



How does
A SAFETY STANDARD
change
THE SAFETY WORK
?



Who I am

Experience from

Swedish Defence
Railway Signalling (RAM)
Vehicle OEM (safety)

No standards
EN 50126 introduced
262626 introduced and revised



This Presentation

About safety

About standards

WHAT HAPPENS WHEN INTRODUCING
(INTERNATIONAL) STANDARD FIRST TIME



What is Safety

SAFETY: Freedom from unacceptable risk of harm

RISK: The probable rate of occurrence of a hazard causing harm and the degree of severity of the harm.



Accepted by Society

Impact Acceptable

Reason for Accident Acceptable

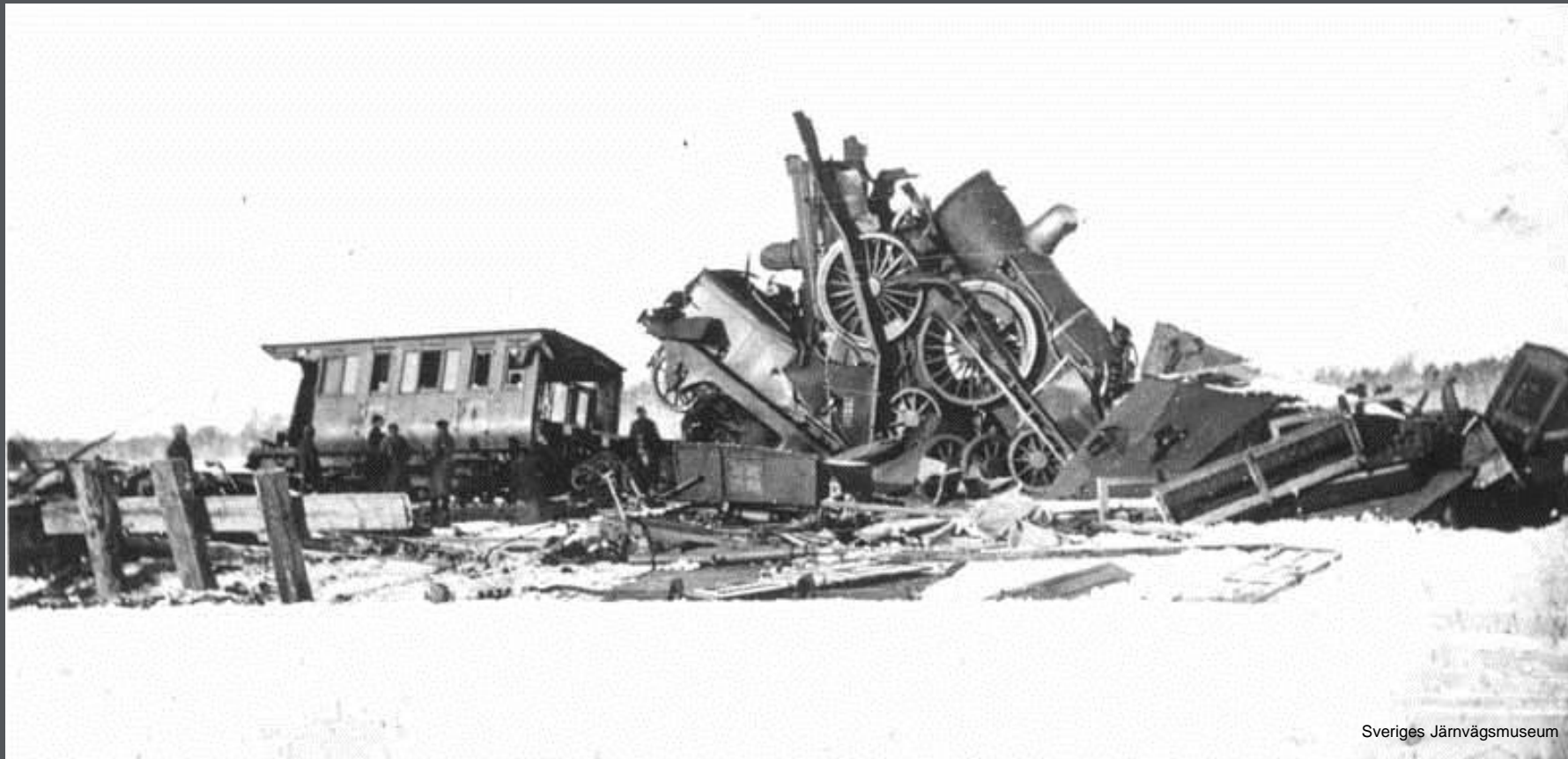


How to find the risks





Accidents/Incidents



Sveriges Järnvägsmuseum



New technology





What Comes First?





