

# FAILURE ANALYSIS AND EXPERTISE

More than just a simple diagnosis, a true driver of competitiveness!



## Your expectations

The average cost of quality defects (losses, scraps, repairs) and production downtimes is estimated at between 10 and 15% of manufacturers' turnover.

Yet only one in four companies makes the decision to conduct failure analysis!

**You are an industrial manufacturer, an operator, an insurance or a court-appointed expert, you are looking for a recognized and independent specialist in the field of product, component, equipment, structure, system or process failures.**

**Whether in an industrial setting or as part of a dispute, you are faced with damage or problems related to:**

Fracture, cracking, damage to metal, plastic, polymer, composite, elastomer, ceramic or glass parts

Corrosion or anti-corrosion protection

Operating anomaly (noise, vibrations, etc.)

Abnormal wear

Malfunction or loss of performance

Ageing

Mixing of parts

Product or process non-conformity

Leakage or loss of tightness

Particulate pollution

Etc.

**You need to quickly identify the causes and prevent a recurrence by implementing an emergency action plan and long-term solutions.**

## Our solutions

**As a key partner in failure analysis, Cetim's experts will assist you worldwide throughout the troubleshooting process** through to the implementation of the most appropriate solutions.

Our methodologies, based on over 50 years of experience, are designed to meet your specific needs and challenges:

On-site diagnosis in various environments and possible sample collection

On-site investigations (NDT, metrology, instrumentation, etc.) and laboratory analysis (physico-chemical, fractography, etc.)

Tests to reproduce the failure or damage

Numerical simulation (Finite Elements, CFD, etc.) to understand or recreate damage situations



Identification of solutions and the provision of a detailed report with documented conclusions, including our technical opinion and recommendations  
Implementation and follow-up of corrective actions  
We offer tailor-made solutions to improve the performance, safety, reliability and availability of your equipment and facilities, in order to ensure their dependability and integrity (Asset Integrity Management – AIM):  
Residual life assessment  
Monitoring and supervision  
Predictive maintenance plan  
RBI (Risk Based Inspection)  
Through-life support  
Etc.  
Training of employees to respond to deviations

## Your benefits

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With Cetim, an independent expert in identifying the root causes of failures and a technical support for court-supervised and insurance investigations for all industrial sectors, you can take advantage of these failures to reduce your OPEX-CAPEX.

Leveraging on the skills and experience of its **materials and sector specialists**, Cetim, as and Industrial Technical Centre, **will provide you with:**

A neutral and independent approach to ensure the objectivity of our results

A comprehensive and multi-skilled solution, which tackles the failure from its source through to the implementation of tangible solutions

Access to the most advanced technologies, skills and resources: drones and robots, 3D scanning and simulation, non-destructive testing, tomography, etc.

Solutions to evaluate the residual life, implement predictive maintenance and extend the operating and service life of your pressure equipment and machines: monitoring, industrialized solutions, etc.

A high level of responsiveness and availability of our teams in France and abroad for your emergencies

An organization and experts accustomed to insurance or court-supervised investigations

### Cetim and failure analysis:

- Over 50 years of experience, leading player in France and the Asia-Pacific **especially in Asia through its Singapore-based subsidiary, Matcor.**
- Over 200 experts worldwide
- More than 1,500 multi-sector investigations carried out every year
- Extensive knowledge of a wide range of materials (metals, polymers, composites, glass, ceramics, etc.)
- Over 25 laboratories with innovative equipment and various accreditations: Cofrac / NF EN ISO 17025
- Over 35 specific Cetim Academy® training courses dedicated to failure analysis in French and 12 in English
- A turnover of more than 9 million euros



Question and Answer Service

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