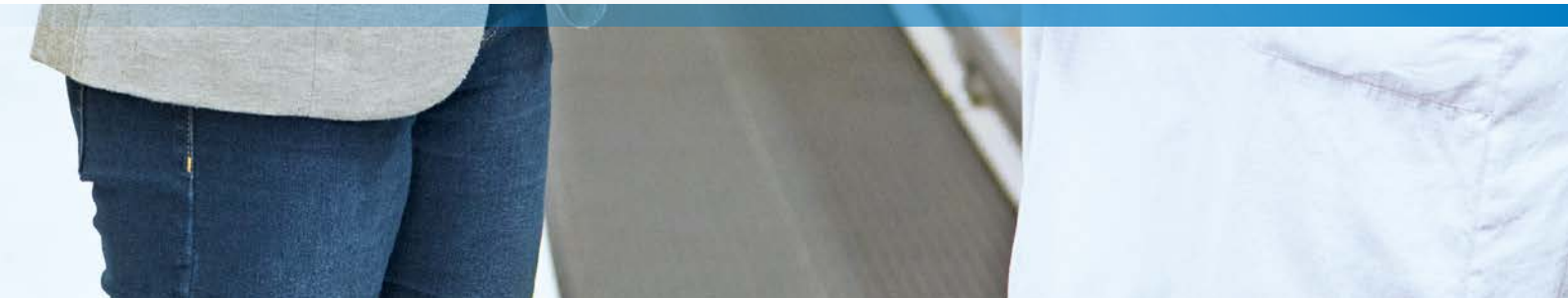
SICK Worldwide Safety Competence

INTERNATIONAL TRAINING PROGRAM 2017

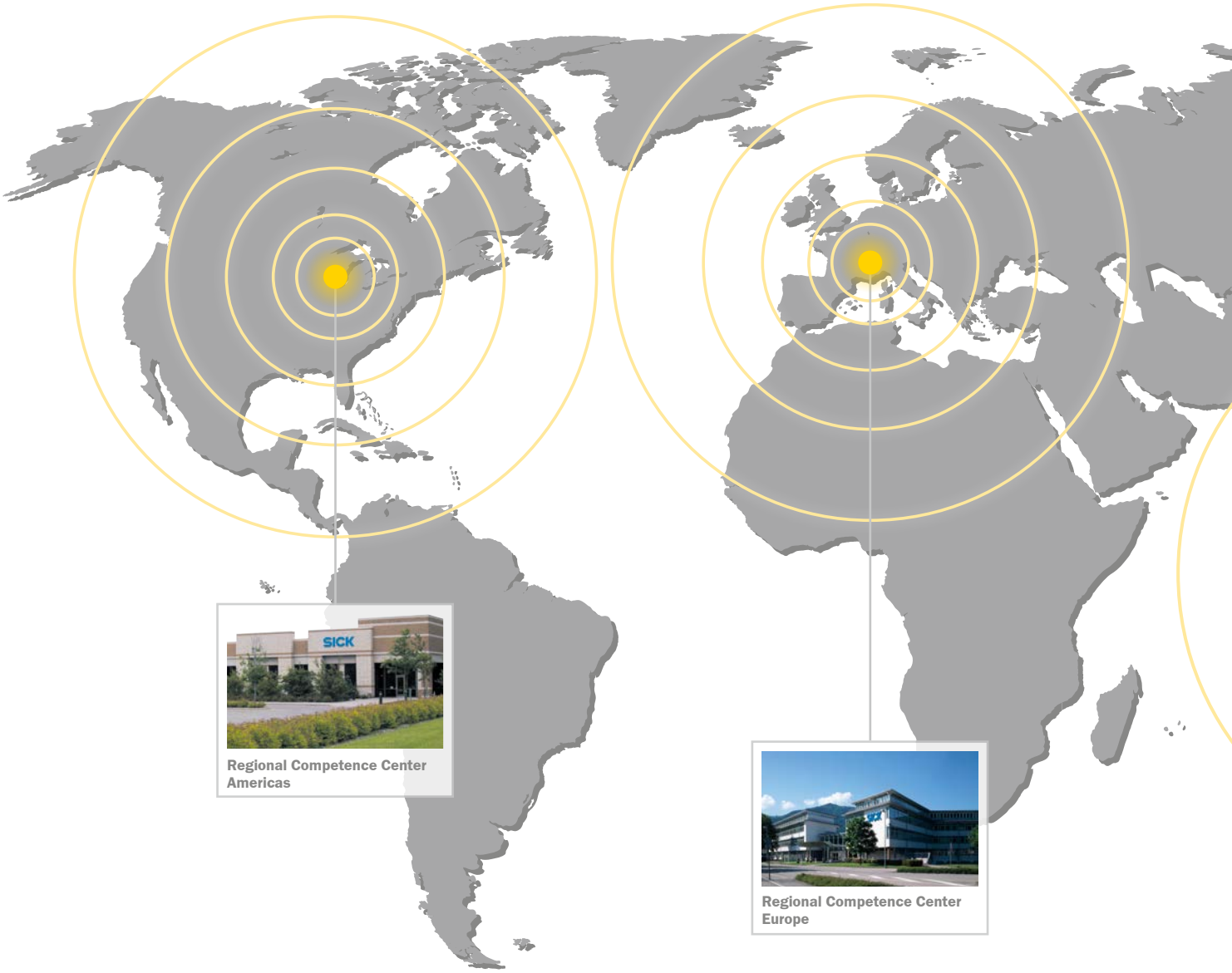
We share safety competence!

SICK
Sensor Intelligence.



SICK IS YOUR PARTNER IN SAFETY FOR ALL EVENTUALITIES – WORLDWIDE

The range of our safety components is providing the optimum solution for the widest variety of requirements. The interaction between man and machine during commissioning or fast diagnostic is supported consistently throughout our control and safety solutions. Our Regional Competence Centers provide training and high-end knowledge by certified specialists.



Regional Competence Center Americas

Regional Competence Center Europe

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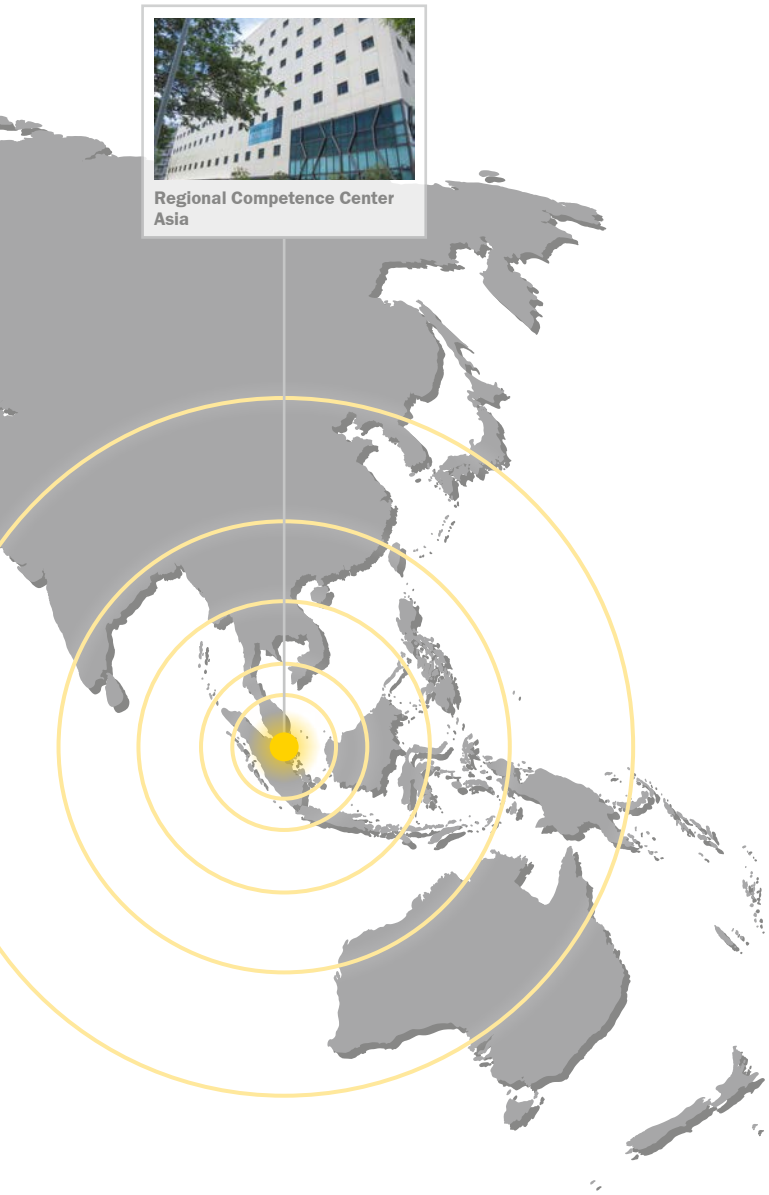

GLOBAL SUPPORT

Mona Frank

Product Manager Customer Training Germany

Phone +49 (0)7681 202-3783
Mail mona.frank@sick.de

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EUROPE

Netherlands
Maarten Braadbaart
Product Manager

"SICK Training & Education in the Netherlands is providing an excellent knowledge on products, applications, standards and regulations in Factory and Logistics Automation."

Phone	+31 (0)30 225 56 91
Mail	Maarten.Braadbaart@sick.nl

Sweden
Åke Törnros
Product Manager Safety Systems

"For us it's important to provide professional trainings to the Swedish market. All of our trainers have long experience. Our Training and Education Program comprises safety seminars, trainings in safety standards, product trainings. We also do trainings which are custom made."

Phone	+46 10 110 10 60
Mail	ake.tornros@sick.se

Denmark
Lars Mikael Andersen
Product Manager DIV02

"At the SICK Training & Education Program for Denmark, you get answers on how to apply for the Machinery Directive and equip and implement safety measures on machinery."

Phone	+45 45 82 64 00
Mail	andersen@sick.dk

Belgium
Danny Possenier
Training Manager

"The SICK Training & Education Program in Belgium consists of various courses ranging from C4000 light curtains to safety controllers. We provide all training also on customer's site."

Phone	+32 (0)2 481 87 61
Mail	possenier.danny@sick.be

Germany
Claudia Behrens
LifeTime Services Manager

"Experience from the field: Our in-depth knowledge for your future experts."

Phone	+49 (0)2 11 53 01-217
Mail	claudia.behrens@sick.de

United Kingdom
Martin Kidman
Product Specialist – Machinery Safety

"SICK UK offers comprehensive courses on safety regulation, products and applications. Our experienced, knowledgeable and friendly staff can provide customers with all of their training needs"

Phone	+44 1727 831-121
Mail	Martin.Kidman@sick.co.uk

France
Jerome Printz
Product Manager Service

„With the SICK training & education Program for France you gain confidence in the CE marking process and the safe application of SICK protective devices. All courses are offered close to you – in Paris, Lyon, Nantes and of course also on site if requested."

Phone	+33 1 64 62 35 04
Mail	jerome.printz@sick.fr

Switzerland
Thomas Estermann
Product Management

"SICK Switzerland offers a flexible basic and product training program."

Phone	+41 41 619 29 39
Mail	thomas.estermann@sick.ch

Spain
Larry Throssell
Service Manager Service Engineer

"Sick Spain offers product training and seminars having in mind our customer needs. "Education never ends ..." our commitment to be always at your side innovating to comply your requirements."

Phone	+34 934 803 112
Mail	larry.throssell@sick.es

Italy
Fabrizio Castelli
LifeTime Services Manager

"In Italy the SICK Training & Education Program covers a range of user training courses on all major safety devices and on all major devices and all basic products of Factory Automation."

