



PAUL WURTH

SMS group

Product Compliance / CE Conformity Assessment

Peter Mann

Head of Product Compliance





The Paul Wurth Group is one of the world leaders in the design and supply of the full-range of technological solutions for the **primary stage of integrated steelmaking.**





Paul Wurth Products & Services



**Blast
Furnace
Plants &
Technology**



**Cokemaking
Plants &
Technology**



**Agglomeration
Plants &
Technology**



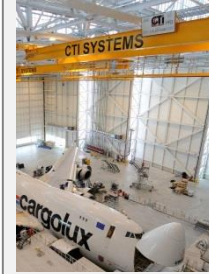
**Direct
Reduction
Plants**



**Environ-
mental
Protection &
Recycling
Technologies**



**Special
solutions for
Oil & Gas
downstream
processes**



**Intralogistics
Solutions for
Heavy Loads**



**Civil
Construction &
Infrastructure
Projects**

Our services

Feasibility
studies

Conceptual,
basic & detail
engineering

Project
management

Plant &
components
supply

Fabrication of
key compon-
ents in
dedicated
workshops

Turnkey
projects

Assistance
in plant
assembly &
commission-
ing

Technology &
operation
consultancy

After-sales
services



Paul Wurth history

Organic growth	1870	Eugène Muller builds a boilermaking facility in Luxembourg Hollerich, known as "Kesselfabrek".
	1890	Business is taken over by Paul Wurth. The firm specialises in metal erection works , especially the construction of metal bridges and blast furnace shells.
	1951	Paul Wurth acquires from a British firm the licenses needed to supply complete blast furnaces with all the accessories.
	1954	Construction of a first blast furnace at Seraing in Belgium.
	1969	Invention of the Bell Less Top ® charging system, which revolutionizes iron & steel industry the world over.
	1977	First subsidiary (Brazil) – development of sales & engineering network.
External growth (2000– 2014)	2003	Creation of TMT Tapping – Measuring – Technology .
	2004	Fabrication activities transferred to Arcelor Dommeldange. Paul Wurth becomes a pure engineering company .
	2004	Integration of Didier - M&P Energietechnik specialised in hot blast stove technology and refractory & lining concepts (Paul Wurth Refractory & Engineering GmbH)
	2005	Take-over of the blast furnace, coke making and direct reduction activities as well as the staff from SMS Demag S.p.A. and creation of Paul Wurth Italia S.p.A.
	2009	50.4% shareholding in CTI Systems , specialised in automated intralogistics systems. In 2011, stake increased to 75.2%. In 2013, stake brought to 100%.
	2012	Creation of Paul Wurth IHI Corp., Ltd in Japan.
	2012	Paul Wurth becomes part of the SMS group .
	2014	Construction license for Midrex ® direct reduction plants





Global Player

- About **1 700** qualified staff
- **26 Group members** in 15 countries, incl. 19 operational entities
- Joint ventures: TMT, Paul Wurth IHI, VCL, P&A Industrial Engineering, Paul Wurth Kovrov, Amova
- Other countries covered by Representations





Technology portfolio

- 186** patented inventions
protected by 1418 active patents
- 16 license agreements
more than 50 active cooperations

Certifications

- ISO 9001 Quality Management System
- VCA/SCC** Safety Management System
- EN 1090-1 Factory Production Control

(Certifications may vary from one entity to another)





Execution of Product Compliance / CE Conformity Assessment

CE





Step 1: Definition of information/requirements

- **Country of use**
- **Kind of project (new installation, revamping)**
- **Kind of equipment (partly completed or completed machinery, pressure equipment, steel structure, major project)**
- **Kind of manual to be submitted (instruction manual, incorporation manual)**
- **Expected date of delivery or commissioning**