What is a standard?

- A common language



International
Organization for
Standardization



Standard - Levels

- Company Regulation
- National Standard
- European Standard
- International Standard





When Does the Need Arise

- More complex technology
- More automation
- Less acceptance of accidents
- More International Companies
- More supplier/customer, less inhouse development
- Type approval



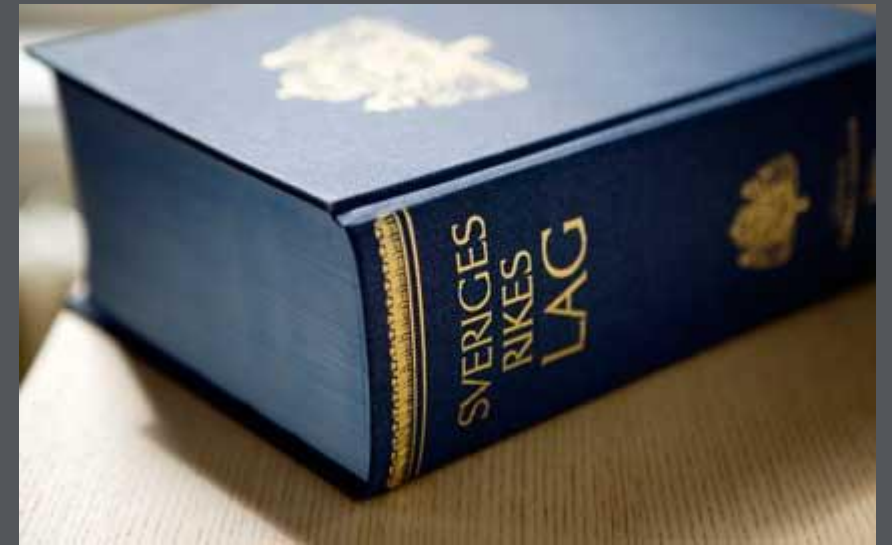
Technology

International Standard

• Nuclear power	2 nd World War	At beginning
• Air Plane	early 1900	1945
• Space	1960	At beginning
• Railways	1827	1880
• Road Vehicles	1890	1920?
• Electronics	1970	1995 (IEC 1508)



Standards and the law





**Now about when an
international standard is
introduced the first time**



Focus Functional Safety

New technology applicable several areas

Not easy to inspect/calculate



Branches

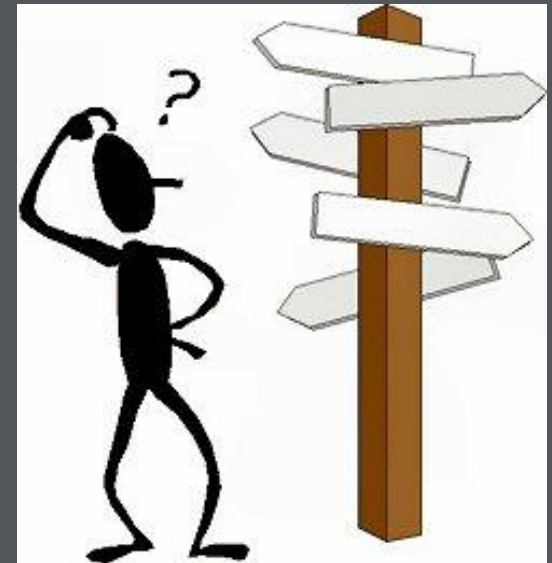
	Technology	Electronics
• Nuclear power	1945	1960
• Air plane	1900	1970
• Space	1960	from beginning
• Railways	1827	1970
• Road Vehicles	1900	1980
• Electronics(Functional Safety)		1980



A new Standard is published

This is something we never have done

Whatever should we do





Why do it?

Compare ISO9000

Legalization may require the standard

Supplier quotes the standard

Customer require me to deliver according to the standard



What to do?

Realize that you did it before

If you were accident free before what did you do





What changes?

- More documentation
- More independence
- Clearer distinction between Processes/Technology
- New Organization



Best case

Methods easier to understand and use

Better understanding what it is about

Common Language





Worst case

Attention removed from product

No Muscles

Less involvement

To Expensive





Safety Culture

Does standard help?

Focus on enumerated things

Part of company culture

Management responsibility