Phone	+39 02 27 43 42 29
Mail	fabrizio.castelli@sick.it

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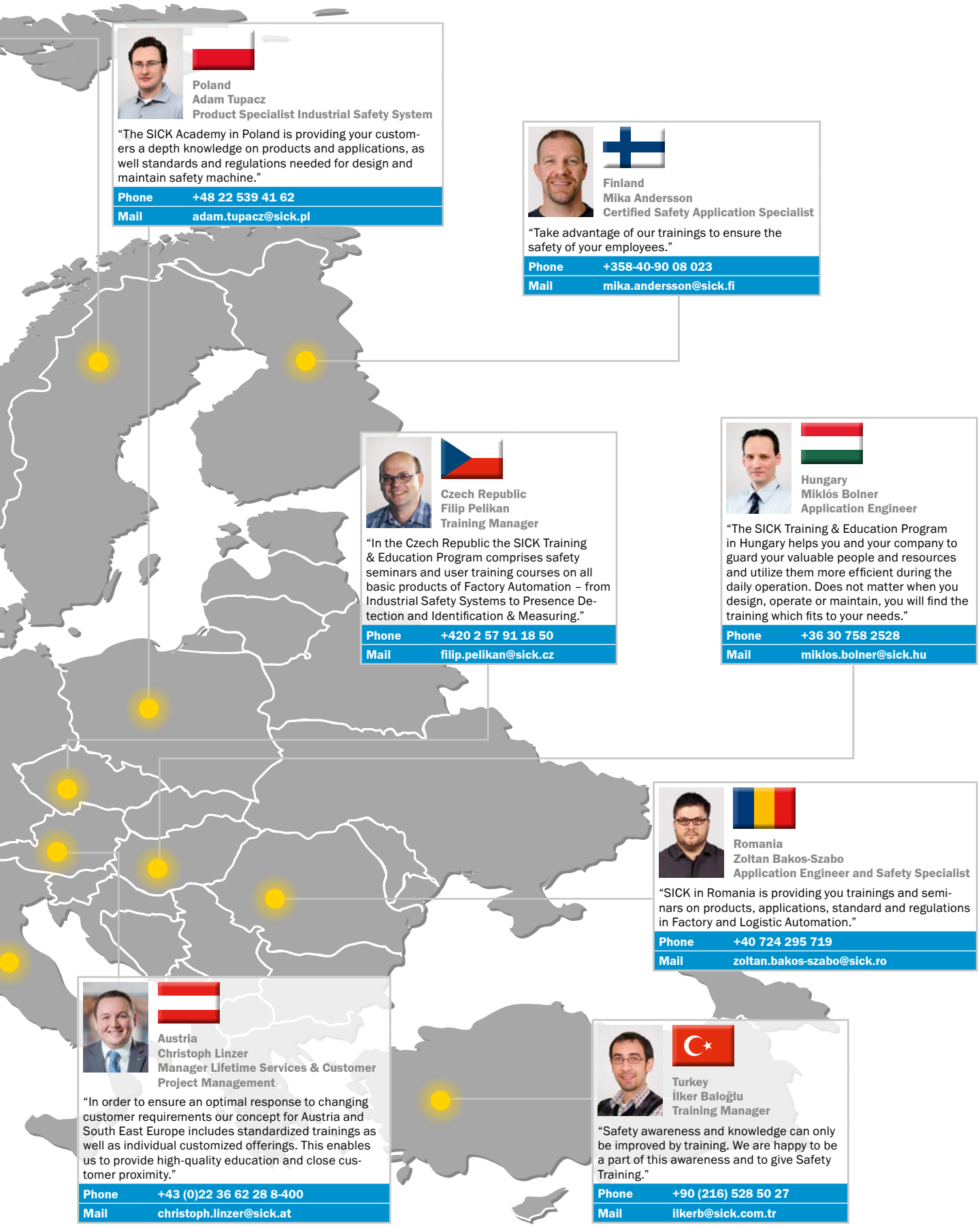


Poland
Adam Tupacz
Product Specialist Industrial Safety System

"The SICK Academy in Poland is providing your customers a depth knowledge on products and applications, as well standards and regulations needed for design and maintain safety machine."

Phone	**+48 22 539 41 62**
Mail	**adam.tupacz@sick.pl**

Finland
Mika Andersson
Certified Safety Application Specialist

"Take advantage of our trainings to ensure the safety of your employees."

Phone	**+358-40-90 08 023**
Mail	**mika.andersson@sick.fi**

Czech Republic
Filip Pelikan
Training Manager

"In the Czech Republic the SICK Training & Education Program comprises safety seminars and user training courses on all basic products of Factory Automation – from Industrial Safety Systems to Presence Detection and Identification & Measuring."

Phone	**+420 2 57 91 18 50**
Mail	**filip.pelikan@sick.cz**

Hungary
Miklós Bolner
Application Engineer

"The SICK Training & Education Program in Hungary helps you and your company to guard your valuable people and resources and utilize them more efficient during the daily operation. Does not matter when you design, operate or maintain, you will find the training which fits to your needs."

Phone	**+36 30 758 2528**
Mail	**miklos.bolner@sick.hu**

Romania
Zoltan Bakos-Szabo
Application Engineer and Safety Specialist

"SICK in Romania is providing you trainings and seminars on products, applications, standard and regulations in Factory and Logistic Automation."

Phone	**+40 724 295 719**
Mail	**zoltan.bakos-szabo@sick.ro**

Austria
Christoph Linzer
Manager Lifetime Services & Customer Project Management

"In order to ensure an optimal response to changing customer requirements our concept for Austria and South East Europe includes standardized trainings as well as individual customized offerings. This enables us to provide high-quality education and close customer proximity."

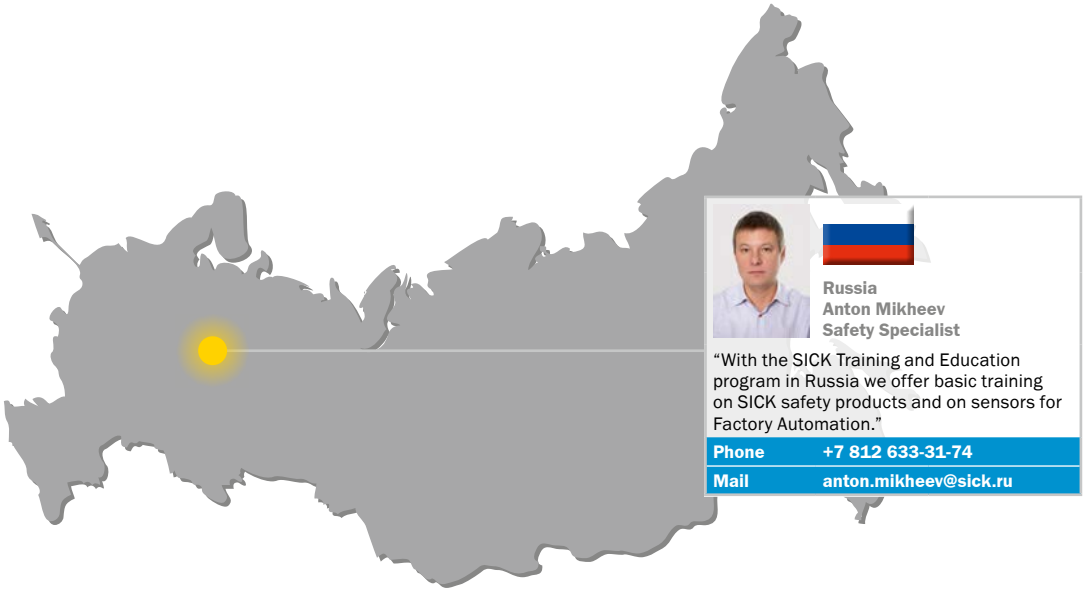
Phone	**+43 (0)22 36 62 28 8-400**
Mail	**christoph.linzer@sick.at**

Turkey
İlker Baloğlu
Training Manager

"Safety awareness and knowledge can only be improved by training. We are happy to be a part of this awareness and to give Safety Training."

Phone	**+90 (216) 528 50 27**
Mail	**ilkerb@sick.com.tr**

RUSSIA

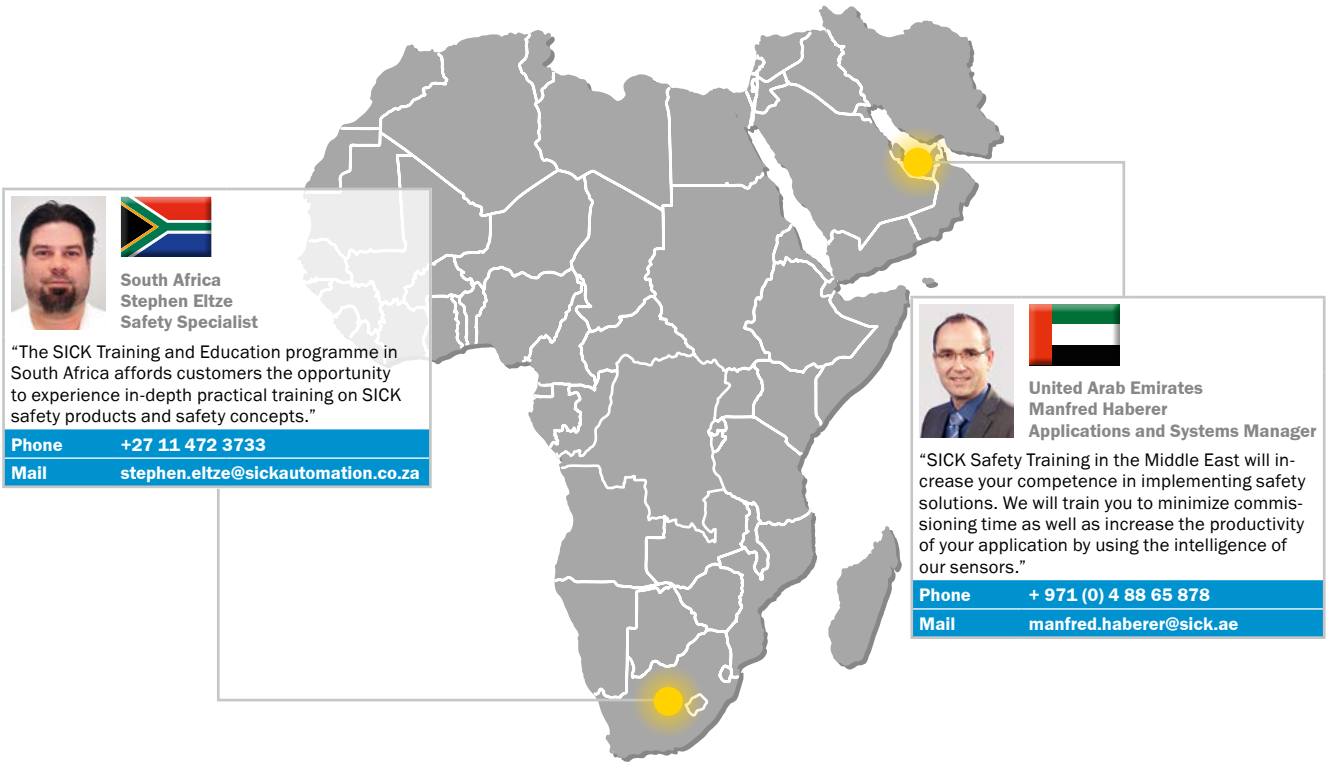


Russia
Anton Mikheev
Safety Specialist

"With the SICK Training and Education program in Russia we offer basic training on SICK safety products and on sensors for Factory Automation."

Phone	**+7 812 633-31-74**
Mail	**anton.mikheev@sick.ru**

AFRICA AND MIDDLE EAST



South Africa
Stephen Eltze
Safety Specialist

"The SICK Training and Education programme in South Africa affords customers the opportunity to experience in-depth practical training on SICK safety products and safety concepts."

Phone	**+27 11 472 3733**
Mail	**stephen.eltze@sickautomation.co.za**

United Arab Emirates
Manfred Haberer
Applications and Systems Manager

"SICK Safety Training in the Middle East will increase your competence in implementing safety solutions. We will train you to minimize commissioning time as well as increase the productivity of your application by using the intelligence of our sensors."

Phone	**+ 971 (0) 4 88 65 878**
Mail	**manfred.haberer@sick.ae**

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NORTH AND SOUTH AMERICA

Canada
Don Marskell
Application Sales Specialist, Safety

"In Canada SICK Training and Education focuses on applications and implementation of Sick safety products and solutions to meet and exceed the requirements of Canadian and International Safety Standards."

Phone	**+1 905 771 1444**
Mail	**don.marskell@sick.com**

USA
Shawn Farley
Training Manager

"SICK USA Training & Education provides the knowledge to solve industrial applications with sensors, safety and bar code scanners. Improve your ability to solve tough problems by participating in one of our training sessions."

Phone	**+1(952) 829-4721**
Mail	**shawn.farley@sick.com**

Mexico
Jesús Miguel Sicairos
Distribution Sales Manager

"In a country where safety expertise is not so common, SICK is the source to get the best safety knowledge and products in our market."

Phone	**+52 55 4540 6845**
Mail	**jesus.sicairos@sick.com**

Brazil
Marcelo Jorgeto
Service Manager FA/LA

"Customers in Brazil find at SICK comprehensive product and application training to fulfil requirements of NR12 Safety Legislation, additionally to Identification and Vision systems, through its world class Training & Education Program."

