Machinery Safety Expert Training

PILZ
THE SPIRIT OF SAFETY

Qualifications for Success

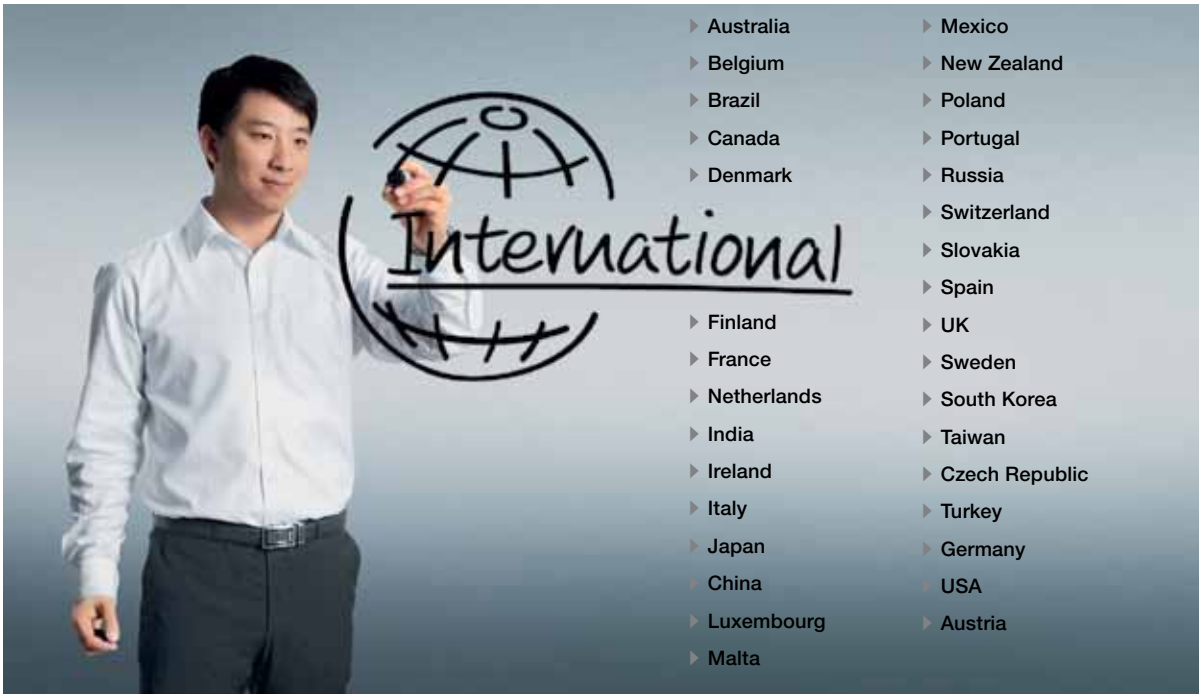



Our International Network – Bespoke Training Seminars and Courses developed to meet your Specific Needs

Pilz has more than 2000 employees in 32 different countries and 17 partners behind the scenes. Each and every one of them is ready to help you. Our training seminars and courses are aligned and held worldwide.

We are highly experienced within national and regional standards to be complied with and we know how to use these standards. Our global team has developed useful contacts ensuring that we are up-to-date with the latest international developments. With Pilz you are in safe hands! Based on thirty years' of experience within machinery safety, Pilz offers a wide range of product-neutral seminars on machinery safety, standards and regulations as well as specific Pilz product related courses to national and international companies.

Our training concepts enable us to give practical solutions to the most complex technical issues surrounding machinery safety. We assist in providing delegates with the means to use optimum manufacturing processes with a view to optimizing the availability and productivity of their systems worldwide.
Pilz offers training seminars and courses from Pilz subsidiaries in the following countries:



Our subsidiaries across the world.

Machinery Safety Expert

Objective

The aim of the Machinery Safety Expert training is to equip delegates with extensive knowledge and skills within safeguarding of plant and machinery. The delegates acquire in-depth knowledge across several topics ranging from risk assessment, over development of safety concepts, to correct commissioning of plant and machinery.

As an expert within machinery safety, you have the necessary level of competence in order to deal with the machine safety lifecycle from design, over retrofit to decommissioning.

Day 1 Agenda

Machinery Directive incorporating CE Marking

Objective

Find out all you need to know about the Machinery Directive 2006/42/EC and the requirements with regard to CE marking of machines. Which machines fall under the scope of the Machinery Directive? What are the responsibilities of machine builders and machine operators (employers)? This seminar provides the answers. The seminar also covers the corresponding standards, which refer to the design, construction and maintenance of machines placed on the market and operated within the European Economic Area. The seminar provides a step-by-step illustration of what needs to be considered in the CE marking process.

