Cetim's services

# DEPENDABILITY

**Ensure the performance, compliance, availability, and safety of your industrial systems**



## Your expectations

In the design, development, industrialization, or operation of your products and systems, effective risk management is essential to ensure their performance, availability, compliance, and safety throughout their entire life cycle.

Dependability engineering helps identify and prioritize the risks associated with the different stages of a product or process life cycle, and then define and monitor the action plans required to keep these risks under control.

As part of your projects, your key objectives may include:

- Identifying and prioritizing risks related to your products, systems, or processes.
- Demonstrating effective risk management in accordance with customer and regulatory requirements.
- Optimizing system availability by improving reliability and maintainability.
- Ensuring the safety of systems, people, and their environment.
- Ensuring the traceability of dependability requirements, from risk analyses through to evidence of compliance.
- Supporting your technical decisions through structured analyses that can be shared with your customers and inspection or certification bodies.
- Capitalizing on knowledge and lessons learned to establish a methodology that can be reused in future projects.

## Our solutions

**Definition and Structuring of the Dependability Approach**

- Assessment and audit of the existing dependability process.
- Needs assessment and definition of the processes and methods best suited to the project.
- Identification of risk areas: performance, safety, regulatory compliance, etc.
- Definition of risk management objectives.
- Identification of applicable standards and regulatory frameworks.
- Definition of a requirements management plan.
- Compilation and monitoring of dependability requirements.
- Implementation of an organizational framework tailored to internal and external stakeholders.

Functional Analysis and Risk Analysis

- Performance of functional analyses.
- **Qualitative risk analyses:**
  - Preliminary Hazard Analysis (PHA)
  - Failure Modes and Effects Analysis (FMEA)
- **Quantitative risk analyses:**
  - Failure Modes, Effects and Criticality Analysis (FMECA)

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  - Fault Tree Analysis (FTA)
  - Markov chain analysis
  - Etc.
- Identification and prioritization of risks.
- Definition and monitoring of risk mitigation action plans.

Reliability, Maintainability and Availability

- Operational reliability analysis.
- Definition of maintenance plans.
- Analysis and optimization of preventive and corrective maintenance activities.
- Integrated Logistics Support (ILS).
- Enhancement of the mission profile knowledge base.

Dependability Project Management and Monitoring

- Management and coordination of dependability activities.
- Documentation management.
- Team coordination.
- Requirements monitoring and tracking.
- Supplier monitoring.
- Design monitoring.
- Production monitoring.
- Verification and validation of completed work.

Organization and Competency Development

- Identification of stakeholders and definition of roles, responsibilities and accountabilities.
- Subcontractor management.
- Competency and training management.
- Employee training.
- Team support through direct implementation, coaching, or validation of work carried out internally.
- Management of lessons learned and continuous improvement.

## Your benefits

- Improved risk management throughout the entire life cycle of your products and systems.
- A structured demonstration of compliance with customer and regulatory requirements.
- Improved availability through optimized reliability and maintainability.
- Identification of previously uncontrolled risks and implementation of appropriate mitigation action plans.
- Reduced risk of potential cost overruns and schedule delays.
- Independent expertise to challenge or verify risk analyses performed internally or by your suppliers.
- Enhanced team expertise and progressive adoption of the dependability approach.
- Implementation of a repeatable process that can be applied to future projects.
- Capitalization on lessons learned and best practices from various industrial sectors.

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