

Working for a safe world



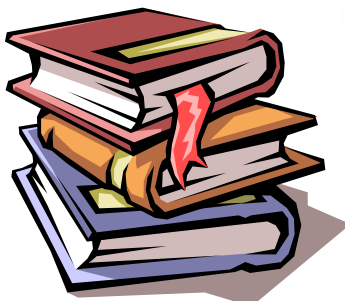
JAPAN

AMERICA

EUROPE

ASIA & OCEANIA

International Standards



- ▶ **International Standards:**
 - ▶ IEC 61508, IEC 60204
- ▶ **US Standards:**
 - ▶ UL
 - ▶ CSA
- ▶ **European Standards**
 - ▶ CE
 - ▶ EN 954-1
- ▶ **Russian Standards**
 - ▶ GOST
- ▶ **Asian Standards**
 - ▶ CCC

Approvals



- ▶ **All Pilz products fulfill all international standards**
- ▶ **All Pilz products are approved by international accepted third party organizations**
- ▶ **All products are produced with highest Quality (ISO 9001)**

European Standards



A

all Machines

- ▶ EN 292 Safety of Machinery
- ▶ IEC 61508 Global Standard

B

controls

- ▶ EN 954 Safety Control
- ▶ EN 13849-1 Safety Control

C

specific Machines

- ▶ **EN 12417 Machine Centers**
- ▶ **EN 12415 Rotating Machines**

EN 12417
EN 12415

Machine centers **Rotating machines**



- ▶ Due to end users / operators demand

- ▶ machine access requires safe monitoring of:
 - ▶ E-Stop
 - ▶ Operating mode Switch
 - ▶ Reduced Speed
 - ▶ Enable Switch

Upcoming Standards

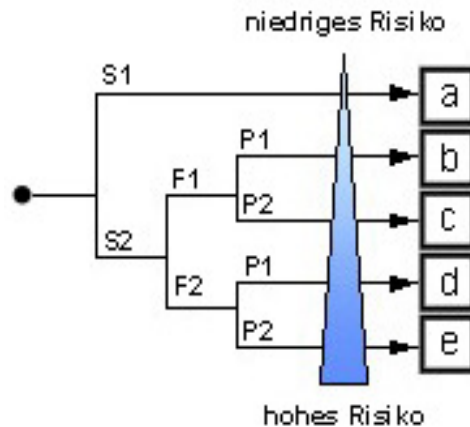


Verein Deutscher Werkzeugmaschinenfabriken



- ▶ Enhancement of the EN 12417
- ▶ Access to the tooling, open safety gate, no enable switch:
 - ▶ Trained Person
 - ▶ Reduced Speed
 - ▶ E-Stop
 - ▶ ...
- ▶ Option paid by the customer

European standards



▶ Main standard

**EN 954-1 = EN ISO 13849-1
will be revised.**

▶ harmonized by 2005

NORME INTERNATIONALE
INTERNATIONAL STANDARD
CIEI
IEC
61508-1
Première édition
1998-11-01

Publication internationale de sécurité
SAFETY PUBLICATION

Sécurité fonctionnelle des systèmes électroniques/
electronic safety-related systems programmable
relatifs à la sécurité --

