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Machine safety – defeating protective devices despite legal obligation in the EU to do risk assessment

Milano, Dec. 3rd – 4th, 2013

ASSOLOMBARDA

Hans-Jürgen Bischoff

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International Social Security Association

- The ISSA is the leading international organization for social security institutions, departments and agencies
- Provides information, research, expert advice and platforms for members to build and promote dynamic social security systems and policy worldwide
- Headquarters at the International Labour Office, Geneva
- Founded in 1927, around 350 members in nearly 150 countries

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The **Special Commission on Prevention (SC)** and its **13 international Sections** initiate, coordinate and conduct at the international level activities designed to promote prevention, in particular prevention of occupational accidents and diseases also within the ISSA triennium program. It adopts specific positions on important prevention issues.

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ISSA INTERNATIONAL SECTIONS ON THE PREVENTION OF OCCUPATIONAL RISKS



Agriculture



Chemistry



Culture of prevention



Construction



Education



Electricity



Health



Information



Iron and Metal



Machine and System Safety



Mining



Research



Transport



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The **Section Machine and System Safety** was founded by decision of ISSA Bureau in 1975. Experts from over 10 countries - from insurance carriers, research institutes, companies, associations and individuals - work together in different projects decided by the Bureau/the members' assembly. The results are published in several languages – in printed form or online.

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Bureau members:

President: Norbert Weis, former director, Berufsgenossenschaft Nahrungsmittel und Gastgewerbe (BGN), Mannheim, Germany

Vice-presidents:

➤ Ester Rotoli, Director Prevention Department, Istituto Nazionale per l'Assicurazione contro gli infortuni sul lavoro (INAIL), Rome, Italy

➤ Dr. Peter Rüdin, Member of the Managing Board, Schweizerische Unfallversicherungsanstalt (Suva), Lucerne, Switzerland;

➤ René Marbach, Director, Carsat, La Caisse d'Assurance Retraite et de la Santé au Travail Alsace-Moselle

Secretary General: Dr. Hans-Jürgen Bischoff, Berufsgenossenschaft Nahrungsmittel und Gastgewerbe (BGN), Mannheim, Germany

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Different national surveys show that protective devices on machinery are being defeated regularly to a high degree: 30 or more % of all machines being used. The main reasons are:

