

Focus on IFA's work

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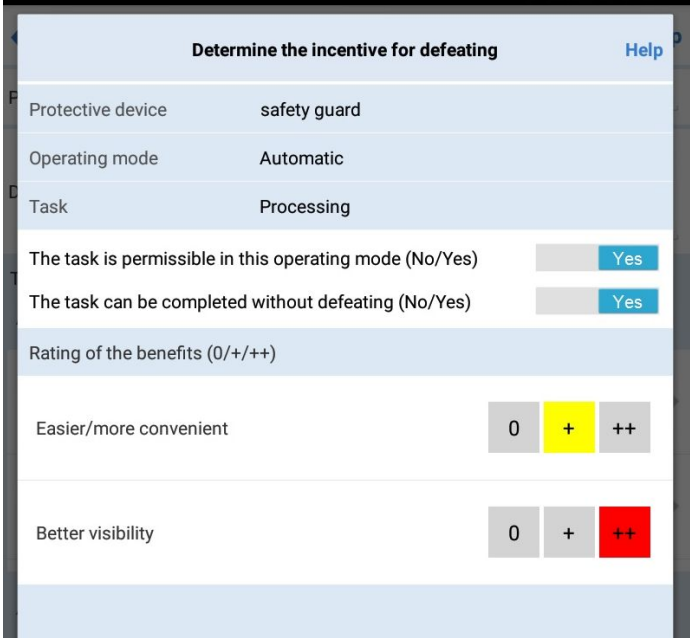
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A new app: evaluating the incentive to defeat protective devices on machinery

Problem

Around a third of all protective devices on stationary machinery are circumvented or otherwise disabled either temporarily or permanently. Thousands of accidents, many of them fatal, occur each year as a result. The defeating of protective devices can generally be attributed to the safety concept of the machine. When this concept does not adequately take the machine's usability into account, a protective device is quickly perceived as a hindrance. The pace of operation slows, resulting in turn in a reduction in the machine's productivity. In addition, many machines lack safe solutions for manual intervention, such as that required for setup of the machine or for the clearing of faults. These constraints constitute an incentive for persons working on such machines to defeat the protective device.

Companies manufacturing and operating machines have a duty to ensure that only safe machines are used and that no one is harmed by them. From this perspective, machines presenting a high incentive for defeating of protective devices cannot be considered safe, and must not be placed in service owing to their high potential for harm. Whether the protective device on a machine presents an incentive for defeating or not is therefore a pertinent question for both the company manufacturing the machine and the company operating it.



The screenshot shows a mobile application interface with the following elements:

- Title:** Determine the incentive for defeating (with a Help button)
- Fields:**
 - Protective device: safety guard
 - Operating mode: Automatic
 - Task: Processing
- Checkboxes:**
 - The task is permissible in this operating mode (No/Yes): Yes
 - The task can be completed without defeating (No/Yes): Yes
- Rating section:** Rating of the benefits (0/+ /++)
 - Easier/more convenient: 0, + (highlighted in yellow), ++
 - Better visibility: 0, +, ++ (highlighted in red)

User interface of the app

Activities

The IFA has developed an app that can be used to determine and rank the incentives for the defeating of protective devices on machinery. The result is intended to assist in identifying measures by which patterns of defeating and the resulting risk of accident can be reduced.

Use of the app requires consideration to be given to all intended modes of operation and protective devices.

For each protective device and each relevant task, the app determines the benefits for use of the machine that are gained from defeating of the protective device. Even the most minor benefit is an indicator that an incentive for defeating exists. Further ranking enables the nature of the benefit and the level of the incentive for defeating to be specified more closely. Of crucial importance is whether the task is even permissible in the selected operating mode and whether it can be performed without a protective device being defeated. If the answer to these questions is "no", the machine is not safe, irrespective of how the benefits are ranked.

If an incentive to defeat the protective device of a machine has been identified, measures are required in order for this incentive to be reduced. Further information can be found at: www.stop-defeating.org/.

The procedure is also used in the standard governing the design and selection of interlocking devices associated with guards (EN ISO 14119).

Results and use

The app is available free of charge, and runs on Android and iOS on tablet PCs and smartphones. A QR code linking to the App Store can be found at www.dguv.de/ifa, Webcode e20709.

Evaluation should be performed by persons who are familiar with operation of the machine. It can be performed at any time, for example during design of the machine, before it is delivered, or when it is already in service.

User group

Companies manufacturing or operating machinery (machine tools) and protective equipment; OSH professionals; labour inspectors.

Further information

- Incentive for defeating protective devices. Evaluation method implemented as an app for Android and iOS
www.dguv.de/ifa, Webcode e20709
- Manipulation von Schutzeinrichtungen an Maschinen. Report. Published by: Hauptverband der gewerblichen Berufsgenossenschaften (HVBG), Sankt Augustin 2006
www.dguv.de/ifa, Webcode d6303
- DGUV-Information FB HM-022: Manipulation von Schutzeinrichtungen. Verhindern, Erschweren, Erkennen. Published: 07/2016
www.dguv.de/ifa, Webcode d545286
- Prevent defeating of safeguards on machinery
<http://www.stop-defeating.org/>

Technical enquiries

IFA, Division 5: Accident Prevention – Product Safety

Literature enquiries

IFA, Central Division