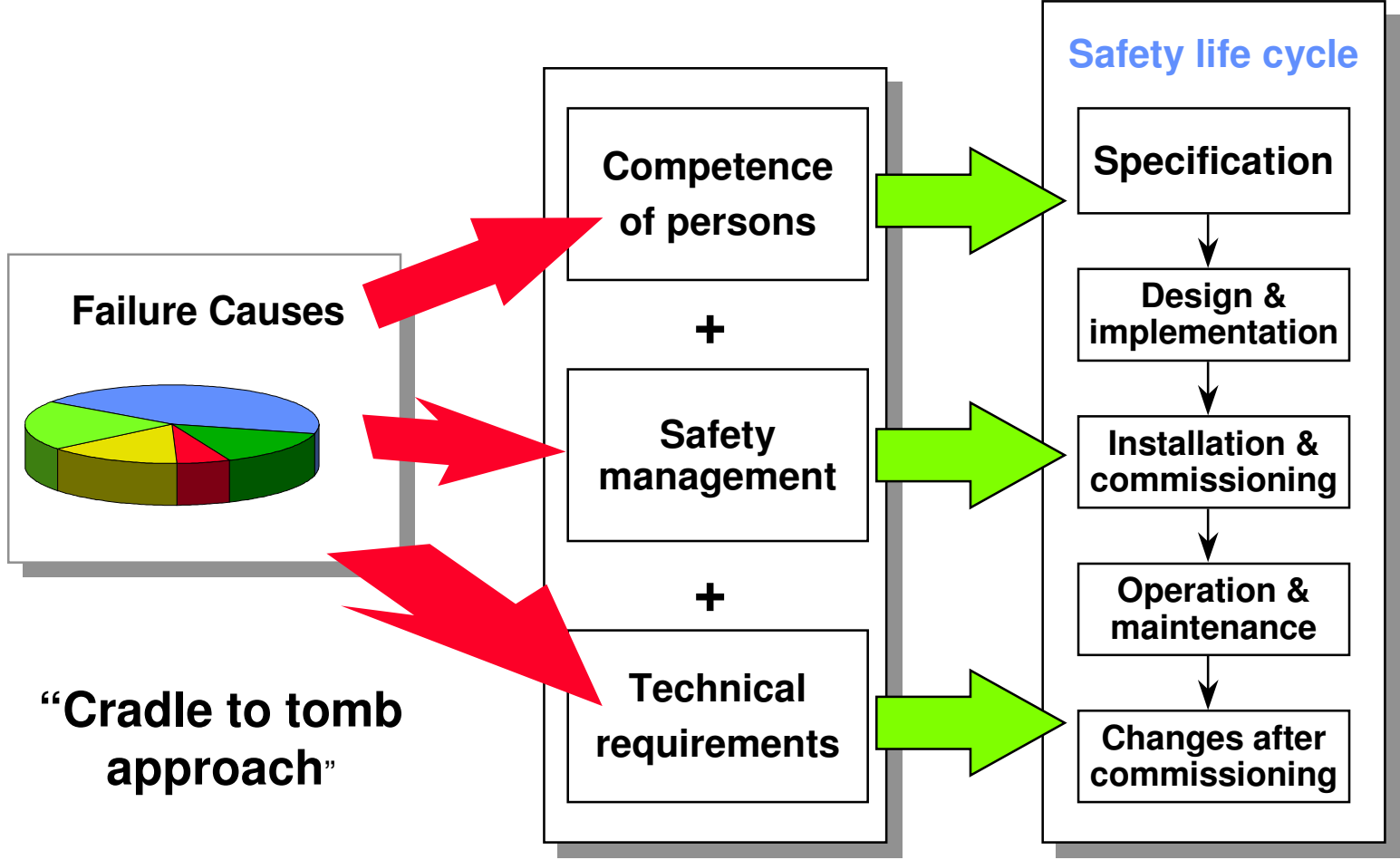
Partie 1:
Prescriptions générales --

Functional safety of electrical/electronic/
programmable electronic safety-related systems --