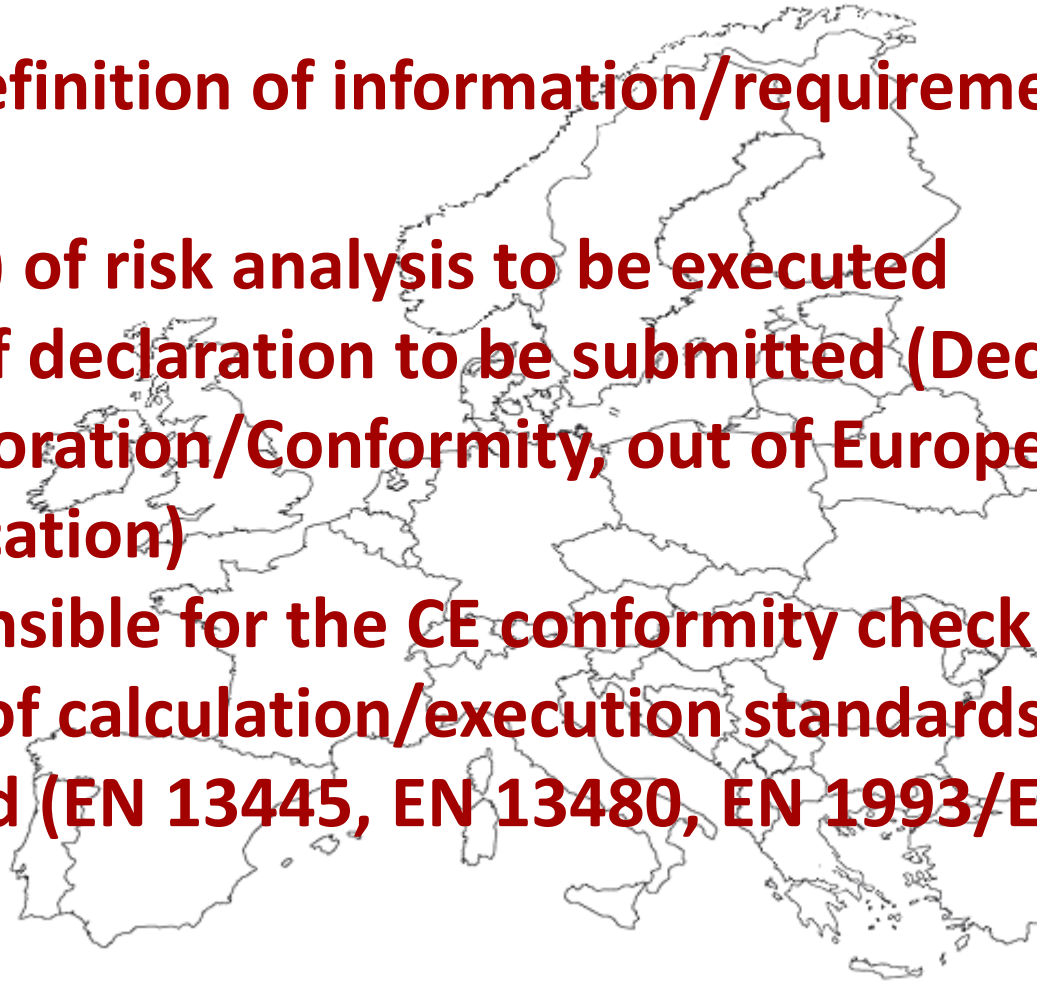
Step 1: Definition of information/requirements

- **Directives to be applied:**
 - **Machinery Directive 2006/42/CE**
 - **Pressure Equipment Directive 2014/68/EU**
 - **Electromagnetic Compatibility Directive 2014/30/EU**
 - **Low Voltage Directive 2014/35/EU**
 - **Construction Products Regulation 305/2011**
 - **(ATEX Directive 1999/92/CE)**



