

### Target Group:

Designer/manufacture of control systems, electrical engineers, machinery engineers and safety engineers, test and certification bodies, occupational health and safety experts concerned about the risks associated with machines.

### Participation fee:

200,- Euro  
The number of participants is limited. The date of the registration is valid.  
We will send you the invoice after you have registered for the seminar.  
Languages: English and Chinese.

### Registration at:

Secretariat General of the ISSA-Section  
Machine and System Safety  
Ms. Silke Scholl-Scheiba  
Dynamostrasse 7 - 11  
D - 68165 Mannheim  
Phone: +49 621 4456 2213  
Fax: +49 621 4456 2190  
[scholl@ivss.org](mailto:scholl@ivss.org)

### Place of the seminar:

German Center Shanghai  
[www.germancentreshanghai.de](http://www.germancentreshanghai.de)

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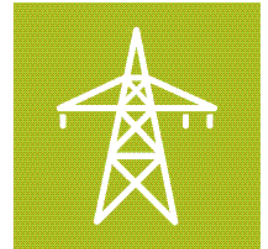


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ISSA was founded 1927 with its headquarters in Geneva. Today it is active in 153 countries with 333 member institutions worldwide.  
The **Special Commission on Prevention** is the body of ISSA dealing with work-related risks. It has 13 international Sections as members.  
The **Section Machine and System Safety** is committed to improving safety and health at work in the field of machine and system safety.  
The mission of the **Section for Electricity, Gas and Water** is the protection of workers against electrical accidents and occupational diseases due to electricity and ionizing radiation.  
[www.issa.int](http://www.issa.int)



## Seminar

# Functional Safety and Validation

May 25<sup>th</sup>/26<sup>th</sup>, 2015

Shanghai, China

## Foreword:

With the publication of the standards IEC 62061, EN ISO 13849-1 and EN ISO 13849-2 (FDIS: final draft international standard 2012) the manufacturers of control systems in safety-relevant applications have two basic technical regulations at their disposal. This seminar communicates to the participants the basic knowledge of both standards which are explained by means of practical examples. The speakers give information as experts in the standardization and machinery safety.

## Moderators:

- Klaus-Dieter Becker, BGETEM, Wiesbaden (D)
- Thomas Pilz, Pilz GmbH & Co. KG, Ostfildern (D)

## Speakers:

- Klaus-Dieter Becker, BGETEM, Wiesbaden (D)
- Patrick Gehlen, Siemens AG, Erlangen (D)
- Otto Görnemann, Sick AG, Waldkirch (D)
- Robin Huang, Pilz Co. Ltd., Shanghai (China)
- Derek Jones, Rockwell Automation (UK)
- Jens Jühling, BGETEM, Cologne (D)
- Michael Mandel, K.A. Schmersal GmbH & Co.KG, Wuppertal (D)
- Fabio Pera, INAIL, Rom (I)
- Olaf Petermann, ISSA-Special Commission on Prevention, Cologne (D)
- Thomas Pilz, Pilz GmbH & Co. KG, Ostfildern (D)
- Gerhard Steiger, VDMA, Frankfurt (D)

## Monday, May 25<sup>th</sup>, 2015

12.30 p.m.	Welcome: Rachel Wang, Pilz Shanghai Klaus-Dieter Becker	
	Tasks and Objectives of ISSA	Olaf Petermann
1.00 p.m.	Risk Assessment – practical support by machinery safety standards	Gerhard Steiger
2.00 p.m.	Electrical protection measures for machines according IEC 204-1	Jens Jühling
2.30 p.m.	Introduction of EN/IEC 62061 and recommendations for practical use	Derek Jones
3.15 p.m.	Break	
3.30 p.m.	Introduction of EN ISO 13849-1 „Safety of Machinery – safety-related part of control systems; part 1: general principles for design“	Klaus- Dieter Becker
4.15 p.m.	Discussion / Break	
4.30 p.m.	Continuation of introducing EN ISO 13849-1	Klaus- Dieter Becker
5.30 p.m.	Final discussion	
6.00 p.m.	End of the 1st day	

## Tuesday, May 26<sup>th</sup>, 2015

09.00 a.m.	General information on the validation of control systems according to EN ISO 13849-2	Klaus-Dieter Becker
10.00 a.m.	Application of EN ISO 13849-1: practical example	Robin Huang
10.30 a.m.	Application of EN ISO 13849-1: practical example	Otto Görnemann
11.15 a.m.	Break	
11.30 a.m.	EN ISO 13849-1 and interlocking devices	Michael Mandel
12.00 p.m.	Application of EN ISO 13849-1: practical example	Patrick Gehlen
12.30 p.m.	Discussion	
12.45 a.m.	Lunch Break	
1.45 a.m.	SISTEMA: Introduction and practical example	Fabio Pera
2.30 p.m.	Designing a Robot Cell using EN ISO 13849-1/-2	Thomas Pilz
3.00 p.m.	Final discussion Closing	