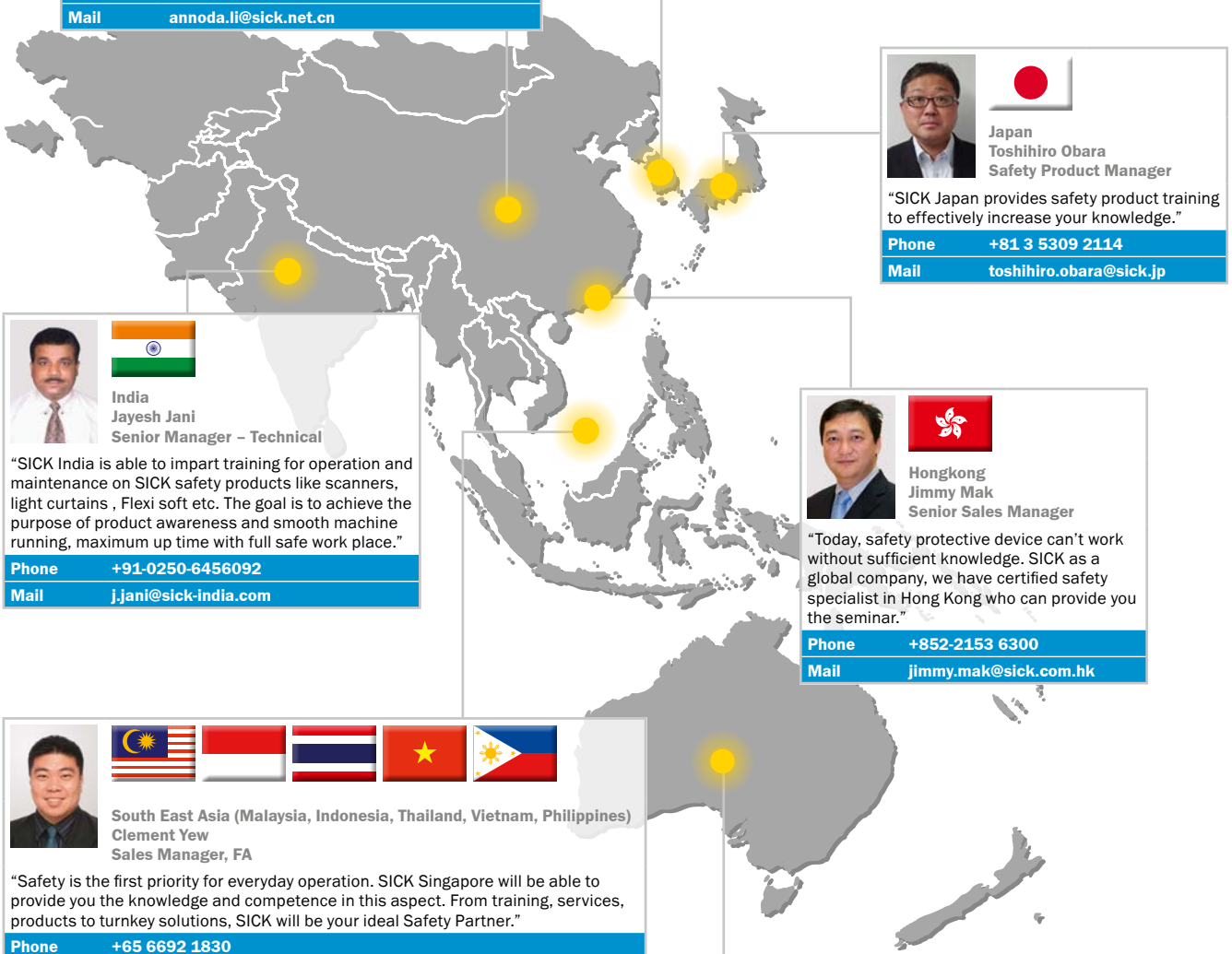
Phone	**+55 11 98714 1561**
Mail	**marcelo.jorgeto@sick.com.br**

Chile
Felipe Pino
Service & Support Engineer, Safety Specialist

"SICK Chilean customers are aware of the importance of safety solutions and devices. They prefer us for the dependable information, based on the international experience and knowledge. The benefits for the customer given through the Training & Education Program are very well received and considered as added value."

Phone	**+56 (2) 2274 7430**
Mail	**felipe.pino@sick.com**

ASIA / AUSTRALIA / NEW ZEALAND



China
Annoda Li
Deputy Technical Training Manager

"The SICK Training and Education in China, it is not only product training but also experience transferring, then individual competence and corporation development grows together."

Phone	+86 186 2025 8583
Mail	annoda.li@sick.net.cn

Korea
Yunsu Lee
National Product Manager

"SICK Training & Education in Korea is providing you the idle and suitable application and solutions for your Factory."

Phone	+82 2 786 6321
Mail	yunsu.lee@sickkorea.net

Japan
Toshihiro Obara
Safety Product Manager

"SICK Japan provides safety product training to effectively increase your knowledge."

Phone	+81 3 5309 2114
Mail	toshihiro.obara@sick.jp

India
Jayesh Jani
Senior Manager – Technical

"SICK India is able to impart training for operation and maintenance on SICK safety products like scanners, light curtains , Flexi soft etc. The goal is to achieve the purpose of product awareness and smooth machine running, maximum up time with full safe work place."

Phone	+91-0250-6456092
Mail	j.jani@sick-india.com

Hongkong
Jimmy Mak
Senior Sales Manager

"Today, safety protective device can't work without sufficient knowledge. SICK as a global company, we have certified safety specialist in Hong Kong who can provide you the seminar."

Phone	+852-2153 6300
Mail	jimmy.mak@sick.com.hk

South East Asia (Malaysia, Indonesia, Thailand, Vietnam, Philippines)
Clement Yew
Sales Manager, FA

"Safety is the first priority for everyday operation. SICK Singapore will be able to provide you the knowledge and competence in this aspect. From training, services, products to turnkey solutions, SICK will be your ideal Safety Partner."

Phone	+65 6692 1830
Mail	clement.yew@sick.com

Singapore Regional Competence Center – Asia Pacific
Derrick Ong
Marketing & Training Manager

"The Regional Competence Center Asia will be able to impart to you with the knowledge to manage the products and systems that is implemented in Asia so as to achieve the best performance in the various applications used in the Factory Automation and Logistic Automation industries."

Phone	+65 6692 1725
Mail	derrick.ong@sick.com

Australia/New Zealand
Wayne Kemp
Safety Solution Manager

"In Australia and New Zealand SICK can provide you detailed Safety Product training so that you can gain the best value from your project using the advanced features of our leading technology."

Phone	+61 (0)3 9457 0600
Mail	wkemp@sick.com.au

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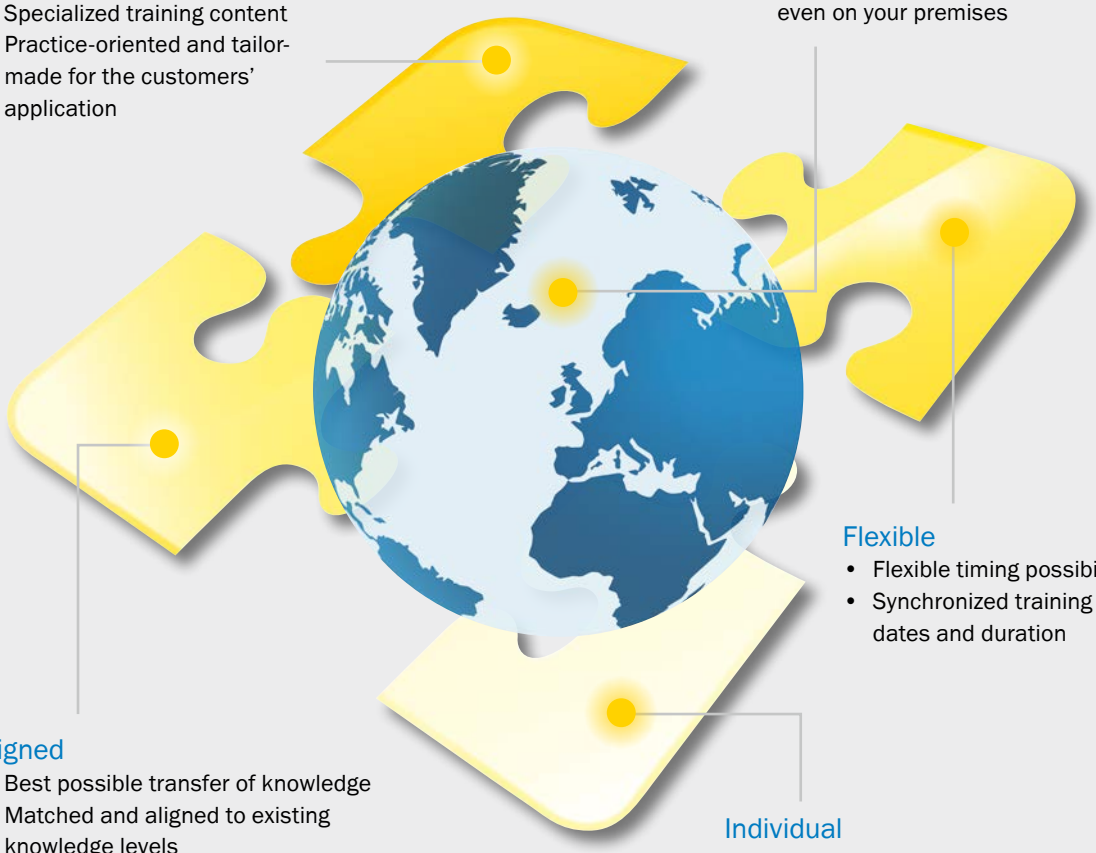
CUSTOMER-SPECIFIC TRAININGS

To address individual needs and requirements, SICK is offering customer-specific training. To find out, how a tailor-made qualification concept can look like for your application, please contact your local representative.

www.sick.com ▸ SICK worldwide



Special
- Specialized training content
- Practice-oriented and tailor-made for the customers' application

Worldwide
- On-site support
- Location independent support, even on your premises

Flexible
- Flexible timing possibilities
- Synchronized training dates and duration

Aligned
- Best possible transfer of knowledge
- Matched and aligned to existing knowledge levels

Individual
- Individual class sizes
- Number of participants determined by customer

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CE Coaching – CE-compliant Engineering	➜ 23		■		■		
Workshop Risk Assessment	➜ 24		■	■		■	
Risk Assessment and Risk Reduction Process Overview (US Version)	➜ 25		■		■		
Risk Assessment and Risk Reduction Process Safety Education (US Version)	➜ 26		■		■		
Reliable Implementation of SISTEMA – EN ISO 13849-1	➜ 27		■	■	■	■	
SISTEMA Training and Labs Safety Education (US Version)	➜ 28		■		■		
EN ISO 13849 and SISTEMA Seminar	➜ 29						
Safety-related Modification of Machines and Equipment	➜ 30			■	■		
Legal Aspects of Inspecting Protective Devices	➜ 31						
Functional Safety Engineer TÜV Rheinland®	➜ 32						
Collaborative Robots	➜ 33			■	■		
Safe Software Programming and Validation in Accordance with EN ISO 13849	➜ 34				■		
Workshop Muting – efficient Solutions of Access Protection during automated Material Feed	➜ 35		■	■	■		
Basic Machine Safe Guarding Safety Education (US Version)	➜ 36		■		■		
6-Steps to Safe Machinery Overview (US Version)	➜ 37		■		■		
6-Steps to Safe Machinery Safety Education (US Version)	➜ 38		■		■		
6-Steps to Safe Machinery with Labs Safety Education (US Version)	➜ 39		■		■		
Functional Safety of Machinery (ISO 13849-1/2) Overview (US Version)	➜ 40		■		■		
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ANSI-RIA R15.06-2012 Safety Requirements for Industrial Robots and Robot Systems Overview (US Version)	➜ 42						
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GB 27607-2011 Mechanical Press – Safety Requirements	➜ 44						
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GB 30747-2014 Safety Requirements of Tire Curing Machines	➜ 46						
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	Page	Europe					
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User trainings							
Advanced Product Training – Safety Systems	➜ 50		■	■	■		
Advanced Product Training – Safety Control	➜ 51		■	■	■		
C4000 Safety Light Curtain – Basic Training	➜ 52	■	■	■	■	■	
C4000 Safety Light Curtain with UE402 Interface, Function Enhancements – Advanced Training	➜ 53		■	■	■		
C4000 Advanced Safety Light Curtain Configuration Training (US Version)	➜ 54		■		■		
C4000 Palletizer – Fusion Safety Light Curtain Configuration Training (US Version)	➜ 55		■		■		
C4000 Select Safety Light Curtain Configuration Training (US Version)	➜ 56		■		■		
deTec Safety Light Curtain – Basic Training	➜ 57	■	■	■	■		
M4000 Multiple Light Beam Safety Device – Basic Training	➜ 58	■	■	■	■	■	
Muting Applications with M4000 and UE403 Interface – Advanced Training	➜ 59	■	■	■	■		
M4000 Advanced – UE403 Muting System Configuration Training (US Version)	➜ 60		■		■		
M4000 Advanced – UE403 Muting System Maintenance Training (US Version)	➜ 61		■		■		
M4000 Standard Perimeter Guard Configuration Training (US Version)	➜ 62		■		■		
Safety Light Curtain Maintenance Training (US Version)	➜ 63		■		■		
S3000 and S300 Safety Laser Scanner – Basic Training	➜ 64	■	■	■	■	■	
S3000 and S300 Safety Laser Scanner – Mobile Applications	➜ 65	■	■	■	■		
PLS to S3000 Safety Laser Scanner Migration Configuration Training (US Version)	➜ 66		■		■		
Safety Laser Scanners Configuration Training (US Version)	➜ 67		■		■		
Safety Laser Scanners Maintenance Training (US Version)	➜ 68		■		■		
S300 Mini Remote – Flexi Soft Safety Controller Configuration Training (US Version)	➜ 69		■		■		
S3000 PROFINET IO Safety Laser Scanner	➜ 70		■		■		
S3000 PROFINET Safety Laser Scanner Configuration Training (US Version)	➜ 71		■		■		
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Flexi Soft – Modular Safety Controller	➜ 76	■	■	■	■	■	
Flexi Soft Safety Controller Configuration Training (US Version)	➜ 77		■		■		
Flexi Soft Safety Controller Maintenance Training (US Version)	➜ 78		■		■		
Flexi Soft – MOC0 Motion Safety Drive Monitor Configuration Training (US Version)	➜ 79		■		■		
Flexi Soft – MOC0 Motion Safety Drive Monitor Overview (US Version)	➜ 80		■		■		
FX3-MOC0 Flexi Soft Drive Monitor – Basic Training	➜ 81						
UE10 Safety Relays Configuration Training (US Version)	➜ 82		■		■		
Safexpert® – User Training	➜ 83						
Safexpert® for Administrators	➜ 84						