Contents

- Scope and requirements of the Machinery Directive 2006/42/EC
- Essential health and safety requirements
- Harmonized standards under the Machinery Directive 2006/42/EC
- European legislation related to machinery
- The process and procedures for CE marking of machinery
- Responsibilities in the machinery life cycle
- Administration and documentation requirements, such as Declarations of Conformity, Technical Construction File (TCF) and the CE plate

Target Groups

Technical Personnel responsible for ensuring machinery compliance including:

- Design engineering managers
- Design engineers
- Safety officers and specialists involved in workplace evaluation of machinery
- Production manager or person responsible for production equipment
- Those responsible for upgrades and maintenance of plant and machinery
- Machinery Purchasers
- Technical purchasers
- Automation Managers
- Automation, Electrical, Maintenance and Project Engineers

Machinery Safety Expert

Day 2 Agenda

Risk Assessment Workshop

Objective

Acquire the extensive knowledge and skills needed to risk assess machinery in accordance with EN ISO 12100 – explained in practical terms by our experts. Risk assessment is a fundamental aspect of machinery safety and the first step in complying with the legal regulations (Machinery Directive 2006/42/EC) and standards. The risk assessment workshop uses images and videos to guide you through the risk assessment process on machinery – it is always interactive and practically based. The objective is to identify hazards and perform risk evaluations (degree of harm and probability of occurrence). This seminar also covers how to apply appropriate risk reduction measures and determine the residual risk.

Contents

- Risk assessment legislation and standards (EN ISO 12100)
- Application of different evaluation methodologies:
  - HRN
  - Risk Matrix
  - Risk Graph
- Hierarchy of control
- Remediation and residual risk
- Risk assessment best practice
- Practical examples in terms of several workshops for all participants
- Risk reduction measures

Mechanical Guarding

- Safety distances to prevent hazard zones being reached by upper and lower limbs, in accordance with EN ISO 13857.
- Positioning of safeguards with respect to the approach speeds of parts of the human body, in accordance with EN ISO 13855.
- Guards. General requirements for the design and construction of fixed and movable guards, in accordance with EN ISO 14120.
- Interlocking devices associated with guards, in accordance with EN ISO 14119.

Target Groups

- Design engineering managers
- Plant construction and control system design engineers
- Technical engineering managers
- Safety officers and specialists involved in workplace evaluation
- Technical purchasers (of machines and industrial plant specifically)
- Those responsible for upgrades and maintenance of plant and machinery
- Managing directors of machine engineering companies and control systems manufacturers
- Automation, Electrical, Maintenance and Project Engineers

Machinery Safety Expert

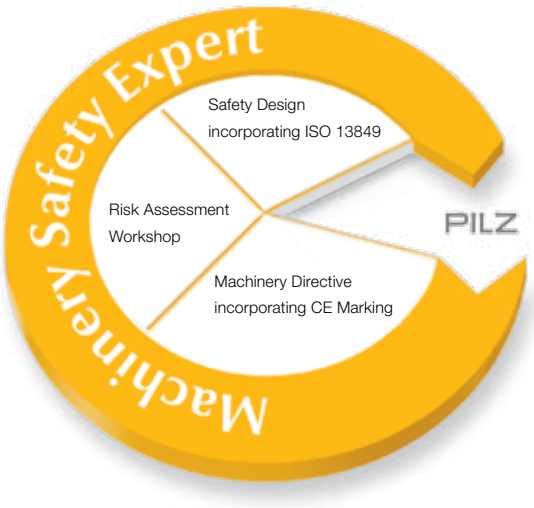
Day 3
Agenda

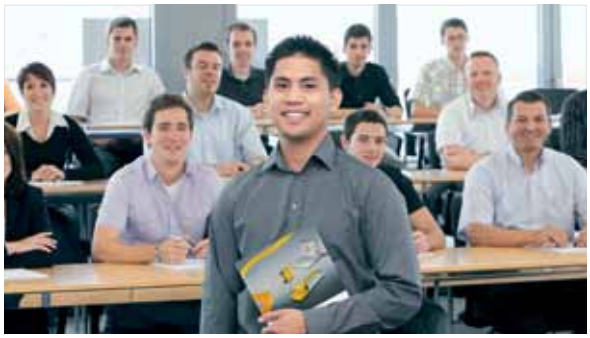
Safety Design incorporating ISO 13849

Objective
The objective of the training is to put across to the participants the processes and standards that are important in the design and evaluation of safety-relevant control systems. This training addresses how ISO 13849-1 (standard for safety-relevant control systems) is applied in automation and in the design of plants.

