluation is a detailed assessment of the availability for system components. We analyse the efficiency and the load, and we identify the risks to employee safety. Needless to say that we also include the economic factors in our evaluation.

If there is no recent NEN 3140 or NEN 3840 inspection report available, the assessment includes a thorough visual inspection of the installation's components, including cables, distributors, circuit breakers, switches and transformers, to determine their condition. We then assess the installation's power capacity to meet load demand and its compliance with relevant safety regulations and standards.

Report

The result of the Remaining Life Assessment is a report containing an assessment of the six aspects of the assessment:

1. **Installation ageing and wear**
   This is done based on NEN 3140 or NEN 3840 inspections already carried out by third parties or based on a visual inspection by Vicoma.
2. **The availability of original components or retro-fit solutions**
3. **Compliance of the distributor with current standards and safety for operating personnel**
4. **Maintenance costs**
5. **Costs due to plant downtime**
6. **Future expansions**
   An older model distributor can be a bottle-neck inside the installation when you can no longer add to a distributor.

Advice and guidance

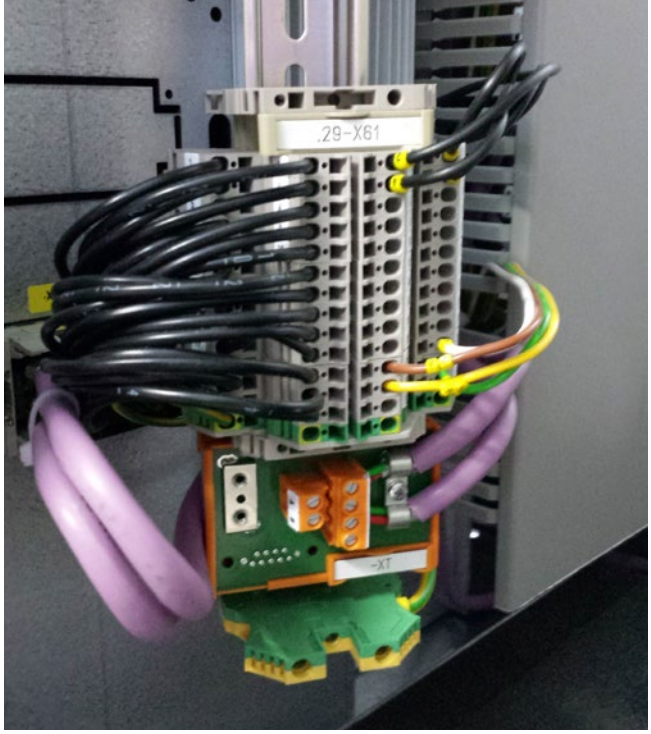
Based on the findings in the assessment, Vicoma offers tailored recommendations and guidance on the most viable approach. The goal is to improve the safety and efficiency of the electrical installation or to repair it if necessary. Vicoma's services include:

- → recommendations for repairs, upgrades or replacement of system components;
- → a roadmap for replacing or repairing a large part of the installation;
- → advice on compliance with relevant standards and regulations;
- → suggestions for improvements to the design of your electrical installation;
- → any engineering work required following the Remaining Life Assessment. This can range from working out the modifications to drawing up a complete replacement plan, including specifications of the new installation as well as basic and detail engineering.

Risks of not doing a Remaining Life Assessment

Companies that don't perform an RLA run a number of risks:

- **Safety risks:** Outdated distributors can significantly increase the risk of electrical faults, short circuits and potential fire hazards.
- **Faulty equipment:** There is a good chance that crucial components such as switches, insulation materials or operating mechanisms exceed their lifetime. This can lead to unexpected equipment failure, resulting in lost production, downtime and potentially high costs for repairs or replacement. If the required components aren't available because there is no good alternative to replace them, it can extend the downtime even further.
- **Energy efficiency and performance degradation:** An outdated distributor consumes a lot more energy, resulting in higher energy costs and reduced system performance.
- **Failure to comply with regulations and standards:** The system may no longer meet the latest standards and regulations, for example in terms of protection against arc flashes, contact danger, compartmentalisation and heat generation. This compromises the safety of employees. Not only can this lead to fines from the inspection bodies, but also to negative publicity and reputational damage.



- **Costs and operational impact:** Unscheduled downtime, emergency repairs or short-term replacement can lead to higher costs than planned. In addition, the operational impact of failures or unexpected outages can negatively affect organisational productivity and efficiency. Long component delivery times or component shortages, and the possible longer downtime of the plant, can result in supply contracts not being honoured.

More than assessments alone

Vicoma's strength lies in the fact that experts not only conduct assessments. Thanks to their technical knowledge and expertise in engineering, they also collaborate with clients. No matter how significant the challenge in the field of electrical engineering, our experienced engineers are eager to tackle it.

vicoma
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Our consultancy and engineering firm has been working for 60 years with a wide array of clients on single and multidisciplinary projects. What can you expect from us? A pragmatic and flexible approach.

Our engineers are capable of overseeing diverse projects from start to finish, handling the engineering aspect efficiently. We also operate swiftly with flexible teams and streamlined communication channels. Being an independent family-owned business, it's inherent for us to prioritize your interests alone. As such, we are not publicly listed and are not tied to specific contractors.

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