

▶ **CMSE® –
Certified Machinery
Safety Expert**



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Discover Pilz Trainings



Basis of CE Marking



PSS 4000 –
Programming and Service



PNOZmulti –
Programming and Service



Safety Requirements
and Integration of AGVs

▶ Training with Pilz

Safety for human and machine through further training.



Our expertise
for your success!

► Our know-how for your safety

As ambassadors for safety, it is important to also comprehensively train you on the topic of machinery safety. Whether machine manufacturer or operator: Our mission is to maximise safety for human and machine – for a safer world! In order to achieve this, we offer you a comprehensive range of further training on specialist knowledge for normative and legal requirements in machinery safety – from functional safety to Industrial Security. We also offer training on products and technologies in relevant sectors of automation technology for practical professional application of Pilz product solutions.

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▶ The Spirit of Safety
in Digital Automation



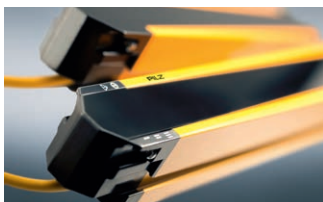
Pilz offers products, services and solutions for safety, security and automation.

With everything we do, we make the world a safer place. This is apparent in every idea, every product and every solution that's developed at Pilz. We always focus on our customers' needs and are passionate about supplying them with cutting-edge technology and the very best quality.

Today, Pilz is a global supplier of automation products, solutions and services with around 2 500 employees. The topics of digitisation and industrial security play an increasingly important role. Our digital business models offer our customers maximum benefits. Interlinked production and industrial plants must be protected against errors,

whether caused intentionally or unintentionally. Pilz believes that only a holistic approach to safety and security can guarantee the comprehensive protection of humans and machinery.

For 75 years, Pilz has been providing inspiration with its innovative product developments and comprehensive services. Our end-to-end, individual concepts for safety, security and automation support our customers around the world in the implementation of their solutions. This is what we, as a family business steeped in tradition, stand for with our employees – each one an “Ambassador for Safety”.



Sensor technology



Relays



Small controllers



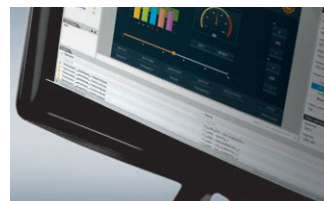
Controllers



Drive technology



Operation and monitoring



Software



Services

► Training courses on machinery safety



Because knowledge protects

Machinery safety describes the protection of humans from machinery. Whether in the design phase, during operation or with a retrofit: As the machine manufacturer and operator, you are required to implement measures for functional safety and the associated minimisation of machine-related accident risks.

But how do you get started with the topic of machinery safety? How do you further enhance specific specialist knowledge? Training from Pilz can help: As an expert and ambassador for safety with many years of experience, we are your perfect partner.

Online or in the classroom – we have the right format for you

Our broad training portfolio on the topic of machinery safety offers general expertise, such as on CE marking, as well as specific, industry-oriented application knowledge, for example on human-robot collaboration or automated guided vehicle systems.

Further your training now and make your company safer!

Your benefits at a glance

- ▶ Targeted development of knowledge about legal and normative requirements
- ▶ Highly topical training content according to the latest specifications – always with a finger on the pulse of the market
- ▶ Acquisition of specialist knowledge about CE marking
- ▶ Individual qualification path, from the introduction to fundamental and advanced Know-how, through to the expert level
- ▶ Through knowledge acquisition, fulfilling the responsibility for employee protection
- ▶ Lowering the company's liability risk with training
- ▶ Increased productivity by learning machinery safety measures
- ▶ Verifiable and internationally recognised certification through our TÜV training