Contents
- Safety regulations and standards (introduction)
- Standards for safety-relevant control systems
  - EN ISO 13849-1
- Detailed overview of the design principles for safety-relevant control systems
- Calculation of the performance level (PL)
- Demonstration of the PAScal Safety Calculator

Target Groups
- Automation, Electrical, Maintenance and Project Engineers
- Automation Managers
- Maintenance Managers
- Safety Specialists
- Electrical Design Engineers





Consulting, engineering and training

As a solution supplier, Pilz can help you to apply optimum safety strategies worldwide. Services encompass the whole machine lifecycle. Our training package with practical, up-to-date course content completes the offering.

We are your reliable service provider for plant and machinery safety
Your projects belong in our safe hands!

Risk assessment
We inspect your machinery in accordance with the applicable national and/or international standards and directives and assess the existing hazards.

Safety concept
We develop detailed technical solutions for the safety of your plant and machinery through mechanical, electronic and organisational measures.

Safety design
The aim of the safety design is to reduce or eliminate danger points through detailed planning of the necessary safeguards.

System implementation
The results of the risk analysis and safety design are implemented to suit the particular requirements through selected safety measures.

Our management system
was certified in the field of system integration
to EN/IEC 61508.

Safety validation
In the safety validation, the risk assessment and safety concept are mirrored and inspected by competent, specialist staff.

CE marking
We control all activities and processes for the necessary conformity assessment procedure, including the technical documentation that is required.

Services related to machinery safety:

Webcode:
web7792

Online information at www.pilz.com

International compliance services

We conduct the evaluation process and develop the necessary strategies in order to enable compliance with the relevant ISO, IEC, ANSI, EN or other national or international standards.

Plant assessment

We will prepare an overview of your entire plant in the shortest possible time. With an on-site inspection we will expose risks and calculate the cost of optimising your safeguards.

Inspection of safeguards

With our independent, ISO/IEC 17020-compliant inspection body, which is accredited by the German Accreditation Body (DAkkS), we can guarantee objectivity and high availability of your machines.

DAkkS Deutsche Akkreditierungsstelle D-IS-12033-01-00

Pilz GmbH & Co. KG, Ostfildern, operates an independent inspection body in accordance with DIN EN ISO/IEC 17020:2012 for the plant and machinery sectory, accredited by the German Accreditation Body (DAkkS).

LOTO System

Our customised Lock Out Tag Out (LOTO) measures guarantee that staff can safely control potentially hazardous energies during maintenance and repair.

Training

Pilz offers two types of course: Product-neutral seminars on machinery safety and product-specific courses

And to progress to the expert level in machinery safety we offer the qualification of CMSE® – Certified Machinery Safety Expert.

Knowledge is a competitive edge – Pilz training courses:

Webcode: web0218

Online information at www.pilz.com

Support

Technical support is available from Pilz round the clock.

Americas
Brazil
+55 11 97569-2804
Canada
+1 888-315-PILZ (315-7459)
Mexico
+52 55 5572 1300
USA (toll-free)
+1 877-PILZUSA (745-9872)

Asia
China
+86 21 60880878-216
Japan
+81 45 471-2281
South Korea
+82 31 450 0680

Australia
+61 3 95446300

Europe
Austria
+43 1 7986263-0
Belgium, Luxembourg
+32 9 3217575
France
+33 3 88104000
Germany
+49 711 3409-444
Ireland
+353 21 4804983
Italy, Malta
+39 0362 1826711
Scandinavia
+45 74436332
Spain
+34 938497433
Switzerland
+41 62 88979-30
The Netherlands
+31 347 320477
Turkey
+90 216 5775552
United Kingdom
+44 1536 462203

You can reach our international hotline on:
+49 711 3409-444
support@pilz.com

Pilz develops environmentally-friendly products using ecological materials and energy-saving technologies. Offices and production facilities are ecologically designed, environmentally-aware and energy-saving. So Pilz offers sustainability, plus the security of using energy-efficient products and environmentally-friendly solutions.

Energy saving by Pilz

BLUEcoMPETENCE Alliance Member
Partner of the Engineering Industry Sustainability Initiative

Presented by:

Pilz Skandinavien K/S
Ellegårdvej 25 L
6400 Sønderborg, Denmark
Tel. +45 7443 6332
Fax: +45 7443 6342
pilz@pilz.dk
www.pilz.dk

Pilz GmbH & Co. KG
Felix-Wankel-Straße 2
73760 Ostfildern, Germany
Tel.: +49 711 3409-0
Fax: +49 711 3409-133
info@pilz.com
www.pilz.com

PILZ
THE SPIRIT OF SAFETY

8-9-2-3-014, 2015-10 Printed in Germany