IEC 61508 Industrial Functional Safety

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IEC 61508 Frame

IEC 61508 establishes Safety Integrity Levels (SIL 1-4) framework with structural requirements across hardware reliability, software development rigor, and integrated safety analysis.

Architecture Implications

SIL-classified industrial systems increasingly engage emerging autonomous operations that benefit from architectural substrate.

Architectural Mapping

Stage-gated commitment supports SIL-decomposed safety architecture. Reversibility classification supports SIL-relevant hazard analysis. Composite admissibility supports multi-authority industrial operations.

Standard Evolution

IEC 61508 ongoing revision and emerging integration with emerging industrial-AI safety standards push toward structurally-supported architecture.