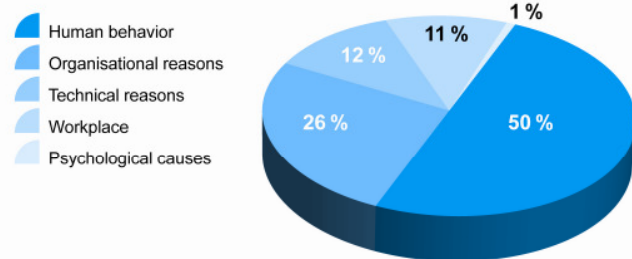


## Start-Alarms for the Safety of Man and Machine

### Pfannenberg makes the implementation of the new machine directive possible by means of SIL/PL conform optical and acoustic signals

**Hamburg, April 2010.** First priority in production is the safety of man and machine: approx. half of all fatal work-related accidents are due to incorrect behavior / lack of precaution at a machine. Taking less serious accidents into consideration as well, the percentage due to this reason increases. Along the path of danger to a safe machine, the need for warning devices is essential in order to protect people, as well as to prevent economic losses due to downtime and to reduce these to a minimum.



*Diagram from safety-network.de*

„A consistent safety concept throughout development, manufacturing and use of machines provides for minimized risk and simultaneously increases the availability as well as the cost-efficiency of the machine“, Volker Matthies, Product Manager Pfannenberg GmbH.

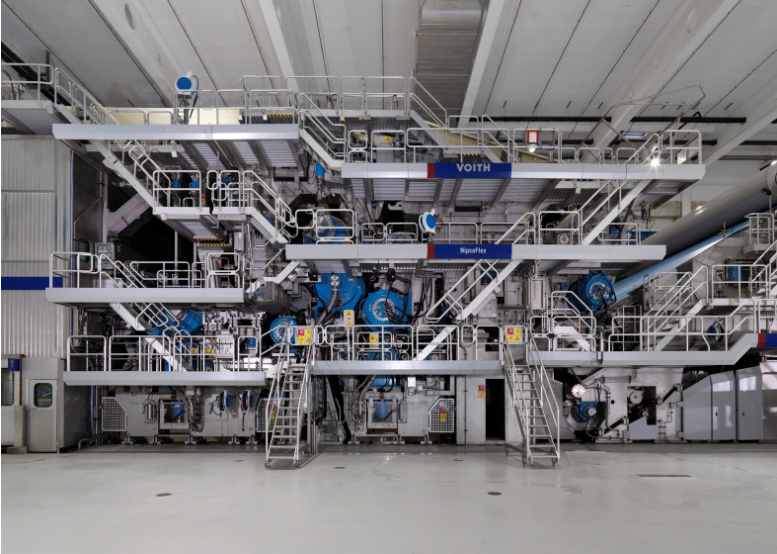
Work-related Accidents in Production

Therefore, the topics Safety Integrity Level (SIL) and Performance Level (PL) must be firm components when planning new machines in order to reduce the dangers which could be caused to a tolerable level.

The complete machine must undergo a risk assessment according to the new machine directive 2006/42EG, which became effective and is mandatory as of December 29, 2009. The correct use of the newest norms and directives therewith obtains a new central position during development. The construction of machines should therefore be strictly based on the European Engineering Standards for machines, the so-called “Type C-Norms”. These norms, i.e. EN 1010-1 (Print and paper converting machinery) and EN 1034-1 (paper manufacturing machinery) deal with dangers these types of machines pose. Furthermore, these norms also deal with dangers posed due to partial or complete malfunction of safety measures, i.e. warning devices. The correct function of warning devices on machines, which prevent incorrect behavior of machine operators, are absolutely necessary in order to reduce work-related accidents, and therewith, bodily injury, as well as economic losses.

Especially large machines, due to their length, are often hard to view as a whole. In many cases, two-way communication is also difficult. Machines with a length of just 7m are even frequently regarded as hard to view as a whole. In order to prevent accidents when starting the machine, i.e. start-alarms must be used, which give off a distinctly perceivable acoustic signal when the machine is started. In addition to an acoustic warning device and dependant on the on-site conditions, one or several optical warning devices may be necessary.