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Reliable Implementation of SISTEMA – EN ISO 13849-1	➜ 27						
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Safety-related Modification of Machines and Equipment	➜ 30						■
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Functional Safety Engineer TÜV Rheinland®	➜ 32	■					
Collaborative Robots	➜ 33						
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■ = This selection guide shows established training offerings in each country. However, if your country is not listed or a specific training is not featured in your country, please contact your local representative for our customer-specific training possibilities ➜ see also page 9

	Page	Russia	Africa	Middle East	North and South America		
		Russia	South Africa	United Arab Emirates	Brazil	Canada	Chile
User trainings							
Advanced Product Training – Safety Systems	➜ 50			■			
Advanced Product Training – Safety Control	➜ 51			■			■
C4000 Safety Light Curtain – Basic Training	➜ 52	■	■	■	■		■
C4000 Safety Light Curtain with UE402 Interface, Function Enhancements – Advanced Training	➜ 53	■	■	■	■		■
C4000 Advanced Safety Light Curtain Configuration Training (US Version)	➜ 54		■		■	■	■
C4000 Palletizer – Fusion Safety Light Curtain Configuration Training (US Version)	➜ 55		■		■	■	
C4000 Select Safety Light Curtain Configuration Training (US Version)	➜ 56				■	■	■
deTec Safety Light Curtain – Basic Training	➜ 57	■	■	■	■		
M4000 Multiple Light Beam Safety Device – Basic Training	➜ 58	■	■	■	■		■
Muting Applications with M4000 and UE403 Interface – Advanced Training	➜ 59	■	■	■	■		■
M4000 Advanced – UE403 Muting System Configuration Training (US Version)	➜ 60		■		■	■	■
M4000 Advanced – UE403 Muting System Maintenance Training (US Version)	➜ 61		■		■	■	■
M4000 Standard Perimeter Guard Configuration Training (US Version)	➜ 62		■		■	■	
Safety Light Curtain Maintenance Training (US Version)	➜ 63		■			■	
S3000 and S300 Safety Laser Scanners – Basic Training	➜ 64	■	■	■	■		■
S3000 and S300 Safety Laser Scanners – Mobile Applications	➜ 65	■		■	■		■
PLS to S3000 Safety Laser Scanner Migration Configuration Training (US Version)	➜ 66				■	■	
Safety Laser Scanners Configuration Training (US Version)	➜ 67		■		■	■	■
Safety Laser Scanners Maintenance Training (US Version)	➜ 68		■		■	■	
S300 Mini Remote – Flexi Soft Safety Controller Configuration Training (US Version)	➜ 69		■		■	■	
S3000 PROFINET IO Safety Laser Scanner	➜ 70	■					
S3000 PROFINET Safety Laser Scanner Configuration Training (US Version)	➜ 71		■			■	
microScan3 Safety Laser Scanner – Basic Training	➜ 72	■	■	■			
Flexi Classic Safety Controller Configuration Training (US Version)	➜ 73		■		■	■	■
Flexi Line – Basic Training	➜ 74						

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	Page	Russia	Africa	Middle East	North and South America		
		Russia	South Africa	United Arab Emirates	Brazil	Canada	Chile
Flexi Link – Implementation	➜ 75	■		■	■		
Flexi Soft – Modular Safety Controller	➜ 76	■	■	■	■		■
Flexi Soft Safety Controller Configuration Training (US Version)	➜ 77		■		■	■	
Flexi Soft Safety Controller Maintenance Training (US Version)	➜ 78		■		■	■	
Flexi Soft – MOC0 Motion Safety Drive Monitor Configuration Training (US Version)	➜ 79		■		■	■	
Flexi Soft – MOC0 Motion Safety Drive Monitor Overview (US Version)	➜ 80		■		■	■	
FX3-MOC0 Flexi Soft Drive Monitor – Basic Training	➜ 81						
UE10 Safety Relays Configuration Training (US Version)	➜ 82		■		■	■	■
Safexpert® – User Training	➜ 83						
Safexpert® for Administrators	➜ 84						

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SICK wins

COMENIUS SEAL OF APPROVAL

for eLearning course Basic Principles of Functional Safety

The international jury under the direction of The Society for Pedagogy and Information (GPI, non-profit organisation) has awarded the Comenius-EduMedia-Prizes.
This year SICK AG has received the Comenius-EduMedia-Seal for the first time. Training&Education Division 02 has received the award for the eLearning course Basic Principles of Functional Safety.

Function, Selection and Use of Protective Devices

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Basic knowledge of machine safety and electronics

Duration

2 days

Class size

Maximum 15 trainees

Part no.

1681694

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Design and build/equipment planning
- Safety officers

Objectives

- Selection of protective devices and their integration into machines or systems in accordance with corresponding standards and directives

At a glance

- Machine safety, regulations, and application
- Selection and use of protective devices
- Technology and use of opto-electronic protective devices
- Technology and use of safety interlocks
- Safe control technology

Your benefits

- Proficiency in standards and regulations on maintaining required safety for your machines and their users
- Knowledge of a straightforward and structured way to select a protective device
- With safety technology at the forefront of your mind, you will be able to make the right decisions both now and in the future

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CE Coaching – CE-compliant Engineering

Target group

- Executive management
- Design and build/equipment planning
- Safety officers
- Sales

Objectives

- Knowledge of the legal requirements for machine manufacturers
- How to safely apply the directives and standards with regard to general procedures, types of protective devices and their application
- Overview of functional safety in accordance with EN ISO 13849-1

At a glance

- Machine safety, european directives and standards and their application
- Safe machine design: risk assessment, hierarchy of measures, selection and use of protective devices, integration of protective devices in machine controllers in line with standards

Your benefits

- Ensure safety during construction/ when handling complete systems
- Correct implementation of european machinery directives
- Solution strategies

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 day

Class size

Maximum 15 trainees

Part no.

1681702

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Workshop Risk Assessment

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Basic knowledge of EU law on machine safety

Duration

1 day

Class size

Maximum 15 trainees

Part no.

1681913

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Design and build/equipment planning

Objectives

- Introduction to the legal requirements for risk assessments, meaning and research of standards
- Drawing up of practical measures based on an example case scenario
- Skills to implement the procedure for CE marking and risk assessment in the trainee's own company

At a glance

- Overview of conformity assessment and CE marking
- Requirements and objectives of risk assessment: gathering and documentation of information, identification of standards, definition of hazards and hazardous points, assignment of solutions and measures
- EN ISO 13849-1/and EN ISO 62061
- Risk assessment and tools for documentation
- Putting into practice, tips for day-to-day working

Your benefits

- Practical experience in CE marking and risk assessment
- Safety when issuing a declaration of conformity
- Introduction to professional tools for creating risk assessments

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Risk Assessment and Risk Reduction Process Overview (US Version)

Target group

- Operators
- Maintenance supervisors
- Management

Objectives

- Factors of risk
- Basic understanding of the components of “risk assessment”
  - Identification
  - Evaluation
  - Analysis
  - Estimation
  - Reduction
- Introduction to common risk scoring systems and their components
- Zero risk vs. acceptable/tolerable risk
- Introduction to reducing risk with the hazard control hierarchy
- Available resources

At a glance

- Gain an awareness of the basic elements of risk assessment and risk reduction
- Become aware of the iterative process to produce the most effective and cost efficient approach
- Become aware of common pitfalls when reducing risk to avoid unnecessary costs
- Learn of new approaches for reducing cost while reducing risk

Your benefits

- Learn the basics of risk assessment

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 hour

Class size

Not limited

Part no.

1069314

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Risk Assessment and Risk Reduction Process Safety Education (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

8 hours

Class size

Not limited

Part no.

1065482

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Technical staff
- Maintenance managers
- Integrators
- Plant engineers
- Safety committee members

Objectives

- Factors of risk
- The components of “risk assessment”
  - Identification
  - Evaluation
  - Analysis
  - Estimation
  - Reduction
- Common risk scoring systems and their components
- Zero risk vs. acceptable/tolerable risk
- Reducing risk with the hazard control hierarchy
- Available resources

At a glance

- Understand the basic elements of risk assessment and risk reduction to comply with safety standards
- Learn the iterative process to produce the most effective and cost efficient approach
- Become aware of common pitfalls when reducing risk to avoid unnecessary costs
- Acquire new approaches for reducing cost while reducing risk

Your benefits

- Learn the requirements of a proper risk assessment

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Reliable Implementation of SISTEMA – EN ISO 13849-1

Target group

- Design and build/equipment planning
- Safety officers

Objectives

- Familiarization with safe application of the EN ISO 13849 series of standards
- Verification of straightforward safety solutions in customer projects

At a glance

- Legal principles of machine-related safety, european directives
- Principles and terminology of functional safety in accordance with EN ISO 13849
- Performance level and its component parts
- Component parts of functional safety management
- Definition of safety functions
- Determination of the required safety level (PLr)
- Determination of the actual safety level (PL)

Your benefits

- Competence in functional safety assessment
- Make decisions that are fit for the future

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Basic knowledge of the application and content of the current machinery directive
- Basic knowledge of risk assessment

Duration

2 days

Class size

Maximum 8 trainees

Part no.

1690581

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

SISTEMA Training and Labs Safety Education (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Knowledge of ISO 13849-1/2
- Basic computer skills

Duration

4 hours

Class size

Maximum 8 trainees

Part no.

1065484

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Design engineers

Objectives

- Understand why/when to use SISTEMA
- Understand the components of a project
- Understand types of safety functions evaluated by SISTEMA
- Create subsystems and add encapsulated subsystems
- Understand the importance of proper component selection
- Understand how to evaluate blocks and elements
- Examine diagnostic information and troubleshooting tools
- Create reports

At a glance

- Learn how to build a project to ensure the safety functions are evaluated properly to comply to safety standards
- Learn how to create a block diagram to clearly define safety function structure
- Learn how to troubleshoot a project to quickly identify sources of errors to reduce development time
- Learn how to reference other documents (such as a risk assessment and specification sheets) to create a complete technical file as required by safety standards
- Learn how to identify shortcomings of component selection to replace with an appropriate device to ensure compliance to safety standards
- Obtain practical hands-on experience to reduce safety solution development time

Your benefits

- Learn how to use the SISTEMA tool to evaluate hazards

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EN ISO 13849 and SISTEMA Seminar

Target group

- Design and build / equipment planning
- Executive management
- Maintenance
- Planning
- Safety officers
- Sales
- Service
- Anyone interested in functional safety

Objectives

- To give the participant a basic understanding of EN ISO 13849 and SISTEMA

At a glance

- Six Steps to Safe Machine Guide
- Walk through of national safety standard
- Introduction to functional safety
- SISTEMA project planning software – hands-on training using standard safety functions

Your benefits

- To give engineers a good understanding of the principles behind the functional safety standard EN ISO 13849
- Practical examples are used to work through the key performance requirements of the standard and enable participants to converse with others on all aspects of machine safety

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- A basic understanding of circuits and industrial components is beneficial

Duration

1 day

Class size

Maximum 14 trainees

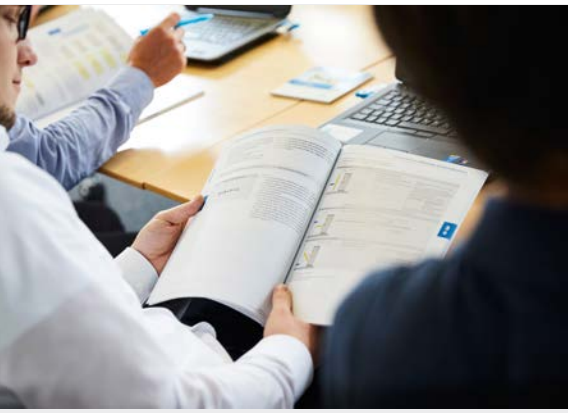
Part no.

1611304

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Safety-related Modification of Machines and Equipment



SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

2 days

Class size

Maximum 15 trainees

Part no.

1682400

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Executive management
- Design and build/equipment planning
- Maintenance
- Safety officers

Objectives

- Knowledge of the legal requirements for machine suppliers
- Application of operational safety regulations
- Modification and modernization of machinery and equipment according to state-of-the-art technology
- Required documentation
- Protective devices and their use in line with standards
- Significant changes to machines

At a glance

- Machine safety, European directives, standards and their application
- Safe modification of machines: risk assessment, significant change, use of existing equipment
- Selection and use of protective devices and integration into machine controls
- Two-hand safety control, enabling switch and emergency stop
- Safe control technology

Your benefits

- Improve machine efficiency
- Integration of protective devices in line with standards

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Legal Aspects of Inspecting Protective Devices

Target group

- Service
- Maintenance
- Design and build/equipment planning

Objectives

- Knowledge of the principles of product liability law
- Knowledge of all duties and legal consequences resulting from the safety inspection
- Liability consequences in conjunction with the performance of safety technology inspections
- Overview of guidelines for persons who service and maintain protective devices

At a glance

- Principles of product liability law
- Duties to be observed when operating potentially hazardous machines
- The roles played by standards and how to approach working with them
- Personal liability, liability according to civil law, and criminal liability of employees and superiors
- Basic principles of the German ordinance on industrial safety and health
- Basic principles of the German equipment and product safety act

Your benefits

- Legal certainty in relation to liability in the context of safety-related inspections
- Clarity with regard to duties in the context of safety-related inspections

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Experience of inspecting protective devices

Duration

1 day

Class size

Maximum 15 trainees

Part no.