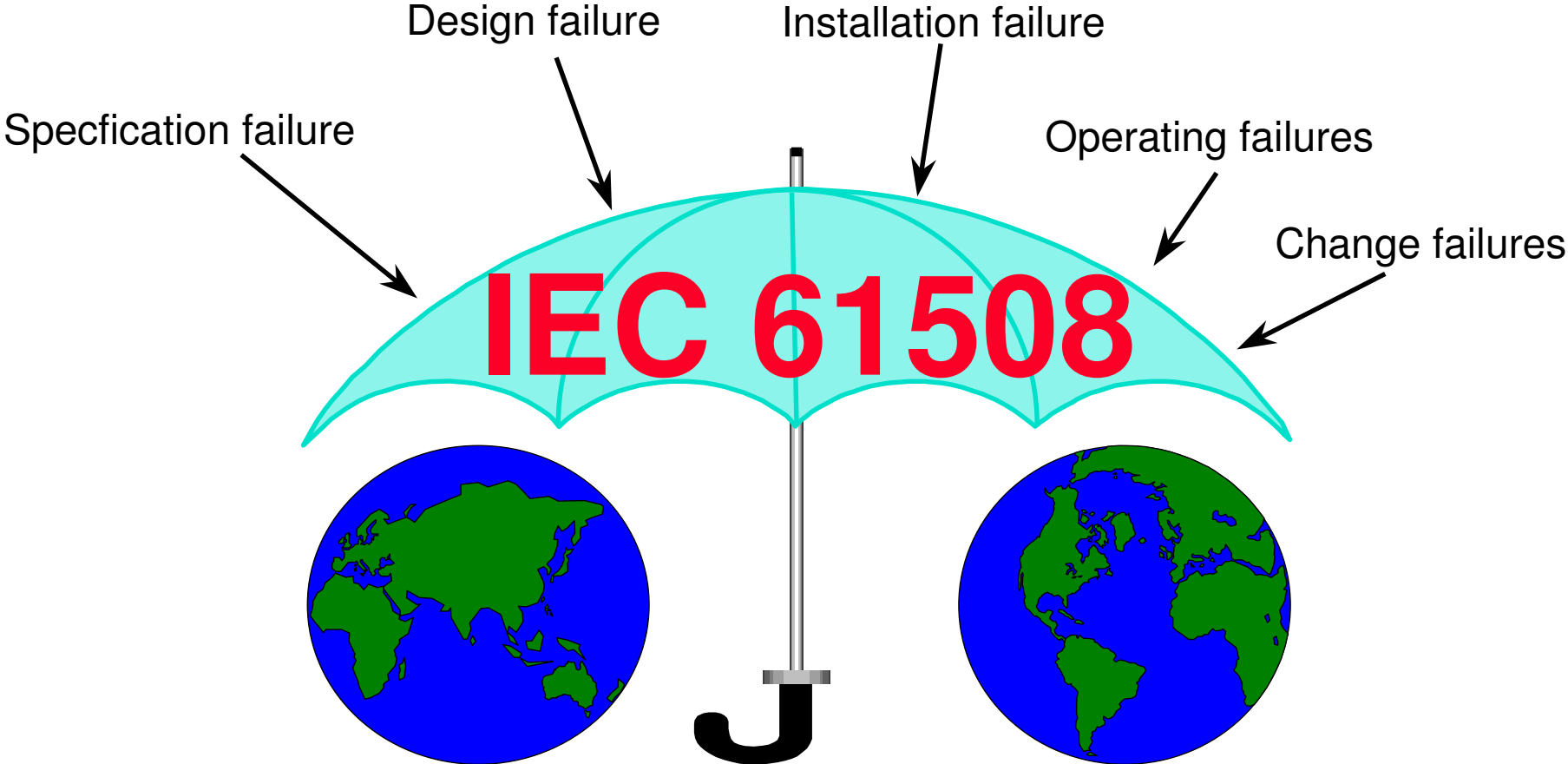
Part 1:
General requirements

▶ IEC 61508 is well respected e.g. in the processing industry and will generally be increasingly respected in different countries like Europe, US and others.

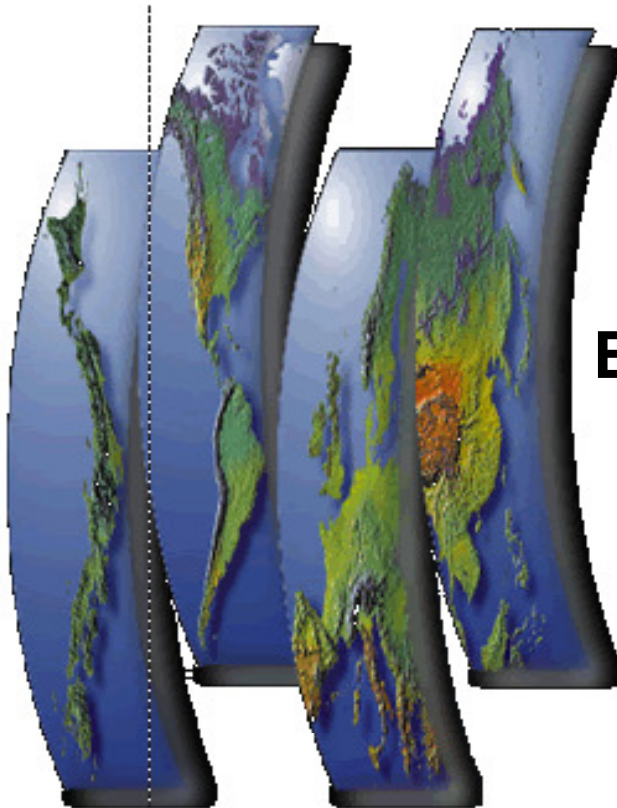
World standard: IEC 61508



World Safety Umbrella?



Standards



US Standards
European Standards
Asian Standards

- ▶ Pilz products help you to fulfill **all** standards on **all** markets

- ▶ Pilz products help you to fulfill all **future** standards on all **future** markets

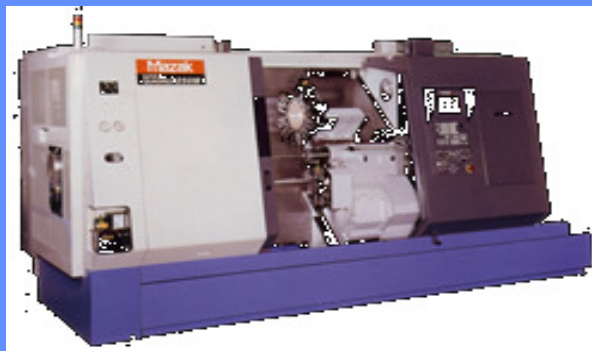
Open safety solution



Control



Safety



- ▶ Pilz safety solution is independent from:
 - ▶ Controller manufacturer
 - ▶ Drive manufacturer
- ▶ Customers / market choice
- ▶ Open safety solution