Step 1: Definition of information/requirements

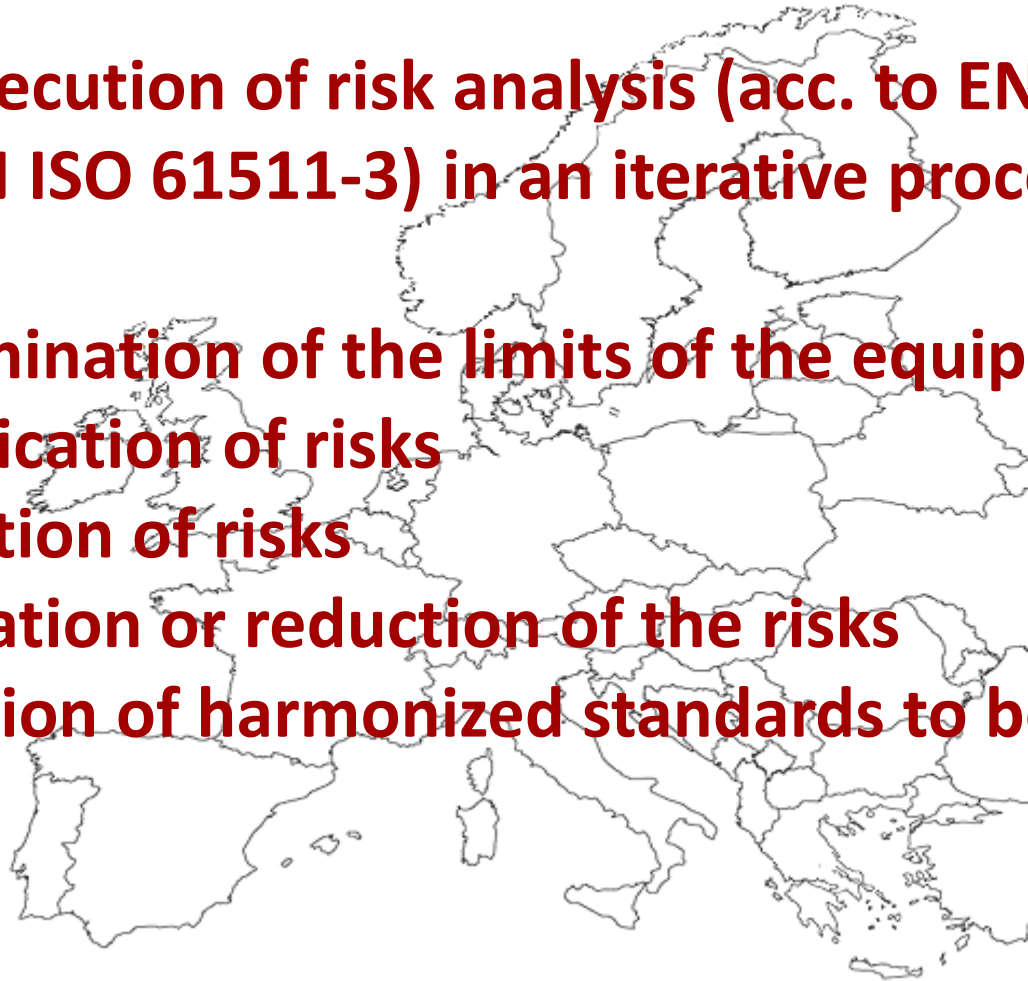
- Kind(s) of risk analysis to be executed
- Kind of declaration to be submitted (Declaration of Incorporation/Conformity, out of Europe certification)
- Responsible for the CE conformity check on site
- Kinds of calculation/execution standards to be applied (EN 13445, EN 13480, EN 1993/EN 1090)





Step 2: Execution of risk analysis (acc. to EN ISO 12100 and/or EN ISO 61511-3) in an iterative process

- **Determination of the limits of the equipment**
- **Identification of risks**
- **Evaluation of risks**
- **Elimination or reduction of the risks**
- **Definition of harmonized standards to be applied**





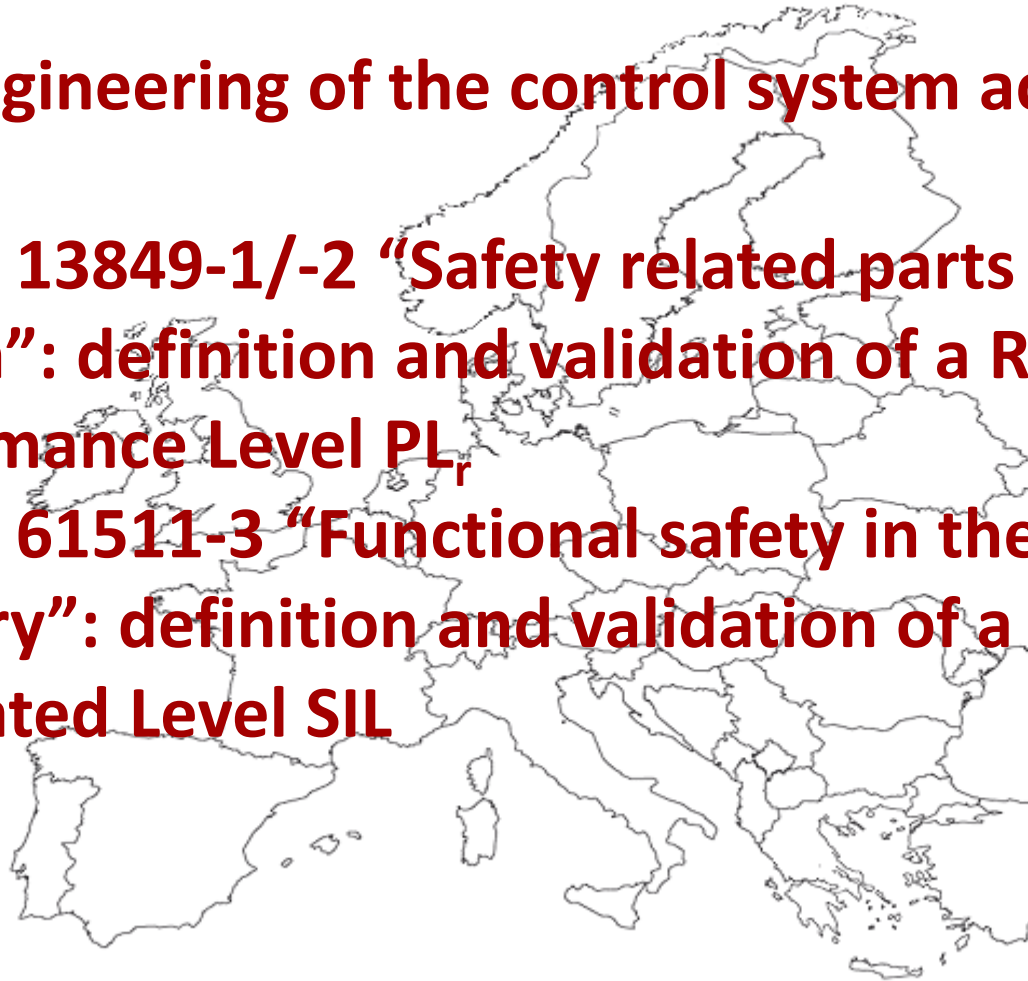
Step 3: Engineering acc. to the results of the risk analysis – definition of the safety measures e.g.