1682113

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Functional Safety Engineer TÜV Rheinland®

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- A minimum of 3 years experience in the field of functional safety
- University degree (Master's or Bachelor's Degree in Engineering) or equivalent engineer level responsibility status certified by employer

Duration

4 days

Class size

Maximum 12 trainees

Part no.

1610643

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Maintenance
- Design and build/equipment planning
- Planning
- Safety officers

Objectives

- Participants will get to know the requirements of the standards on functional safety and how to fulfill the defined requirements
- Participants will be able to assess and knowledgeably select the machine safety options in line with standards
- Participants will know what is required with regard to documentation and quality assurance

At a glance

- European directives and standards: EN ISO 13849 and EN/IEC 62061
- Practical examples from experts
- Selection and evaluation of protective devices as well as different systems and configurations
- Risk assessment and validation
- Machine safety functions
- Requirements for documentation and quality management

Your benefits

- Understand new standards and implement them safely
- Test with option to apply for the certificate Functional Safety Engineer (TÜV Rheinland)

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Subject to change without notice

Collaborative Robots

Target group

- Design and build
- Planning
- Maintenance
- Safety officers

Objectives

- Principles and terms of standards for robots and robotic devices EN ISO 10218-1

At a glance

- Knowledge of the standard requirements for “collaborating robots” in accordance with EN ISO 10218-1
- Requirements for technical measures
- Risk assessment for robotic devices
- Design requirements and protective measures

Your benefits

- Implement normative requirements safely
- Safe cooperation of people and robots

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 day

Class size

Maximum 15 trainees

Part no.

1610760

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Safe Software Programming and Validation in Accordance with EN ISO 13849

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

2 days

Class size

On request

Part no.

1610759

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Maintenance
- Design and build/equipment planning
- Planning

Objectives

- Knowledge of the normative requirements for “safe software” in accordance with EN ISO 13849-1
- Safety-related application software (SRASW)
- Procedures for software verification and validation: procedures and validation plan, software specifications (cause and effect matrix), black box test

At a glance

- Legal principles on machine safety, European directives
- Principles and terms relating to functional safety in accordance with EN ISO 13849
  - Performance levels
  - Definition of safety functions
  - Software life cycle
  - Specification and design
  - V-Model
  - Software requirements

Your benefits

- Knowledge of the normative requirements in accordance with EN ISO 13849-1
- Correct configuration of safety devices

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Workshop Muting – efficient Solutions of Access Protection during automated Material Feed

Target group

- Planning
- Design and build/equipment planning
- Maintenance

Objectives

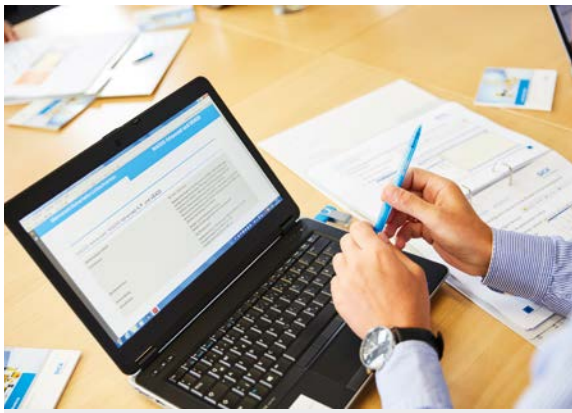
- Principles of muting in line with standards
- Alternatives to muting
- Blanking and reduced resolution
- Sample recognition
- Protective field switching for vertical laser scanners

At a glance

- Selection and use of protective devices and integration in machinery controls
- Use of physical guards that do not physically separate
- Muting sensors
- Avoiding bypassing during the muting cycle
- Reduced resolution
- Rules for blanking with vertical safety laser scanners using protective field switching

Your benefits

- Efficient solutions for access protection with automatic material transportation



SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 day

Class size

Maximum 8 trainees

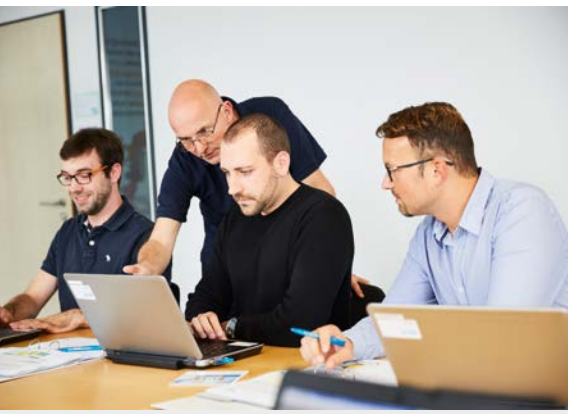
Part no.

1610758

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Basic Machine Safe Guarding Safety Education (US Version)



SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

8 hours

Class size

Not limited

Part no.

1065340

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Technical staff
- Maintenance managers
- Integrators
- Plant engineers
- Safety committee members

Objectives

- Learn how to identify hazards
- Learn how to quantify hazards
- Design the safety function
- Study engineering control approaches to reduce hazards
- Study administrative measures
- Study lock-out/tag-out measures
- Learn about validation of safety solutions
- Investigate field applications
- Review field applications in the classroom

At a glance

- Learn how to systematically implement measures to protect machinery and personnel against accidents – reducing liability, but not productivity
- Field applications will be reviewed by trainees and possible solutions will be discussed with feedback from SICK experts
- Trainees will gain thorough knowledge about the principles of risk assessment to make more informed safety decisions
- Trainees will apply machine safeguarding principles to actual applications to gain hands-on experience

Your benefits

- Learn to analyze and identify machinery hazards and basic machine safe-guarding concepts

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6-Steps to Safe Machinery Overview (US Version)

Target group

- Plant managers and supervisors

Objectives

- Identify hazards
- Quantify hazards
- Identify the safety function
- Introduce engineering control approaches to reduce hazards
- Define administrative measures
- Lock-out/tag-out measures
- Validation of safety solutions

At a glance

- Learn the concepts of how to systematically implement measures to protect machinery and personnel against accidents – reducing liability, but not productivity

Your benefits

- Learn what basic machine safe guarding is about

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 hour

Class size

Not limited

Part no.

1069294

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

6-Steps to Safe Machinery Safety Education (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

4 hours

Class size

Not limited

Part no.

1065476

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Technical staff
- Maintenance managers
- Integrators
- Plant engineers
- Safety committee members

Objectives

- Learn how to identify and quantify hazards
- Design the safety function
- Study engineering control approaches to reduce hazards
- Study administrative measures
- Study lock-out/tag-out measures
- Learn about validation of safety solutions

At a glance

- Systematically implement measures to protect machinery and personnel against accidents – reducing liability, but not productivity

Your benefits

- Learn to analyze and identify machinery hazards and basic machine safe-guarding concepts

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6-Steps to Safe Machinery with Labs Safety Education (US Version)

Target group

- Technical staff
- Maintenance managers
- Integrators
- Plant engineers
- Safety committee members

Objectives

- Learn how to identify hazards
- Learn how to quantify hazards
- Design the safety function
- Study engineering control approaches to reduce hazards
- Study administrative measures
- Study lock-out/tag-out measures
- Learn about validation of safety solutions
- Investigate field applications
- Review field applications in the classroom

At a glance

- Learn how to systematically implement measures to protect machinery and personnel against accidents – reducing liability, but not productivity
- Field applications will be reviewed by trainees and possible solutions will be discussed with feedback from SICK experts
- Trainees will gain thorough knowledge about the principles of risk assessment to make more informed safety decisions
- Trainees will apply machine safeguarding principles to actual applications to gain hands-on experience

Your benefits

- Learn to analyze and identify machinery hazards and basic machine safe-guarding concepts
- Practice machine safe-guarding concepts

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

8 hours

Class size

Not limited

Part no.

1069295

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Functional Safety of Machinery (ISO 13849-1/2) Overview (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 hour

Class size

Not limited

Part no.

1069309

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Operators
- Maintenance
- Supervisors, management

Objectives

- Defining new standards regarding safety of machinery
- Review types of technical measures for risk reduction
- Basic identification of safety functions for machines
- Introduction to performing calculations (ISO 13849-1)
- Introduction to SISTEMA
- Defining a validation plan
- Completing documentation

At a glance

- Become aware of how to apply functional safety concepts to the SRP/CS (Safety Related Parts of a Control System) to meet ISO 13849 and OSHA requirements
- Obtain a basic understanding of component selection and how to identify safety rated products
- Gain a basic understanding of how a validation plan is built to ensure the safety functions are evaluated properly to meet ISO 13849

Your benefits

- Learn the basics of how current functional safety standards affects the design and operation of machinery

8008729/2017-01-23
Subject to change without notice

Functional Safety of Machinery (ISO 13849-1/2) Safety Education (US Version)

Target group

- Application engineers
- System integrators
- Developers
- Safety specialists

Objectives

- Defining new standards regarding safety of machinery
- Review types of technical measures for risk reduction
- Identifying safety functions of machines
- Identifying circuits, schematics and examples
- Performing calculations (ISO 13849-1)
- Introduction to SISTEMA
- Defining a validation plan
- Completing documentation

At a glance

- Learn how to correctly apply functional safety concepts to the SRP/CS (safety related parts of a control system) to meet ISO 13849 and OSHA requirements
- Learn how to identify shortcomings of component selection to replace with an appropriate device to avoid degrading the system safety rating
- Learn how to build a validation plan to ensure the safety functions are evaluated properly to meet ISO 13849
- Obtain practical hands-on experience to reduce design and implementation costs

Your benefits

- Learn how current functional safety standard ISO 13849-1/2 influences the design and proof of functional safety for machines

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Knowledge of risk assessment process
- Familiarity with safety products
- Basic computer skills

Duration

4 hours

Class size

Maximum 8 trainees

Part no.

1065480

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

ANSI-RIA R15.06-2012 Safety Requirements for Industrial Robots and Robot Systems Overview (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 hour

Class size

Not limited

Part no.

1069298

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Operators
- Maintenance
- Supervisors, management

Objectives

- Define what constitutes an “industrial robot”
- Introduction to new ANSI-RIA R15.06-2012 and supplementary technical reports
- Overview of major highlights introduced in 2012 standard (vs. 1999)
- Document sources
- Investigate functional safety
- Review of “space” definitions and requirements
- Investigate benefits of “safety-rated soft limits”
- Basics of concept of “collaborative robots”
- Basics of robot risk assessment

At a glance

- Become aware of which applications the robot safety standard applies
- Save time by learning the best sources to obtain needed documents
- Become aware of work cell space by understanding space definitions and restrictions on limits of use
- Become aware how to do a proper robot risk assessment

Your benefits

- Examine robotics safety standards and requirements

8008729/2017-01-23
Subject to change without notice

ANSI-RIA R15.06-2012 Safety Requirements for Industrial Robots and Robot Systems Safety Education (US Version)

Target group

- Technical staff
- Maintenance managers
- Integrators
- Plant engineers
- Safety committee members

Objectives

- Define what constitutes an “industrial robot”
- Introduction to new ANSI-RIA R15.06-2012 and supplementary technical reports
- Overview of major highlights introduced in 2012 standard (vs. 1999)
- Document sources
- Investigate functional safety
- Review of “space” definitions and requirements
- Investigate benefits of “safety-rated soft limits”
- Introduction to concept of “collaborative robots”
- Robot risk assessment

At a glance

- Understand for which applications the robot safety standard applies
- Assure compliance by using the latest versions of standard and technical reports
- Save time by learning the best sources to obtain needed documents
- Maximize work cell space by understanding space definitions and restrictions on limits of use
- Save time with a “quickstart” on to how to do a proper robot risk assessment

Your benefits

- Examine robotics safety standards and requirements in more detail

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

4 hours

Class size

Not limited

Part no.

1065478

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

GB 27607-2011 Mechanical Press – Safety Requirements

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 day

Class size

Maximum 8 trainees

Part no.

1610754

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Maintenance
- Design and build/equipment planning
- Planning
- Safety officers
- Service

Objectives

- The aim of the training is to give an understanding of the safety requirements based on Chinese standards

At a glance

- Risk assessment
- Safeguarding technique
- Validation

Your benefits

- Be sure to fulfill the safety requirements for mechanical presses
- Be able to place your machines on the Chinese market
- Increase your business with verified safety

8008729/2017-01-23
Subject to change without notice

GB 11291.1-2011 & GB 11291.2-2013 Robots for Industrial Environments – Safety Requirements

Target group

- Maintenance
- Design and build/equipment planning
- Planning
- Safety officers
- Service

Objectives

- The aim of the training is to give an understanding of the safety requirements based on Chinese standards

At a glance

- Risk assessment
- Safeguarding technique
- Validation

Your benefits

- Be sure to fulfill the safety requirements for robots for industrial environments
- Be able to place your machines on the Chinese market
- Increase your business with verified safety

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 day

Class size

Maximum 8 trainees

Part no.

