

AL Safety Design

Reliability and Risk Management



Consultant Services for Design and Delivery Projects:

- Reliability Engineering and Risk Management in design projects
- 3rd Party Independent Risk Analyses.
- Reliability and RAM Analyses and Specifications
- Organizing, Documenting and Negotiation support



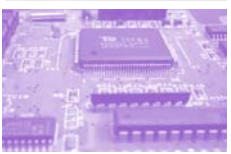
Renewable Energy: Wind, Solar, Fuel Cells, Bio Fuel

Process Hazard Analysis: Hazop, PPA, SIL, LOPA. Risk analysis of Control Systems. RAM-Analysis of systems. Maintainability Analysis, maintenance costs. Design-FMEA: product risks, Process FMEA: assembly/ manufacturing risks.



Electronics and Embedded Systems

Support for product development projects: Functional failure analysis. MTBF-prediction for PCB's. FMEDA and MTBF for dangerous failures. Safety compliance, certification support: EN 61508, EN 62061, EN 13849. Manufacturing/assembly risks.



Medical Systems, Instruments

Risk analysis. Risk Management Plans. CE-compliance. Safety Compliance: EN ISO 14971 - Risk Management. Reliability Plans. MTBF-prediction, Failure analysis of Systems. FMEDA Analysis. Manufacturing risks.



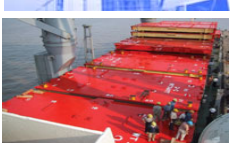
Machine Systems, Railways, Heavy Machinery

Risk analysis of Control Systems. Functional Failure Analysis. Safety compliance: EN 61508/ 61511, EN 62061, EN 13849, EN 50126. Availability and RAM analysis, maintenance costs, LCC.



Process, Power and Chemical Plants

HAZOP-SIL-LOPA: Process risk analysis, Safety Integrity Level, Layers of Protection. Safety Management Plans, Inherently Safe Design, Safety improvements. RAM-analysis, Maintenance costs, LCC.



Ships, Maritime Systems, Equipment

Risk Analysis. Functional failure analysis of ship systems. Redundancy analysis for propulsion, safe return to port. Manufacturing/ assembly risks.



High Reliability Systems, Space, Aviation

Product Assurance (PA) Management according to ESA standards. PA-Plans, Risk Management Plans. Configuration control, Non-Conformance control systems. Manufacturing risks. Failure analysis of Systems.

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Training Courses - www.reliabilityacademy.fi

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| 1. Reliability Engineering Basics | 2d |
| 2. FMEA - Failure Modes and Effects | 1d |
| 3. Process Risk Analysis (Hazop etc) | 1-2d |
| 4. Risk Management workshop | 1d |
| 5. EN 61508 briefing/ workshop | 0.5d |