1. Time pressure for the operators
2. Difficult access in case of disruptions: maintenance, repair, cleaning

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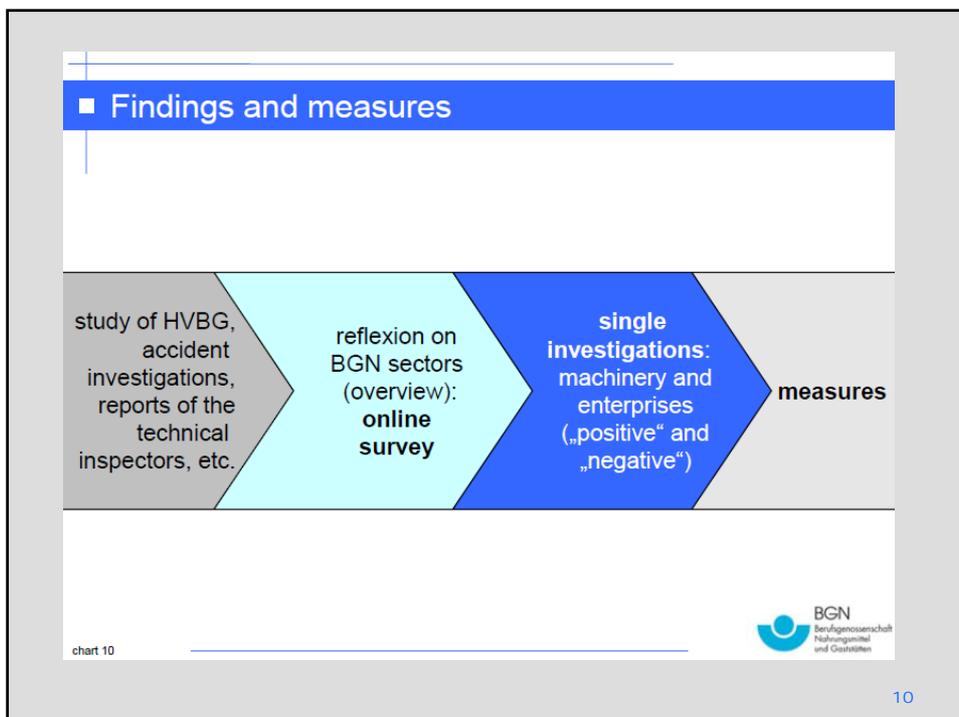
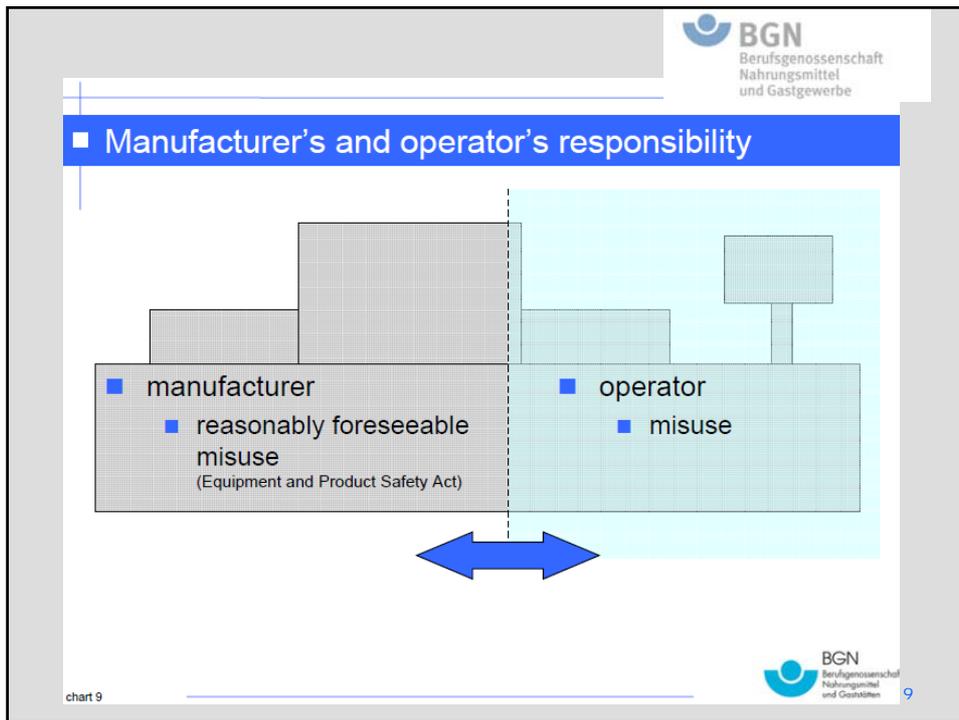
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Different national surveys

- BGN, Germany
- IFA, Germany
- Suva, Switzerland

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■ Online survey

- 518 persons invited for survey, safety specialists in the companies (BGN sectors)
- spring 2007
- **51,73 %** filled in the form (268 persons)

chart 11



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■ Extent of defeating in the sectors of the BGN

- Have you ever been aware that machine safeguards have been defeated in your company? [Selection]