► An overview of our training courses

General expertise on machinery safety

Title	Level	Duration (days)
E-Learning Machinery Safety – Introduction and Best Practice	Introduction	0.5
Machinery Safety Workshop for Apprentices and Trainee Technicians	Introduction	1
Train the Trainer – Machinery Safety Workshop	Fundamental	1.5
Fundamentals of Machinery Safety	Fundamental	2
Risk Assessment Workshop	Fundamental	1
EMC – Electromagnetic Compatibility in the Industrial Environment	Fundamental	1.5
FSM – Functional Safety Management in accordance with EN ISO 13849	Advanced	1
Basis of CE Marking	Advanced	1
PL Calculation with SISTEMA	Advanced	1
CE Process for Machinery	Advanced	2
Design of Safety Control Systems according to ISO 13849 and IEC 62061	Advanced	1
Safe Electrical and Pneumatic Design for Plant and Machinery	Advanced	2
Safety Requirements for Software in accordance with EN ISO 13849	Advanced	1
Electrical Safety in Industrial Installations – IEC 60204	Advanced	1.5
CMSE® – Certified Machinery Safety Expert	Expert	4
CMSE® – Recertification	Expert	1
ZMSE – Certified Machinery Safety Expert/National (Germany)	Expert	5
ZMSE – Refresher	Expert	1
CEFS – Certified Expert in Functional Safety	Expert	2.5
CECE® – Certified Expert in CE Marking	Expert	2
CECE® – Recertification	Expert	0.5

NEW

Industry-oriented applications

Title	Level	Duration (days)
Safe Electrical and Mechanical Upgrading for Maintenance Personnel	Fundamental	1
Press Setters for Mechanical and Hydraulic Presses	Fundamental	1
Retrofitting Old Presses	Advanced	1.5
Inspection of Optoelectronic Protective Devices	Advanced	1.5
Robot Safety and Integration	Advanced	1
Workshop on the Collision Measurement Set PRMS for standard-compliant Human-Robot Collaboration (HRC)	Advanced	1
Safety Requirements and Integration of AGVs	Advanced	1

To find out more and register:



Online information at www.pilz.com

► Training courses on Industrial Security on the machine



So that we really are safe!

Industrial Security describes the protection of machinery from people. Cyber attacks, manipulation or even accidental misuse at the machine can have fatal consequences for your company and the safety of your employees! In the connected world of automation, Safety and Security are now a unit: One is no longer conceivable without the other. Standards, regulations and laws are currently being expanded to include Security aspects.

What can be done? What requirements must be met? How can Industrial Security incidents be reduced and mitigated?

Prepare yourself

Our special training courses provide normative expertise and specialist knowledge about requirements and risk-reducing measures for Industrial Security on the machine.

Benefit from our expertise to make your company safer!

Your benefits at a glance

- Standard-based expertise and targeted development of knowledge about Industrial Security
- Knowledge acquisition on Industrial Security and its significance for automation
- Correct application of standards and legal requirements for the reduction of Industrial Security weaknesses
- Cutting edge further training focusing on new requirements
- Prevention through knowledge with regard to employee protection, liability protection and productivity
- Become an expert – multi-day course with personal and internationally recognised certification as a Certified Expert for Security in Automation

► Pilz is your partner for Industrial Security on the machine

Security is becoming mandatory

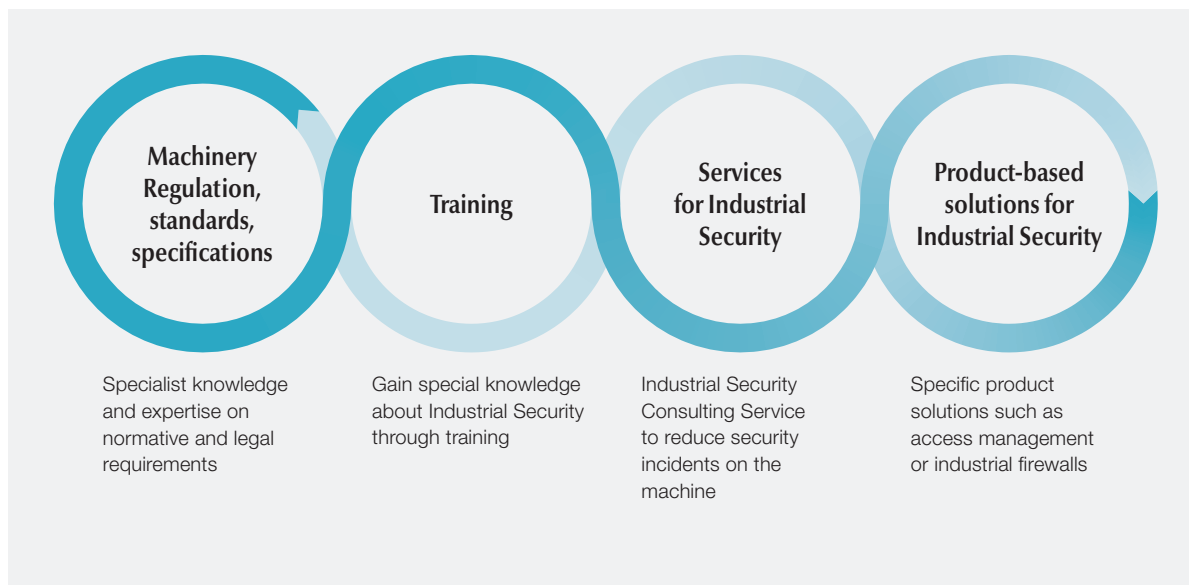
As machine manufacturers or operators, you know only too well that machines are indispensable for efficient production. But machines also harbour obligations and hazards. This is where machinery safety comes into play: No human must be injured by a machine. But what if the machine itself is at risk?