1610755

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

GB 30747-2014 Safety Requirements of Tire Curing Machines

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 day

Class size

Maximum 8 trainees

Part no.

1610756

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Maintenance
- Design and build/equipment planning
- Planning
- Safety officers
- Service

Objectives

- The aim of the training is to give an understanding of the safety requirements based on Chinese standards

At a glance

- Risk assessment
- Safeguarding technique
- Validation

Your benefits

- Be sure to fulfill the safety requirements for tyre curing machines
- Be able to place your machines on the Chinese market
- Increase your business with verified safety

8008729/2017-01-23
Subject to change without notice

GB/T30029-2013 Automated Guided Vehicle (AGV) – General Rules of Design

Target group

- Maintenance
- Design and build/equipment planning
- Planning
- Safety officers
- Service

Objectives

- The aim of the training is to give an understanding of the safety requirements based on Chinese standards

At a glance

- Risk assessment
- Safeguarding technique
- Validation

Your benefits

- Be sure to fulfill the safety requirements for automated guided vehicles (AGV)
- Be able to place your machines on the Chinese market
- Increase your business with verified safety

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

½ day

Class size

Maximum 8 trainees

Part no.

1610757

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

8008729/2017-01-23
Subject to change without notice

Advanced Product Training – Safety Systems

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- "All products introductory training" or experience of working with safety applications
- MS Windows knowledge

Duration

4–5 days

Class size

Maximum 15 trainees

Part no.

1610022

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Design and build/equipment planning
- Service
- Maintenance

Objectives

- Understand muting, blanking, and bypass
- Learn how to install and align an all-round safety system
- Understand safety interfaces
- Learn how to configure an area scanner system
- Learn how to connect safety switches and interlocks correctly

At a glance

- Safety light curtains: CDS (Configuration & Diagnostic Software), EFI, mounting, muting – entry/exit protection, area protection, safety laser scanners and safety camera systems, installation, cabling, and interfaces
- Safety switches
- Safety relays
- Flexi Soft safety controller
- sens:Control: selection guide
- Network connection
- Flexi Link
- Network gateways

Your benefits

- Understand different muting options
- Rapid alignment of light curtains
- Select the right safety interface for an application
- Effective configuration of safety laser scanners
- Simple wiring of safety switches

8008729/2017-01-23
Subject to change without notice

Advanced Product Training – Safety Control

Target group

- Design and build/Equipment planning
- Service
- Maintenance

Objectives

- Learn how safe control systems work and how they are used
- Selection of Flexi Soft system, Flexi Link system, and Flexi Classic system
- Configuration and integration
- Learn about Flexi Soft diagnostic tools and troubleshooting procedures
- Use of Motion Control safety controllers

At a glance

- Learn how to understand control circuits, e-stops, the reset function, and external device monitoring
- Standstill Monitor MOC3ZA
- Structure and functionality of a Flexi Soft system
- UE410: configuration and circuitry exercises
- Speed Monitor MOC3SA
- Configuration of a Flexi Soft system with Flexi Soft Designer
- Functions with SICK's enhanced function interface (EFI)

Your benefits

- Choosing the correct safety controller
- Quick and easy configuration

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Advanced product training for safety devices
- Basic knowledge of control system technology and experience of protective equipment and safety relays is advisable
- Previous experience of configuring SICK opto-electronic protective devices would also be helpful

Duration

3 days

Class size

Maximum 10 trainees

Part no.

7026005

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

C4000 Safety Light Curtain – Basic Training

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- MS Windows knowledge

Duration

2 days

Class size

Maximum 8 trainees

Part no.

1681681

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Design and build/equipment planning
- Maintenance

Objectives

- Mechanical mounting and alignment of the C4000
- Integration of the C4000 into a machine controller
- Configuration of the C4000
- Daily testing of C4000 senders and receivers
- Fault diagnosis and troubleshooting

At a glance

- Function and application of the C4000
- Setup and mounting of the C4000
- Operating modes
- Device versions and accessories
- Commissioning
- Fault diagnosis and troubleshooting
- Applications

Your benefits

- Make full use of the options supported by the C4000
- Reduce downtimes to a minimum

8008729/2017-01-23
Subject to change without notice

C4000 Safety Light Curtain with UE402 Interface, Function Enhancements – Advanced Training

Target group

- Design and build/equipment planning
- Maintenance

Objectives

- Integration of UE402 into a machine controller
- Advanced configuration of the C4000 with UE402
- Enhanced fault diagnosis and troubleshooting on the C4000 and the UE402

At a glance

- Function and application of the C4000 with UE402
- Operating modes in conjunction with UE402
- Device versions and accessories
- Additional fault diagnosis and troubleshooting on the C4000 and the UE402
- Applications

Your benefits

- Very little space is required inside the control cabinet and maintenance requirements are low
- Make use of extensive functional enhancements

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- MS Windows knowledge

Duration

1 day

Class size

Maximum 8 trainees

Part no.

1681683

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

C4000 Advanced Safety Light Curtain Configuration Training (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Basic mechanical aptitude
- Fundamental computer skills

Duration

4 hours

Class size

Maximum 8 trainees

Part no.

1065310

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Technical staff
- Maintenance managers
- Integrators
- Plant engineers

Objectives

- Mount and align the C4000
- Wire the C4000 to a safety interface
- Use CDS to configure and test various feature options
- Troubleshoot the C4000 detected faults
- Troubleshoot external interface faults
- Use CDS to backup and load saved configurations
- Configure fixed and floating blanking
- Recognize and correct product alarms for poor alignment and contamination
- Use CDS to configure different operating modes
- Learn how to configure safety light curtain systems

At a glance

- Learn about different alignment techniques and tools to minimize replacement time
- Learn how to troubleshoot C4000 systems to resolve issues in a minimum amount of time
- Learn when it is necessary and how to properly clean a C4000 to reduce production line outages
- Extract and save configurations from existing systems and load to replacement units, minimizing lost production

Your benefits

- Reduce installation costs and downtime and increase production by minimizing light curtain replacement time
- Reduce configuration time

8008729/2017-01-23
Subject to change without notice

C4000 Palletizer – Fusion Safety Light Curtain Configuration Training (US Version)

Target group

- Technical staff
- Maintenance managers
- Integrators
- Plant engineers

Objectives

- Mount and align the C4000 safety light curtain
- Wire the C4000 to a safety interface
- Use CDS to configure and test various feature-options
- Troubleshoot C4000 detected faults
- Troubleshoot external interface faults
- Use CDS to backup and load saved configurations
- Configure application selections:
  - Protective operation
  - Goods detection
  - Pallet detection
  - Object entry monitoring
  - Object pattern recognition (Fusion)
  - Coil detection (Fusion)
  - Manual teach-in (Fusion)
- Examine Virtual photoelectric switches
- Examine Reduced resolution
- Examine Multiple sampling
- Recognize and correct product alerts for poor alignment and contamination

At a glance

- Learn about different alignment techniques and tools to minimize replacement time
- Learn how to troubleshoot systems to resolve issues in a minimum amount of time
- Learn how and when to properly clean a C4000 to reduce unnecessary downtime
- Reconfigure safety light curtain systems to ensure quick setup for different applications
- Extract, save and load configurations from an existing system to a replacement unit, reducing setup time

Your benefits

- Reduce installation costs and downtime and increase production by minimizing light curtain replacement time

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Simple mechanical aptitude
- Basic computer skills

Duration

4 hours

Class size

Maximum 8 trainees

Part no.

1065301

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

C4000 Select Safety Light Curtain Configuration Training (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Simple mechanical aptitude

Duration

2 hours

Class size

Maximum 8 trainees

Part no.

1065293

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Plant engineers
- Electrical technicians

Objectives

- Mount and align the C4000 Select
- Wire the C4000 Select to a safety interface
- Configure and test various feature-options
- Troubleshoot the C4000 Select for detected faults
- Troubleshoot external interface faults
- Configure floating blanking
- Recognize and correct product alerts for poor alignment and contamination

At a glance

- Learn about different alignment techniques and tools to minimize alignment effort
- Learn how to troubleshoot C4000 Select systems to resolve issues in a minimum amount of time
- Learn how and when to properly clean a C4000 Select to reduce machine outages
- Be able to replace a damaged C4000 Select in a minimum of time

Your benefits

- Reduce installation costs and downtime and increase production by minimizing light curtain replacement time
- Reduce configuration time

8008729/2017-01-23
Subject to change without notice

deTec Safety Light Curtain – Basic Training

Target group

- Design and build/equipment planning
- Maintenance
- Planning

Objectives

- Mechanical mounting and alignment of the deTec
- Integration of the deTec into a machine controller
- Configuration of the deTec
- Daily testing of deTec senders and receivers
- Fault diagnosis and troubleshooting

At a glance

- Function and application of the deTec
- Setup and mounting of the deTec
- Operating modes device versions and accessories
- Commissioning
- Fault diagnosis and troubleshooting
- Applications

Your benefits

- Make full use of the options supported by the deTec
- Reduce downtimes to a minimum

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 day

Class size

Maximum 8 trainees

Part no.

1610753

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

M4000 Multiple Light Beam Safety Device – Basic Training

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

2 days

Class size

Maximum 8 trainees

Part no.

1682325

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Design and build/equipment planning
- Maintenance

Objectives

- Mounting of the M4000
- Integration of M4000 into a machine controller
- Configuration of the M4000 Standard and M4000 Advanced
- Daily testing of M4000 senders and receivers
- Fault diagnosis and troubleshooting
- Advanced configuration of the M4000 with UE403

At a glance

- Function and application of the M4000
- Setup and mounting of the M4000
- Operating modes
- Device versions and accessories
- Commissioning
- Fault diagnosis and troubleshooting
- Applications
- Function and application of the M4000 with UE403, fault diagnosis and troubleshooting on the M4000 and UE403

Your benefits

- Efficient access protection
- Rapid fault diagnosis

8008729/2017-01-23
Subject to change without notice

Muting Applications with M4000 and UE403 Interface – Advanced Training

Target group

- Design and build/equipment planning
- Maintenance

Objectives

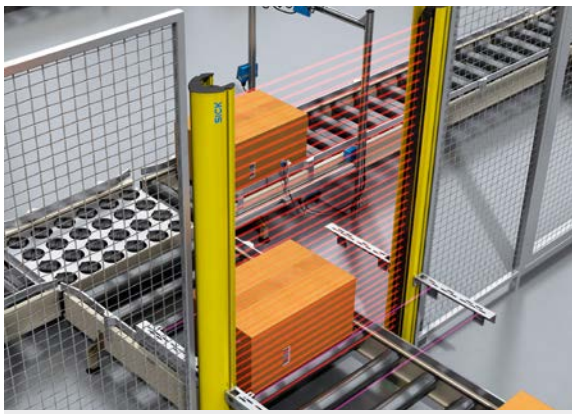
- Integration of UE403 into a machine control system
- Configuration of the M4000 with UE403 for advanced users in compliance with applicable safety regulations
- Troubleshooting for the M4000 and UE403 for advanced users

At a glance

- Function and application of the M4000 with UE403
- Operating modes in conjunction with UE403
- Device versions and accessories
- Additional fault diagnosis and troubleshooting on the M4000 and UE403
- Applications

Your benefits

- Safe use of muting
- Quick connection and fast commissioning



SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- MS Windows knowledge

Duration

1 day

Class size

Maximum 8 trainees

Part no.

1682327

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

M4000 Advanced – UE403 Muting System Configuration Training (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Simple mechanical aptitude
- Basic computer skills

Duration

4 hours

Class size

Maximum 8 trainees

Part no.

1065291

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Technicians
- Plant engineers
- Safety integrators

Objectives

- Assemble and align the M4000 Advanced – UE403 system
- Wire the M4000 Advanced to a safety interface
- Configure with CDS and test various muting options
- Examine diagnostic information and troubleshooting tools
- Troubleshoot invalid muting cycles and sensor faults
- Troubleshoot external interface faults
- Recognize and correct product alerts for poor alignment and contamination
- Backup and load saved configura-tions
- Examine when components need to be reset to factory defaults
- Initialize the M4000 Advanced and the UE403 to factory defaults

At a glance

- Attendees will be able to install and align a M4000 Advanced – UE403 muting system
- Attendees will be able to configure a M4000 Advanced – UE403 system using CDS
- Understand the use of the built-in diagnostic tools to troubleshoot a system to reduce downtime
- Save and load a configuration and/or initialize redeployed components to ensure quick replacement

Your benefits

- Add new muting functionality to reduce downtime

8008729/2017-01-23
Subject to change without notice

M4000 Advanced – UE403 Muting System Maintenance Training (US Version)

Target group

- Technicians
- Plant maintenance personnel

Objectives

- Assemble and align an M4000 Advanced – UE403 system
- Wire the M4000 Advanced to a safety interface
- Examine diagnostic information and troubleshooting tools
- Troubleshoot invalid muting cycles and sensor faults
- Troubleshoot external interface faults
- Recognize and correct product alerts for poor alignment and contamination
- Backup and load saved configurations
- Examine when components need to be reset to factory defaults
- Initialize the M4000 Advanced and the UE403 to factory defaults

At a glance

- Learn the fastest way to install and align light curtains
- Use the built-in diagnostic tools to troubleshoot a system to reduce downtime
- Understand filters to minimize sensor nuisance faults
- Understand device cloning to quickly replace components, if necessary
- Save and load a configuration and/or initialize redeployed components to ensure quick setup if replacement is necessary

Your benefits

- Reduce production losses through faster diagnostics

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Simple mechanical aptitude
- Basic computer skills

Duration

2 hours

Class size

Maximum 8 trainees

Part no.