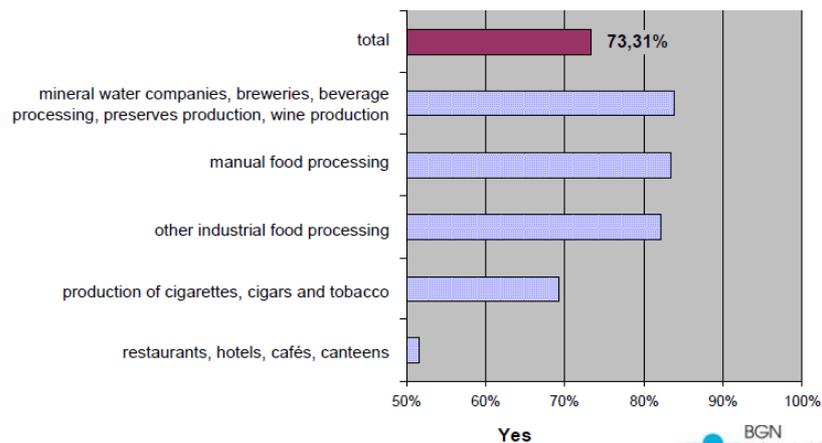


chart 12



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Design of the study

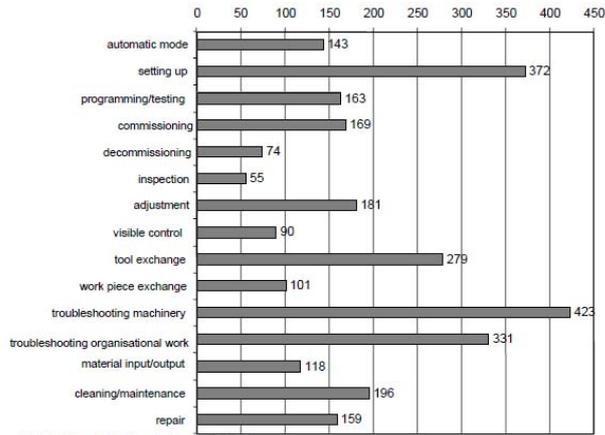
- General Questionnaire (940 forms)
 - Mainly applied by training centers
 - Acquired expert estimations
- Special Questionnaire (202 defeated machines)
 - Applied by the technical advisory staff
 - Detailed analyses (why? when? how? ...)
 - Questions on usability

Results

Estimations of OSH Experts (Inspectors and safety experts)	
Permanently defeated PE	14 %
Temporarily defeated PE	23 %
Machinery with potential accidents due to defeating	51 %
Accidents caused by defeating	25 %
Factories tolerating defeating	34 %

37 %

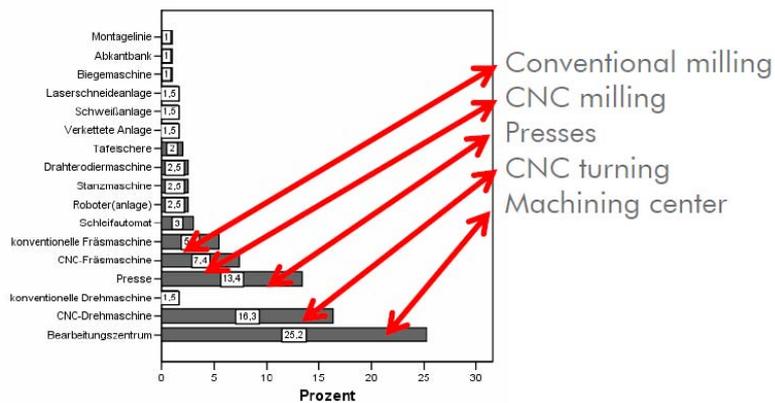
Modes of operation



Defeating_IVSS.ppt © 11_2008

Seite 11

What kinds of machinery have been defeated?

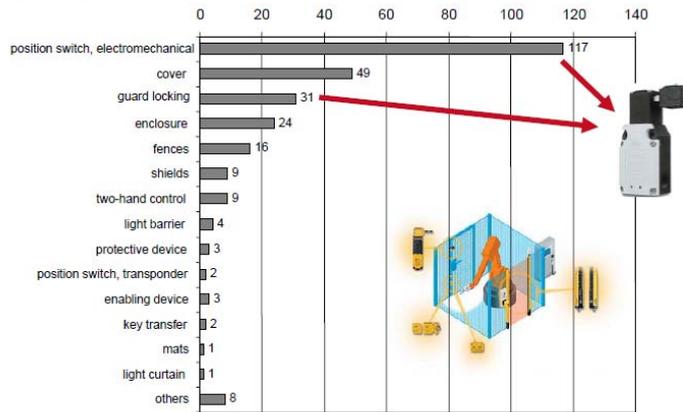


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Defeating of protective devices

Number of defeated protective equipment



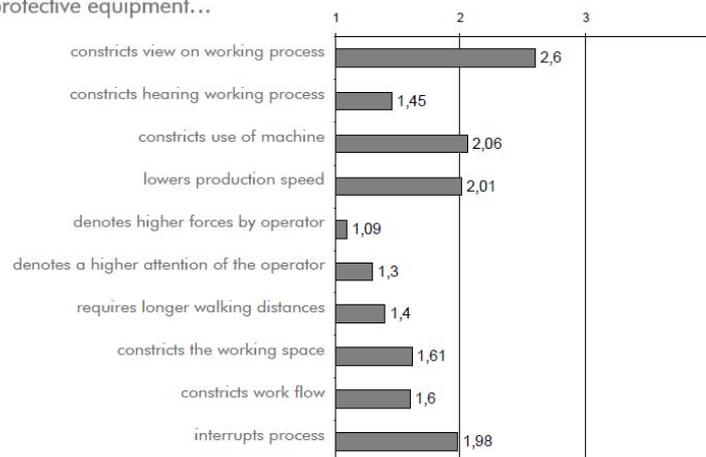
Defeating_IVSS.ppt © 11_2008

Seite 14

Defeating of protective devices

Reasons for defeating

The protective equipment...