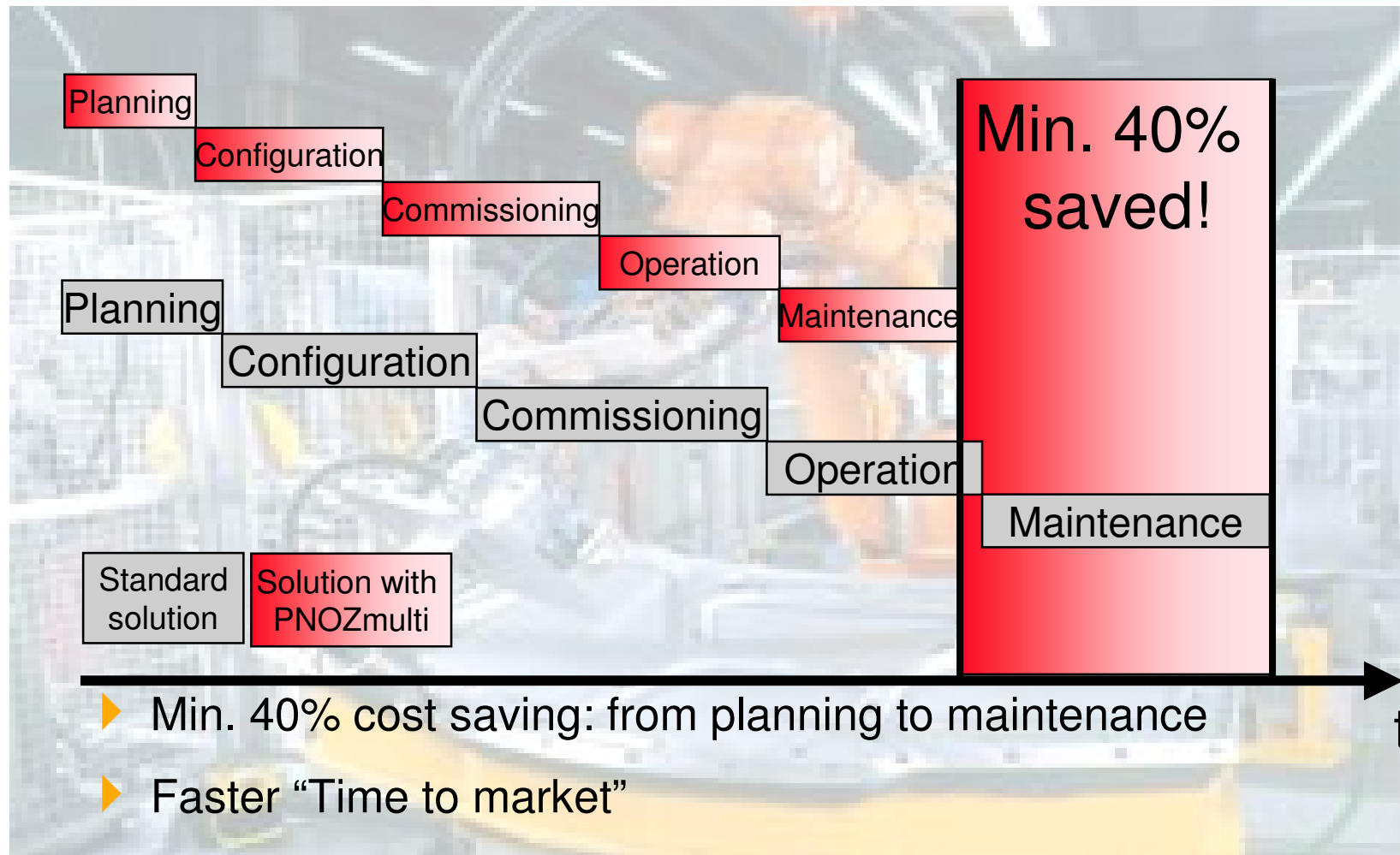
Modular, scalable safety

pilz
more than automation



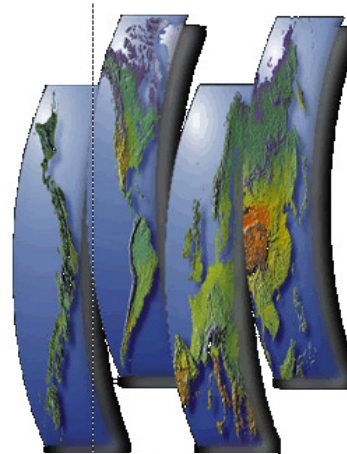
- ▶ Scalable safety
- ▶ You pay for what you need
- ▶ Standardized safety
- ▶ Save money in design, training, storing...

PNOZmulti – cost savings in all engineering phases



- ▶ Min. 40% cost saving: from planning to maintenance
- ▶ Faster “Time to market”

Summary



US Standards:
European Standards:
Asian Standards:

- ▶ Open
 - ▶ Drives
 - ▶ Controls
- ▶ Standards
 - ▶ Current
 - ▶ Future
- ▶ Markets
- ▶ Modular
- ▶ Save money
- ▶ Future build in

Working for a safe world