1069312

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

M4000 Standard Perimeter Guard Configuration Training (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

2 hours

Class size

Maximum 8 trainees

Part no.

1065295

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Technicians
- Plant engineers
- Integrators

Objectives

- Assemble and align a M4000 Standard perimeter guard system
- Wire M4000 to safety interface
- Configure and test various options
- Examine diagnostic information and troubleshooting tools
- Troubleshoot external interface faults
- Recognize and correct product alerts for poor alignment and contamination

At a glance

- Attendees will be able to install and align a M4000 Standard perimeter guard system in a minimum of time
- Attendees will be able to quickly configure a newly installed M4000 standard system
- Attendees will be able minimize downtime by using the built-in diagnostic tools to troubleshoot a system

Your benefits

- Reduce production losses through faster diagnostics

8008729/2017-01-23
Subject to change without notice

Safety Light Curtain Maintenance Training (US Version)

Target group

- Maintenance personnel

Objectives

- Mount and align safety light curtain
- Wire safety light curtain to safety interface
- Troubleshoot light curtain faults
- Troubleshoot external interface faults
- Recognize and correct product alerts for poor alignment and contamination
- Examine different operating modes

At a glance

- Learn alignment techniques and tools to minimize replacement time
- Learn how to troubleshoot light curtain systems to resolve issues in a minimum of time
- Learn when it is necessary to clean a safety light curtain
- Learn how to properly clean a safety light curtain
- Attendees will be shown how to extract and save configurations from existing systems, if applicable
- Attendees will be shown how to load a saved configuration to a replacement unit, if applicable, minimizing downtime
- Attendees will learn about different mode capabilities and how to improve productivity

Your benefits

- Reduce downtime

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

2 hours

Class size

Maximum 8 trainees

Part no.

1069319

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

S3000 and S300 Safety Laser Scanner – Basic Training

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- MS Windows knowledge

Duration

2 days

Class size

Maximum 8 trainees

Part no.

1681916

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Service
- Maintenance
- Design and build/equipment planning

Objectives

- Description of operation of the S3000 and S300
- Selection and functions of the S3000 and S300
- Mounting the S3000 and S300
- Application-specific programming of the devices
- Fault diagnosis and troubleshooting

At a glance

- Function and application of the S3000 and S300
- Setup and principle of operation of the S3000 and S300
- Installation on the machine
- Integration into a machine controller
- Programming of S3000 and S300 with SICK Configuration & Diagnostic Software
- Commissioning
- Fault diagnosis and troubleshooting

Your benefits

- Easy and effective maintenance
- Rapid programming

8008729/2017-01-23
Subject to change without notice

S3000 and S300 Safety Laser Scanner – Mobile Applications

Target group

- Service
- Maintenance
- Design and build/equipment planning

Objectives

- Description of the principle of operation of the laser scanner in automated guided vehicle applications
- Information about appropriate installation with a focus on practical aspects
- Application-specific programming of the device
- Fault diagnosis and troubleshooting

At a glance

- Principle of operation of safety laser scanners in automated guided vehicles (driverless vehicles)
- Installation in the automated guided vehicle
- Integration of incremental encoders, S3000, and S300 into the controller
- Programming of S3000 and S300
- Commissioning
- Fault diagnosis and troubleshooting

Your benefits

- Implementation of control tasks without external components
- Effective use in mobile applications

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- MS Windows knowledge

Duration

1 day

Class size

Maximum 8 trainees

Part no.

1681917

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

PLS to S3000 Safety Laser Scanner Migration Configuration Training (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Basic mechanical aptitude

Duration

4 hours

Class size

Maximum 8 trainees

Part no.

1065303

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Technical staff
- Maintenance managers
- Integrators
- Plant engineers

Objectives

- Interpret PLS existing configuration
- Review wiring differences and conversion kits available
- Examine mounting differences
- Basic scanner selection
- Scanner wiring requirements
- Configure a scanner using CDS
- Design field sets
- Create cases
- Examine diagnostic information and troubleshooting tools
- Backup and load saved configurations
- Replace a scanner screen and recalibrate
- Scanner integration to safety system

At a glance

- Attendees will be able to interpret existing PLS configuration
- Attendees will be able to replace PLS with S3000
- Learn how to troubleshoot scanners to resolve issues in a minimum of time
- Learn how and when to properly clean a scanner screen to minimize machine outages
- Learn how to replace a scanner screen and recalibrate – extending the necessary cleaning interval to reduce downtime
- Students will be capable of configuring a S3000 safety scanner using CDS

Your benefits

- Reduce cost of conversion of legacy products

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Safety Laser Scanners Configuration Training (US Version)

Target group

- Technical staff
- Maintenance managers
- Integrators
- Plant engineers

Objectives

- Understand how to identify scanner models
- Understand scanner model compatibility
- Learn about basic scanner selection and installation
- Determine scanner wiring requirements
- Configure a scanner using CDS
- Design field sets
- Create cases
- Examine diagnostic information and troubleshooting tools
- Backup and load saved configurations
- Replace a scanner screen and recalibrate
- Learn about advanced safety scanner systems
- Learn about scanner integration into a safety system

At a glance

- Learn how to avoid false triggers to reduce downtime
- Learn how to troubleshoot scanners to resolve issues in a minimum amount of time
- Learn how and when to properly clean a scanner screen to reduce device errors
- Learn how to replace a scanner screen and recalibrate to extend the necessary cleaning interval
- Configure safety scanner systems without assistance
- Understand how scanners are integrated into safety control systems

Your benefits

- Minimize cost of installation and commissioning

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Simple mechanical aptitude
- Basic computer skills

Duration

4 hours

Class size

Maximum 8 trainees

Part no.

1065305

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Safety Laser Scanners Maintenance Training (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Simple mechanical aptitude

Duration

2 hours

Class size

Maximum 8 trainees

Part no.

1069315

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Maintenance personnel

Objectives

- Understand how to identify safety laser scanner models
- Understand scanner model compatibility
- Learn about basic scanner replacement techniques
- Learn about scanner wiring requirements
- Examine diagnostic LEDs
- Examine 7-segment diagnostic codes
- Understand troubleshooting techniques
- Replace a scanner screen and recalibrate

At a glance

- Learn causes of nuisance trips and how to troubleshoot laser scanner problems to resolve issues in a minimum amount of time
- Learn how and when to properly clean a scanner screen to reduce device errors
- Learn how to replace a scanner screen and recalibrate to extend the necessary cleaning interval

Your benefits

- Reduce downtime

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S300 Mini Remote – Flexi Soft Safety Controller Configuration Training (US Version)

Target group

- Plant engineers
- Integrators
- Electrical technicians

Objectives

- Examine the S300 Mini Remote and its functionality when used with the Flexi Soft
- Create protective fields
- Create cases
- Examine S300 trouble codes
- Identify Flexi Soft modules and their functionality
- Learn how to replace individual modules
- Use Flexi Soft Designer to build a safety system by adding safety devices
- Create circuits with increasing safety performance levels
- Examine Flexi Soft Designer Simulator
- Examine Flexi Soft module LED error codes
- Create wiring faults and troubleshoot system
- Backup and load saved configurations

At a glance

- Attendees will be able to quickly configure protective fields and use cases to switch protective fields
- Attendees will be able to reduce downtime by interpreting S300 diagnostic codes to get a scanner back in operation quickly
- Attendees will learn what S300 maintenance procedures will keep a scanner on-line without unnecessary faults
- Attendees will learn how to evaluate a safety system in order to assure compliance to safety standards
- Attendees will learn when it is necessary and how to replace a Flexi Soft module quickly
- Attendees will learn how to troubleshoot a Flexi Soft system with and without a computer in order to minimize system downtime
- Attendees will learn how to backup and restore

Your benefits

- Reduce downtime

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

8 hours

Class size

Maximum 8 trainees

Part no.

1065307

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

S3000 PROFINET IO Safety Laser Scanner

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Basic knowledge of S3000 safety laser scanners and networks

Duration

1 day

Class size

Maximum 15 trainees

Part no.

1610020

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Service
- Safety officers
- Design and build/equipment planning

Objectives

- Get an overview of the functions and settings of the S3000 PROFINET IO safety laser scanner
- Acquire knowledge of the relevant parameters for the S3000 PROFINET IO safety laser scanner
- Adjustments and configuration from practice

At a glance

- Basic configuration of the S3000 PROFINET IO safety laser scanner
- Communication between the S3000 PROFINET IO safety laser scanner and the Siemens PLC
- Number of bits necessary for communication between the Siemens PLC and SICK devices
- Overview of the necessary settings on the Siemens PLC
- Fault diagnosis
- Practical exercises on S3000 PROFINET IO safety laser scanners

Your benefits

- Flexible and reliable protection of high-production systems through the proven technology of the safety laser scanners in the S3000 PROFINET IO family
- Efficient, cost-effective protection – networked through direct integration into PROFINET IO networks
- Rapid diagnostics using remote access

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S3000 PROFINET Safety Laser Scanner Configuration Training (US Version)

Target group

- Technical staff
- Maintenance managers
- Integrators
- Plant engineers

Objectives

- Review functionality and appropriate applications for safety scanners
- Understand proper wiring techniques needed for safety scanners
- Configure system parameters and network addressing
- Configure I/O
- Assign PROFINET alarms
- Design field sets and switching cases, then test with built-in CDS simulator
- Test configuration with CDS data recorder and learn to use this tool for troubleshooting
- Save and load system configuration
- Recognize and correct product alerts for poor alignment and contamination

At a glance

- Learn how to install and/or replace an S3000 safety laser scanner in a minimum amount of time
- Use CDS to quickly configure an S3000 safety laser scanner
- Save and load a scanner configuration to a replacement scanner in a minimum of time
- Use diagnostic tools to quickly troubleshoot a system problem

Your benefits

- Minimize cost of installation, commissioning and troubleshooting

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Simple mechanical aptitude
- Basic computer skills

Duration

4 hours

Class size

Maximum 8 trainees

Part no.

1069316

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

microScan3 Safety Laser Scanner – Basic Training

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- MS Windows knowledge

Duration

1 day

Class size

Maximum 8 trainees

Part no.

1611301

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Service
- Maintenance
- Design and build / equipment planning

Objectives

- Understand how the microScan3 works
- Get an overview of features functions and applications
- Learn how to commission the microScan3
- Save time in case of troubleshooting
- Get to know the Safety Designer software
- Receive tips and trick for efficient usage of the microScan3

At a glance

- Design and operating principle of microScan3
- Features, functions, applications
- Mechanical integration
- Electrical installation
- Troubleshooting
- Safety Designer – Configuration and Diagnostic Software

Your benefits

- Easy installation
- Efficient integration
- Quick configuration
- Fast diagnosis

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Flexi Classic Safety Controller Configuration Training (US Version)

Target group

- Plant engineers
- Electrical staff

Objectives

- Examine Flexi Configurator
- Examine different types of Flexi Classic modules and their functionality
- Learn how to replace individual modules
- Wire safety logic with various safety devices
- Examine Flexi Classic LED status indicators
- Create wiring faults and troubleshoot system

At a glance

- Students will learn how to use the Flexi Configurator to quickly design a safety system
- Students will learn the functionality of the status LEDs and be able to troubleshoot a system to minimize machine downtime
- The student will learn when it is necessary to replace a Flexi Classic module
- The student will learn how to replace a Flexi Classic module quickly to minimize machine downtime

Your benefits

- Minimize cost of installation, commissioning and troubleshooting

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

4 hours

Class size

Maximum 8 trainees

Part no.

1065334

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Flexi Line – Basic Training

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- An introduction to Flexi Soft

Duration

1 day

Class size

Maximum 6 trainees

Part no.

1611302

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Design and build / equipment planning
- Maintenance
- Service
- Software development

Objectives

- The attendee will learn about the Flexi Line concept and be able to design, build and perform diagnostics on a Flexi Line system

At a glance

- Hands on training with SICK's Flexi Soft controller with a focus on the Flexi Line system

Your benefits

- Will give the participant confidence in working with the Flexi Line system using Flexi Soft

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Flexi Link – Implementation

Target group

- Service
- Maintenance
- Design and build/equipment planning

Objectives

- Understanding how the hardware works
- Guidelines and recommendations for programming in organized and efficient project documentation
- Examples:
  - Project scheduling and deliver
  - Picking
  - Fault diagnosis for troubleshooting for rapid reset of a multi-master system
  - User levels

At a glance

- System implementation
- PLr (control system categories)
- Electrical installation
- CPU configuration
- Programming
- Picking
- Precise validation and verification
- Installation and troubleshooting

Your benefits

- Save time with the integration of Flexi Link
- Gain experience of how Flexi Link is integrated
- Quick and easy picking

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 day

Class size

Maximum 12 trainees

Part no.

1610021

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Flexi Soft – Modular Safety Controller

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 day

Class size

Maximum 8 trainees

Part no.

