



FUNCTIONAL SAFETY

BLUMANO offers its consultancy expertise for the safety assessment of machinery control systems. The services we provide in order to deliver a complete safety assessment are:

PRODUCT ANALYSIS - We analyse the product or product family, its market and your company's goal to create a picture of what would be required to obtain the desired product certification.

URS - To understand the safety analysis, BLUMANO can supply the User Requirement Specification for every product's individual usage scenario. BLUMANO also defines the necessary safety functions, the level of each one and to which standards they will comply to.

SOFTWARE ANALYSIS - Our experts can advise on which path will be best when it comes to analysing software and to determine if it interferes with the safety path. Our experts can also analyse your software and determine the necessary steps to get it approved (Software Certification).

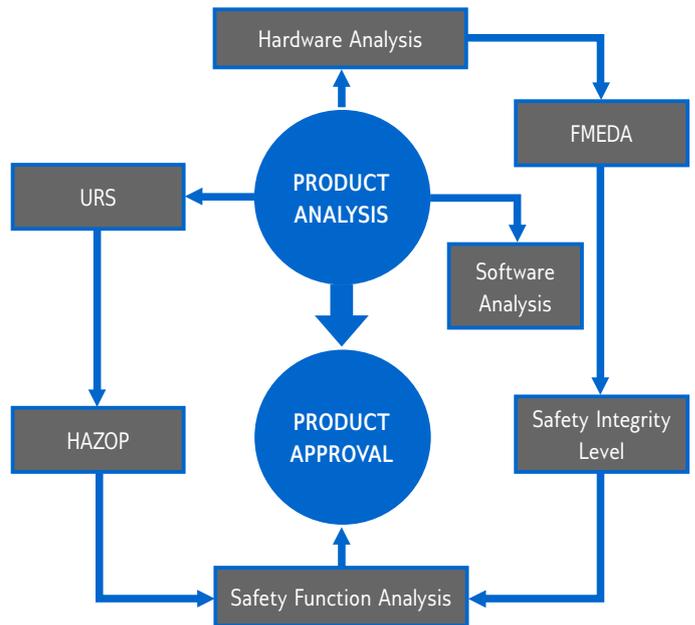
HARDWARE ANALYSIS - Failure Mode, Effects, Diagnostic and Analysis (FMEDA) is a methodology designed to identify potential failure modes for a product or process, and to assess the risks associated with those failure modes. BLUMANO can provide FMEDA for products and analyse the consequences of possible failure conditions in the different components of machinery.

SAFETY INTEGRITY LEVEL - Based on industry standards and other variables, BLUMANO obtains the safety Integrity level for each individual safety function listed in the URS, from SIL1 to SIL3.

HAZOP - BLUMANO complements the FMEDA analysis with a list of hazardous cases to be considered outside of the FMEDA calculation, but within the safety analysis.

SAFETY INTEGRITY LEVEL - Complete documentation for each product and all the individual safety functions listed in the URS ready for approval.

PRODUCT APPROVAL - Final step. BLUMANO supplies the documentation analysis ready for the approval process, and liaises with the major certified bodies to obtain product approval.



ENGINEERING SERVICES FOR THE ENTERTAINMENT INDUSTRY

OTHER SERVICES OFFERED

Software Design
Calculations
Machinery Risk Analysis

Hardware Solutions
Engineering Approval
H&S Site Installation

Compliance & Certification Services
Integration Machinery & Control
Training & Education