Due to the increase in cyber attacks, external or internal manipulation and misuse, risk-reducing measures for machinery safety can be unintentionally bypassed. In response, new legal requirements make Industrial Security mandatory to receive CE marking!

This means: No Safety without Security! Only Industrial Security measures can protect safety, and ultimately protect humans:

- Protect your machinery!
- Be aware of your risk and responsibility!
- Minimise your Industrial Security weaknesses!
- Learn which requirements you are facing.
- Take Industrial Security measures for CE marking.

Pilz is by your side and supports you with the appropriate knowledge, training and services.



Introduction to Industrial Security – find out more and register now:



Certified Expert for Security in Automation – find out more and register now:



Online information at www.pilz.com

► Training courses on product applications



Correct application – safely, of course!

We enthusiastically produce product-based solutions for machinery safety – from sensors, over relays and controllers, to automation systems. To ensure that you can efficiently and correctly use these solutions, we take you by the hand and offer special training on the application of our own products: From configuration to programming, our experts directly and practically teach you about the correct handling and standard-based expertise for commissioning and control technology. Efficient, focused and application-oriented.

For system integrators, commissioning engineers, electricians, design engineers, maintenance personnel, programmers and project engineers.

Build up technical expertise on the correct product application now!

Your benefits at a glance

- Standard-based expertise and targeted development of knowledge about requirements
- Knowledge acquisition for efficient use, application options and integration
- Efficiently learning configuration, programming, control and monitoring of integrated solutions
- Practical exercises on handling and diagnostics
- Exchange and networking in the industry
- Increased productivity through the professional use of safety components

► An overview of our training courses

Control technology and networks

Title	Level	Duration (days)
► Configurable safe small controllers PNOZmulti		
PNOZmulti – Programming and Service	Fundamental	2.5
PNOZmulti – Service	Fundamental	1
PNOZmulti – Programming and Service for Presses	Fundamental	1
► Automation system PSS 4000		
Automation System PSS 4000 with PSSu PLC – Service	Fundamental	2
Automation System PSS 4000 with PSSu PLC – Programming and Service	Advanced	4
Automation System PSS 4000 with PSSu PLC – Programming Structured Text Language	Advanced	1
Automation System PSS 4000 with PSSu PLC – Programming Safe Electronic Rotary Cam Arrangement	Advanced	1
Automation System PSS 4000 with PSSu PLC – Programming Railway Modules	Advanced	1
Automation System PSS 4000 with PSSu PLC – Switching from PSS 3000 to PSS 4000	Advanced	1
► Visualisation software		
Visualisation with PASvisu – Programming	Fundamental	1
► Network		
Network Planning with Ethernet and SafetyNET p in Industry	Fundamental	1

Sensor technology

Title	Level	Duration (days)
Optoelectronic Protective Equipment PSENOpt – Configuration and Commissioning	Fundamental	1
Safety Laser Scanner PSENscan – Configuration and Commissioning	Fundamental	1
Safe Radar System PSENradar – Configuration and Commissioning	Fundamental	1

Drive technology

Title	Level	Duration (days)
PMC – Quickstart	Fundamental	2

To find out more and register:



Online information at www.pilz.com

Support

Technical support is available from Pilz round the clock.

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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.



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