Action recommendations

- Focus: construction of machinery
- Focus: technical innovations
- Focus: standardization
- Focus: factory
- Focus: education

STOP Defeating Protective Devices (P.D.s)



Campaign



- Start of the campaign in 2007
- Duration of the campaign 6 years
- Evaluation at the end with controls

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Expected benefit



- Reduction of accidents and costs
- Companies fulfill legal obligations
- Ethical responsibility is observed
- Legal disputes after an accident can be avoided

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Measurements before campaign



- In 50% of companies protective devices (P.D.s) of machines are being defeated
- 5% of workers work on machines with P.D.s defeated
 - Often tolerated by superior
- Defeating P.D.s is prohibited

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Aims of the campaign



- Make conscious:
management, superiors, employees know about the problem
- Act:
where necessary, the respective measures are taken
- Culture:
protective devices are not defeated!

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Strategy of campaign



1. Make sensible:
«defeating P.D.s» creates risks at work and is against the law
2. Inform:
Show possible solutions how to work efficiently with active P.D.s
3. Control:
fulfill legal mission (500 control visits every year with and without notification)
4. Execute:
Increased execution in cases of defeating P.D.s

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Measures to „Pull“



- Letter to the company ✓
- Articles in magazines of federations ✓
- Articles in national OHS institute and Suva magazines ✓
- Posters ✓
- Checklists ✓
- Internet Suva ✓
- Branch solutions with federations ✓



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Measures to „Push“



- More control visits over all branches ✓
- Consequent execution ✓
 - Admonish
 - Order with time-limit
 - Order to stop machine
 - Criminal charge against company



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Advertisement campaign



Manipulierte Schutzvorrichtungen fordern jedes Jahr viele Opfer. Die Verantwortung dafür trägt der Arbeitgeber.



In jedem zweiten Betrieb werden Schutzvorrichtungen an Maschinen und Anlagen manipuliert. Ob schmerzliche Verletzungen oder gar Todesfälle: Die Verantwortung liegt bei den Manipulierten. Denn wer die Schutzvorrichtungen umgeht, macht sich strafbar. Bleiben Sie die Maschinen deshalb so, wie sie gebaut wurden. Denn nicht plötzlich Sie gefahrlos sind. Für weitere Informationen: www.suva.ch/schutzeinrichtungen

Irgendwann ist man doch zu alt, um Maschinen zu frisieren. Dulden Sie keine manipulierten Schutzvorrichtungen in Ihrem Betrieb.



In jedem zweiten Betrieb werden Schutzvorrichtungen an Maschinen und Anlagen manipuliert. Ob schmerzliche Verletzungen oder gar Todesfälle: Die Verantwortung liegt bei den Manipulierten. Denn wer die Schutzvorrichtungen umgeht, macht sich strafbar. Bleiben Sie die Maschinen deshalb so, wie sie gebaut wurden. Denn nicht plötzlich Sie gefahrlos sind. Für weitere Informationen: www.suva.ch/schutzeinrichtungen

Wer als Arbeitgeber manipulierte Schutzvorrichtungen toleriert, macht sich strafbar.



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Approaches to solutions

1. Don't tolerate!



- Employees: change their thinking, acting
- Employers: observe responsibility
- Safety rules/lay down and communicate sanctions/control/consequent actions

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Approaches to solutions

2. Fulfill technical requirements



- Machines/plants are equipped user-friendly
- Processes don't motivate to defeat P.D.s
- Include operators
- Make manufacturers participate

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Approaches to solutions

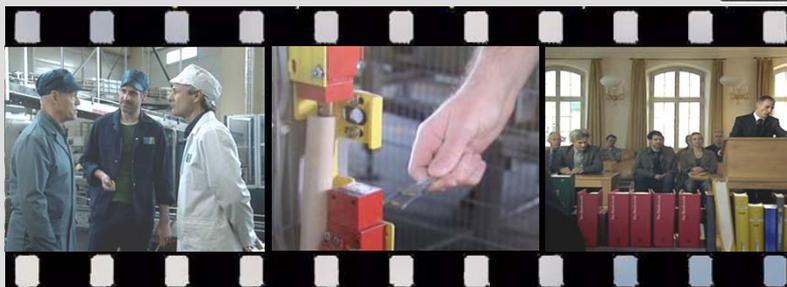
3. When buying new machinery



- Prepare detailed technical specification with all involved: What and how to work/procedure with machine?
- Confirmation by manufacturer that machine meets requirements of technical specification
- Control declaration of conformity by manufacturer
- Check evident defects of machine (=> «Suva checklist» before approval of machines)