- **EN 1993/1090 “Steel structures”**
- **EN 13445 “Pressure vessels”**
- **EN ISO 14122-x “Permanent means of access to machinery” for walkways, stairs etc.**
- **EN ISO 14120 “Guards” for fencing etc.**
- **EN ISO 4413 “Hydraulic fluid power”**
- **EN ISO 13850 “Emergency stop”**
- **EN 60204 “Electrical equipment of machines”**



Step 3: Engineering of the control system acc. to

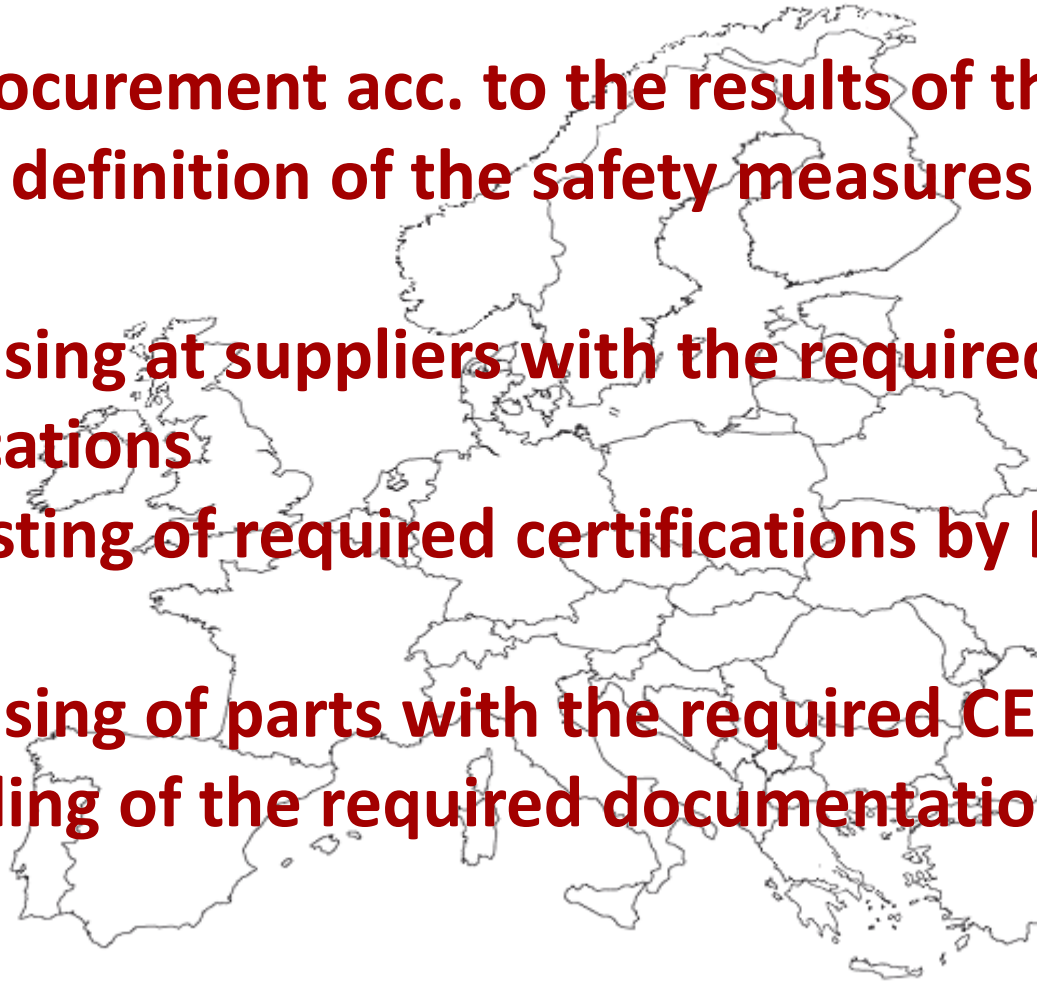
- **EN ISO 13849-1/-2 “Safety related parts of control system”**: definition and validation of a Required Performance Level PL_r
- **EN ISO 61511-3 “Functional safety in the process industry”**: definition and validation of a Safety Integrated Level SIL





