



## EXTENDED PLCOPEN SAFETY MODULES - STANDARD-COMPLIANT AND FUTURE-PROOF

The PLCOpen Safety Standard defines safety-related functionalities for the programming and development of control software according to IEC 61131-3. Based on the latest revision of this standard, our customer in the industrial automation sector identified the need for functionality upgrades to its existing PLCOpen Safety Library and module extensions to comply with the new safety requirements.

### Standardized function blocks - verified, validated, and documented

The first step was a comprehensive review of the library's function blocks. Timing diagrams, machine states, test cases, and implementations were systematically reviewed by konplan experts. Then, the revised library was tested on the safety and non-safety controllers.

konplan handled library verification, implementation and performance of the required tests, and comprehensive documentation of the results. Specialized safety developers supported the customer's development team by simplifying the close technical coordination and targeted implementation of safety-related requirements.

### Efficient application through standardization

The standardized library enables quick, consistent application and simplifies migration between different vendor systems. The customer benefited from konplan's safety experience, precisely structured approach, and flexible support.

### Result

- Updated and expanded library
- Vendor-independent application of standardized function blocks
- TÜV Certification

### Methodology & Technologies

- CODESYS-based Controllers (Safety and Non-Safety)
- CODESYS-based IDE
- Structured Text

### Scope of Services

- Test Planning
- Verification: State Chart, Timing Diagram, Test Cases, Code Review
- Creation of test projects and test performance



12 months



2 employees – konplan  
2 employees – customer



Analysis & Idea Generation,  
Development