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New Film



- „Black Friday“
- Film regarding the responsibility in the case of an accident at a «defeated machine»

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This was the main reason for the Bureau of our Section MSS

- to propose measures how to stop the defeating of protective devices => our website www.stop-defeating.org contains five important rules for manufacturers, for the traders/dealers/ purchasers, for the users.

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www.stop-defeating.org

Suchen ...



Prevent defeating of safeguards on machinery – Manipulation von Schutzeinrichtungen an Maschinen verhindern

Home For manufacturers For supplier For Users In practice Links About us Join in Contact Internal

Vicious circle

4 Kommentare

Defeating of safeguards on machines causes to serious accidents, high costs and restrict the availability of machines. Taking a look inside the enterprises shows: one-third of safeguards are defeated (from Report of defeating of protective devices of machinery- only available in german-). This results in thousands of accidents every year – also deadly accidents. The aim must be to prevent these accidents.



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Why is safety important?

Risk Assessment obligation for

- Designers – manufacturers
- Traders – dealers (when becoming manufacturer)
- Users

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Risk Assessment

- An important principle when dealing with risk: try to eliminate, at least reduce the risk by going to the source of the risk => safe design of machinery
- Take into account the intended use => communication between manufacturer and user is important
 - (1) to improve, allow efficient operating
 - (2) to avoid later costs

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Risk Assessment

- Legal obligation for manufacturers and users
 - Manufacturer: Art. 114 EU-Treaty, Machinery Directive Annex 1, EN ISO 12100 “Safety of machinery”
 - User: Art. 153 EU-Treaty, Directive 89/391/EEC Frame Directive on safety and health of workers at work, Art 9

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Machinery Directive, Annex 1

- Essential health and safety requirements relating to the design and construction of machinery
 - The requirements are mandatory. However, taking into account the state of the art, it may not be possible to meet the objectives set by them. In that event, the machinery must, as far as possible, be designed and constructed with the purpose of approaching these objectives (general principles, 3.).

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Machinery Directive, Annex 1

→ The manufacturer must ensure that a risk assessment is carried out in order to determine the health and safety requirements which apply to the machinery. The machinery must then be designed and constructed taking into account the results of the risk assessment (general principles, 1).

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Machinery Directive, Annex 1

By the iterative process of risk assessment and risk reduction referred to above, the manufacturer or his authorised representative shall:

- determine the limits of the machinery, which include the intended use and any reasonably foreseeable misuse thereof,
- identify the hazards that can be generated by the machinery and the associated hazardous situations,
- estimate the risks, taking into account the severity of the possible injury or damage to health and the probability of its occurrence,
- evaluate the risks, with a view to determining whether risk reduction is required, in accordance with the objective of this Directive,
- eliminate the hazards or reduce the risks associated with these hazards by application of protective measures, in the order of priority established in section (general principles, 1).

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Machinery Directive, Annex 1

The manufacturer must apply the following principles, in the order given:

- eliminate or reduce risks as far as possible (inherently safe machinery design and construction),
- take the necessary protection measures in relation to risks that cannot be eliminated,
- inform users of the residual risks due to any shortcomings of the protection measures adopted, indicate whether any particular training is required and specify any need to provide personal protection equipment.

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Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work – Art. 9 – Other duties of the employer

The employer shall:

- be in possession of an assessment of the risks to safety and health at work, including those facing groups of workers exposed to particular risks;
- decide on the protective measures to be taken and, if necessary, the protective equipment to be used;

(Art. 9 paragraph 1, a + b)

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Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work – Art. 9 – Other duties of the employer

Member States shall define, in the light of the nature of the activities and size of the undertakings, the obligations to be met by the different categories of undertakings in respect of the drawing-up of the documents provided for in paragraph 1 (a) and (b) and when preparing the documents provided for in paragraph 1 (c) and (d).



For more information:



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