1682394

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Design and build/equipment planning
- Service
- Maintenance

Objectives

- Understanding how Flexi Soft works
- Working with Flexi Soft Designer (www.sens-control.com)
- Recognizing and solving typical applications
- Fault diagnosis

At a glance

- Setup and principle of operation of the Flexi Soft
- SICK safety controller portfolio
- Device versions and accessories
- Flexi Soft Designer
- Fault diagnosis

Your benefits

- Quick and easy configuration
- Integrate the Flexi Soft modular safety controller reliably into your own network

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Subject to change without notice

Flexi Soft Safety Controller Configuration Training (US Version)

Target group

- Plant engineers and electrical technicians

Objectives

- Examine different types of safety controls
- Understand the functionality of each Flexi Soft module
- Learn how to replace modules
- Use the Flexi Soft Designer to create a safety control system
- Use Flexi Soft Designer Simulator to test the design
- Verify the Flexi Soft system
- Examine module LED error codes
- Create wiring faults and use Flexi Soft Designer to troubleshoot system
- Backup and load saved configuration

At a glance

- Learn how to rate the category of a safety control system
- Learn how to achieve higher levels of safety system design
- Learn how to troubleshoot the Flexi Soft safety system in seconds without a computer
- Learn advanced troubleshooting skills to reduce downtime
- Learn when it is necessary and how to replace a module in a few minutes
- Learn how to backup or restore a system configuration in just a few minutes

Your benefits

- Reduce Flexi Soft configuration time

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Basic computer skills

Duration

8 hours

Class size

Maximum 8 trainees

Part no.

1065299

For course dates and pricing please contact your local representative
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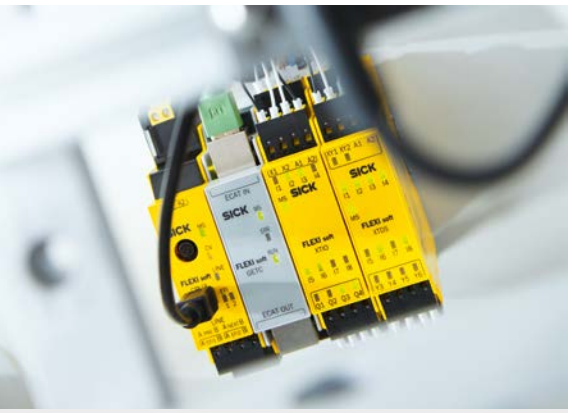
- For customer-specific training
➜ see also page 9

Flexi Soft Safety Controller Maintenance Training (US Version)



SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Simple mechanical aptitude
- Basic computer skills

Duration

2 hours

Class size

Maximum 8 trainees

Part no.

1065297

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Maintenance personnel

Objectives

- Understand how to identify system modules
- Understand the Flexi Soft module functionality
- Learn how to replace individual modules
- Understand how to find wiring diagrams
- Examine module LED error codes
- Examine software diagnostic information and troubleshooting tools
- Backup and load saved configurations

At a glance

- Learn how to troubleshoot to resolve issues in a minimum amount of time
- Learn when and how to quickly replace a module
- Learn how to backup or restore a configuration for quick recovery if system errors occur

Your benefits

- Reduce production losses through faster diagnostics

8008729/2017-01-23
Subject to change without notice

Flexi Soft – MOC0 Motion Safety Drive Monitor Configuration Training (US Version)

Target group

- Plant engineers and electrical technicians

Objectives

- Examine different types of safety Examine different types of safety motion controls and safety motion functions
- Examine MOC3SA Safe Speed Monitor
- Examine MOC3ZA Zero Speed Monitor
- Examine Flexi Soft – MOC0 Flexi Soft Drive
- Monitor module functions
  - SLS Safe Limited Speed
  - SSM Safe Speed Monitor
  - SDI Safe Direction
  - SOS Safe Operating Speed
  - SS1 Safe Stop 1
  - SS2 Safe Stop 2
  - SBC Safe Brake Control
- Examine electrical interfacing
- Learn how to replace individual modules
- Use Flexi Soft Designer to create and test safety motion functions
- Hands-on safety motion functions exercises
- Backup and load saved configurations

At a glance

- The student will learn the basics of how to quickly configure a Flexi Soft system with safe drive monitoring
- The student will learn the necessary electrical interfacing requirements to assure compliance to safety standards
- The student will learn how to achieve higher levels of safety design to assure compliance to safety standards
- The student will learn how to quickly replace a module
- The student will learn how to troubleshoot a Flexi Soft system with motion safety monitoring to increase machine productivity
- The student will learn how to quickly backup or restore a configuration to minimize downtime

Your benefits

- Reduce Flexi Soft configuration time

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- Basic computer skills

Duration

8 hours

Class size

Maximum 8 trainees

Part no.

1069310

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Flexi Soft – MOC0 Motion Safety Drive Monitor Overview (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

1 hour

Class size

Not limited

Part no.

1065336

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Operators
- Maintenance supervisors
- Managers

Objectives

- Examine different types of safety motion controls and safety motion functions
- MOC3SA Safe Speed Monitor
- MOC3ZA Zero Speed Monitor
- Flexi Soft – MOC0 Flexi Soft Drive Monitor
  - SLS Safe Limited Speed
  - SSM Safe Speed Monitor
  - SDI Safe Direction
  - SOS Safe Operating Speed
  - SS1 Safe Stop 1
  - SS2 Safe Stop 2
  - SBC Safe Brake Control
- Examine electrical interfacing

At a glance

- The student will become aware of basic concepts of safety motion
- The student will be introduced to basic electrical interfacing requirements

Your benefits

- Understand how the Flexi Soft protects people in the workplace

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Subject to change without notice

FX3-MOC0 Flexi Soft Drive Monitor – Basic Training

Target group

- Design and build / equipment planning
- Maintenance
- Service
- Software development

Objectives

- The attendee will learn about the FX3-MOC0 Drive Monitor concept and be able to design, build and perform diagnostics on a drive monitoring system

At a glance

- Hands on training with SICK's Flexi Soft controller with a focus on the FX3-MOC0 Drive Monitor

Your benefits

- Will give the participant confidence in working with the FX3-MOC0 Drive Monitor

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- An introduction to Flexi Soft

Duration

1 day

Class size

Maximum 6 trainees

Part no.

1611303

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

UE10 Safety Relays Configuration Training (US Version)

SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- None

Duration

6 hours

Class size

Maximum 8 trainees

Part no.

1065332

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Target group

- Plant engineers
- Electrical technicians

Objectives

- Examine different types of safety relays
- Learn how to replace individual modules
- Wire safety relay logic
- Interpret safety relay status LEDs
- Create wiring faults and troubleshoot system

At a glance

- Students will learn what qualifies as a safety circuit
- Students will learn how to safety design circuits to reach different safety standards performance levels
- The student will learn when it is necessary and how to quickly replace a safety relay in a minimum of down-time

Your benefits

- Minimize cost of installation and commissioning

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Safexpert® – User Training

Target group

- Safexpert® users
- Design and build/equipment planning
- Safety officers

Objectives

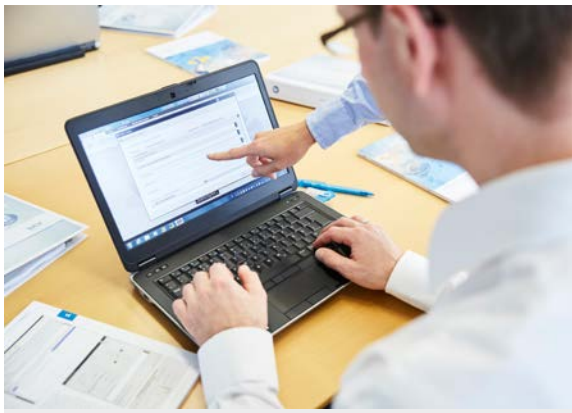
- How to use the Safexpert® safety software to edit projects
- Carry out a competence check procedure with Safexpert®

At a glance

- Learn how to work with Safexpert® software
- Manage, edit, and archive projects
- Work with help systems and libraries
- Selection and management of EU directives and standards
- Carry out a hazard analysis with risk assessment
- Brief introduction to the selection of safety-related control components
- Operating instructions assistant and Word operating instructions assistant

Your benefits

- Implement up-to-date standards and directives
- Carry out competence checks easily and safely



SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- MS Windows knowledge

Duration

2 days

Class size

Maximum 8 trainees

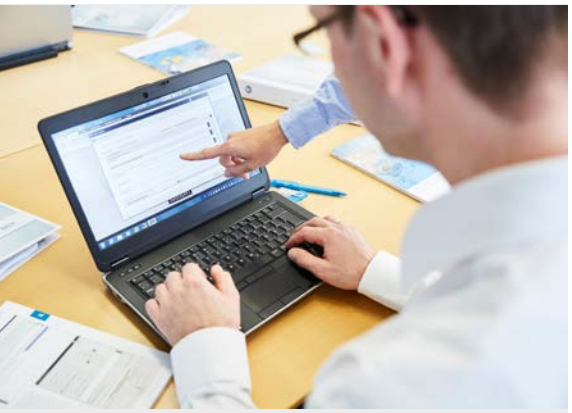
Part no.

1681365

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

- For customer-specific training
➜ see also page 9

Safexpert® for Administrators



SICK is providing worldwide scheduled training, if your country is not listed, please contact your local representatives.

Prerequisites

- MS Windows knowledge

Duration

1 day

Class size

Maximum 8 trainees

Part no.

1681689

For course dates and pricing please contact your local representative
➜ www.sick.com ▸ SICK worldwide

Target group

- Safexpert® administrators

Objectives

- Safexpert® setup to meet specific customer requirements

At a glance

- Initial configuration
- Basic configuration and user settings
- Creation and updating document indexes and standards databases
- Linking of in-house documents
- Creation of in-house check lists, import of external manufacturer check lists
- Compilation of individual report templates incorporation of company logo
- Company-specific adjustments

Your benefits

- Quick configuration and user management
- Always up to date in terms of legal requirements

- For customer-specific training
➜ see also page 9

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WE DELIVER “SENSOR INTELLIGENCE.”

SICK sensor solutions for industrial automation are the result of exceptional dedication and experience. From development all the way to service: The people at SICK are committed to investing all their expertise in providing with the very best sensors and system solutions possible.

A company with a culture of success

Almost 7,000 people are on staff, with products and services available to help SICK sensor technology users increase their productivity and reduce their costs. Founded in 1946 and headquartered in Waldkirch, Germany, SICK is a global sensor specialist with more than 50 subsidiaries and representations worldwide. The people work with pleasure at SICK.

This is demonstrated by the accolades that the company is regularly awarded in the “Great Place to Work” competition. This lively corporate culture holds strong appeal for qualified and skilled persons. In SICK, they are part of a company that ensures an excellent balance between career progression and quality of life.

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Innovation for the leading edge

SICK sensor systems simplify and optimize processes and allow for sustainable production. SICK operates at many research and development centers all over the world. Co-designed with customers and universities, our innovative sensor products and solutions are made to give a decisive edge. With an impressive track record of innovation, we take the key parameters of modern production to new levels: reliable process control, safety of people and environmental protection.

A corporate culture for sustainable excellence

SICK is backed by a holistic, homogeneous corporate culture. We are an independent company. And our sensor technology is open to all system environments. The power of innovation has made SICK one of the technology and market leaders – sensor technology that is successful in the long term.

SERVICES FOR MACHINES AND SYSTEMS: SICK LifeTime Services

SICK LifeTime Services is a comprehensive set of high-quality services provided to support the entire life cycle of products and applications from plant walk-through to upgrades. These services increase the safety of people, boost the productivity of machines and serve as the basis for our customers' sustainable business success. LifeTime Services range from product-independent consulting to traditional product services and are characterized by extensive industry expertise and more than 60 years of experience.

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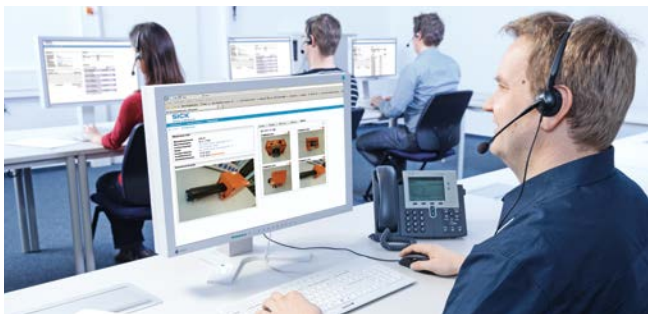
➜ www.sick.com/service



Consulting and design

- Plant walk-through
- Risk assessment
- Safety concept
- Safety software and hardware design
- Validation of functional safety
- CE-conformance check

Product and system support

- Installation
- Commissioning
- Start-up support
- Calibrations
- Telephone support
- 24-hour helpline
- SICK Remote Service
- Troubleshooting on site
- Repairs
- Exchange units
- Extended warranty

Verification and optimization

- Inspection
- Stop time measurement
- Machine safety inspection
- Electrical equipment check
- Accident investigation
- Initial verification
- Performance check
- Maintenance

Upgrade and retrofits

- Upgrade services

Training and education

- Training
- Seminars
- Web training

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SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 7,400 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, we are always close to our customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in various industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services round out our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

Worldwide presence:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → www.sick.com

SICK
Sensor Intelligence.