Step 3: Procurement acc. to the results of the risk analysis – definition of the safety measures e.g.

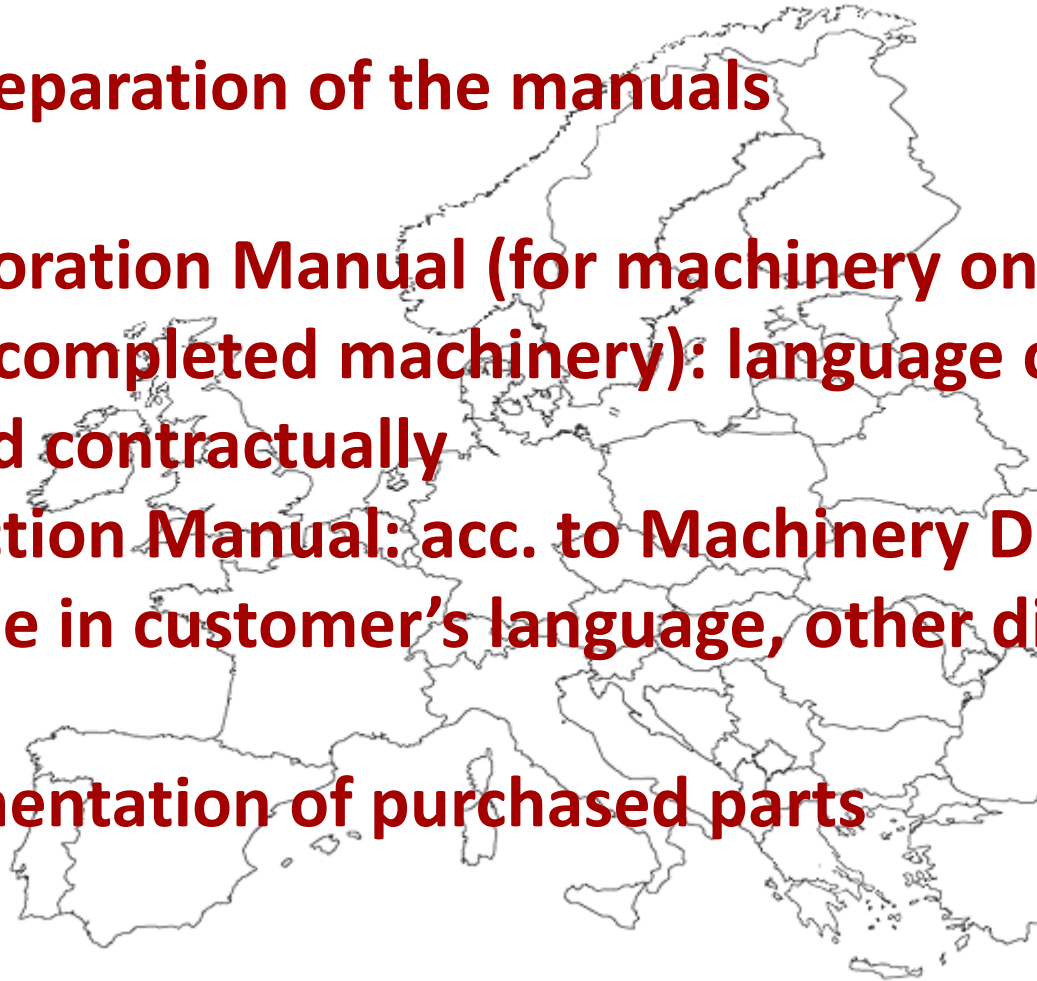
- **Purchasing at suppliers with the required certifications**
- **Requesting of required certifications by Notified Bodies**
- **Purchasing of parts with the required CE certificates**
- **Compiling of the required documentation**