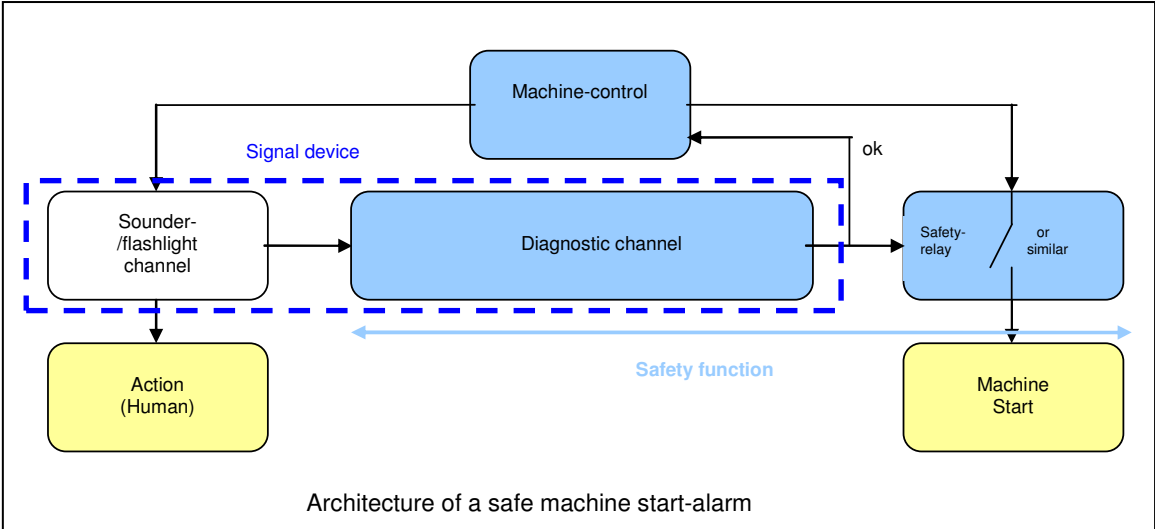
In the past, start-alarm devices had to conform to the Category 2 Norm of the EN 954-1. This norm loses its importance due to the new machinery directive (even though the European Commission lengthened the presumption of conformity for the EN 954-1 until December 31, 2011), but not its properties for safety. In the future, machines will be assessed according to DIN EN ISO 13849-1, which applies the Performance Level of the Safety Function.



Voith Paper is a leading partner and pioneer in the paper industry.

Start-alarm devices must, according to the norms in revision, conform to the Safety Integrity Level SIL 1 or the Performance Level PLc. Voith Paper, one of the largest suppliers of paper manufacturing machines, has already met these demands by implementing Pfannenbergs SIL/PL conform signal devices. In order to fulfill the previous Category 2 requirements, a complex monitoring circuit for the signal devices was necessary, which in turn involved significant additional cost.

The new acoustic and optical SIL/PL conform signal devices make further external monitoring circuits unnecessary, as these have an integrated operational and functional test. The safety-aimed signal devices of the Hamburger Company ensure a safe perception of the signals by the machine operators. Additionally, there are alarm instruments in the reliably proven enclosures available und these can be integrated quickly and easily into the Safety Instrumented System (SIS) of the machine. Pfannenbergs is the first supplier of acoustic and optical warning signals to ensure a conforming implementation of machine safety according to the valid norms and directives.



Companies have a high level of planning-security during machine construction with Pfannenbergs signal devices. “Companies, which use our signal devices, can be sure that their machines are safe and conform to all regulatory directives. We are already in a position to ensure full implementation of the new machinery directive”, says Matthies. Furthermore, cost reduction is possible as noticeably more expensive monitoring circuits are not necessary

for the SIL/PL conform signal devices and the availability of the machine is clearly higher. Additionally, the signal devices' self-diagnostic function allows for simplification of the mandatory, regular testing and it is cost-efficient. Last but not least, Pfannenberg's signal devices guarantee a high safety standard for personnel, who operate the machine. Through implementation, companies ensure correct legal security for the proof of risk reduction required by law.

### **About Pfannenberg**

Pfannenberg GmbH is a medium-sized company which provides innovative and high-quality electro technology to the industry. Based in Hamburg and with further locations in England, France, Italy, the US, Singapore, China and Russia, the company has now become a global player in this industrial sector. The product portfolio includes components and system solutions for electrical enclosures, acoustic and visual signaling technology, as well as other, client-specific solutions. A particular highlight in Pfannenberg's portfolio is the designed illuminations, which are commissioned by architects, designers, and urban and spatial planners ([www.art-illumination.com](http://www.art-illumination.com)).

For more detailed information about Pfannenberg GmbH please see <http://www.pfannenberg.com>

### **Press Contact:**

Ziegfeld Enterprise GmbH  
Christina Krause  
Tel.: 040 – 38 68 74 – 65  
Fax: 040 – 38 68 74 – 74

[christina.krause@ziegfeld-enterprise.de](mailto:christina.krause@ziegfeld-enterprise.de)

Claudia Heidenreich  
Tel.: 040 – 38 68 74 – 66  
Fax: 040 – 38 68 74 – 74

[claudia.heidenreich@ziegfeld-enterprise.de](mailto:claudia.heidenreich@ziegfeld-enterprise.de)