Step 4: Preparation of the manuals

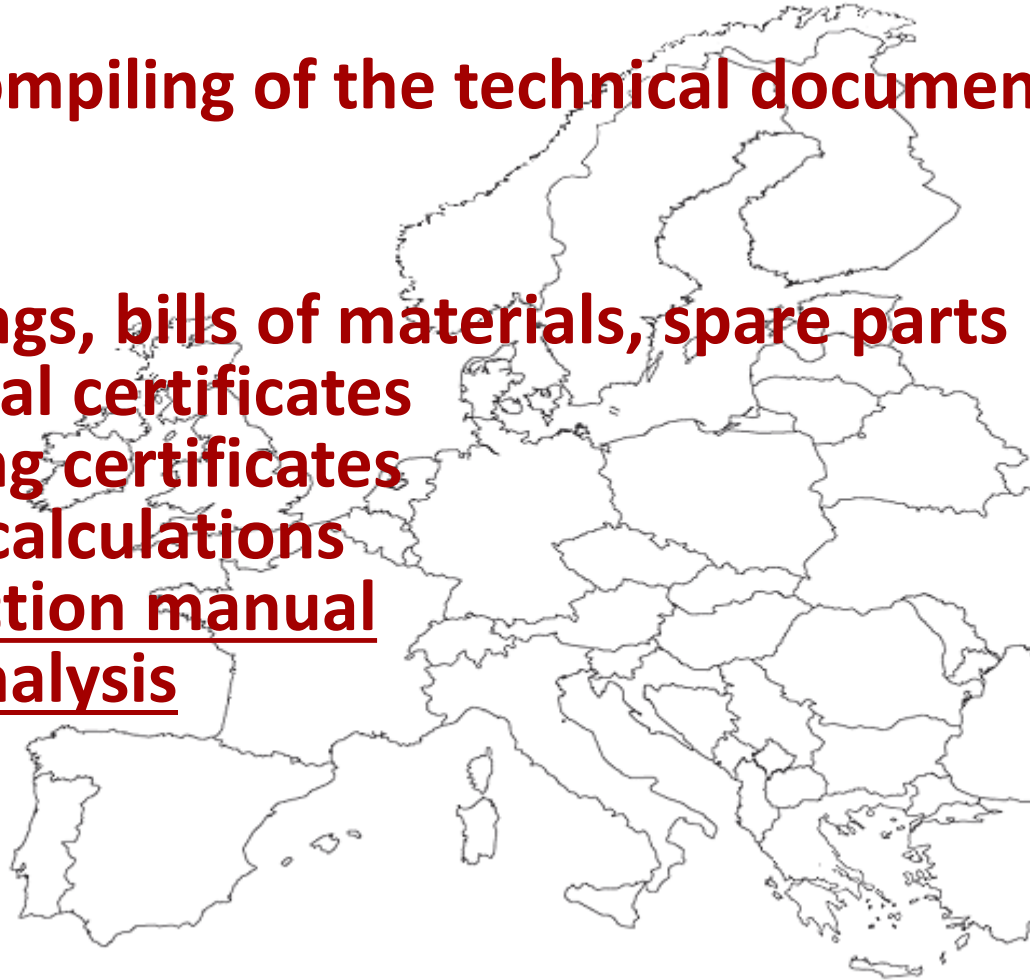
- **Incorporation Manual (for machinery only in case of partly completed machinery): language can be defined contractually**
- **Instruction Manual: acc. to Machinery Directive must be in customer's language, other directives vary**
- **Documentation of purchased parts**





Step 5: Compiling of the technical documentation

- **Layout**
- **Drawings, bills of materials, spare parts**
- **Material certificates**
- **Welding certificates**
- **Static calculations**
- **Instruction manual**
- **Risk analysis**
- **....**





Step 6: Acceptance by customer and/or authorities

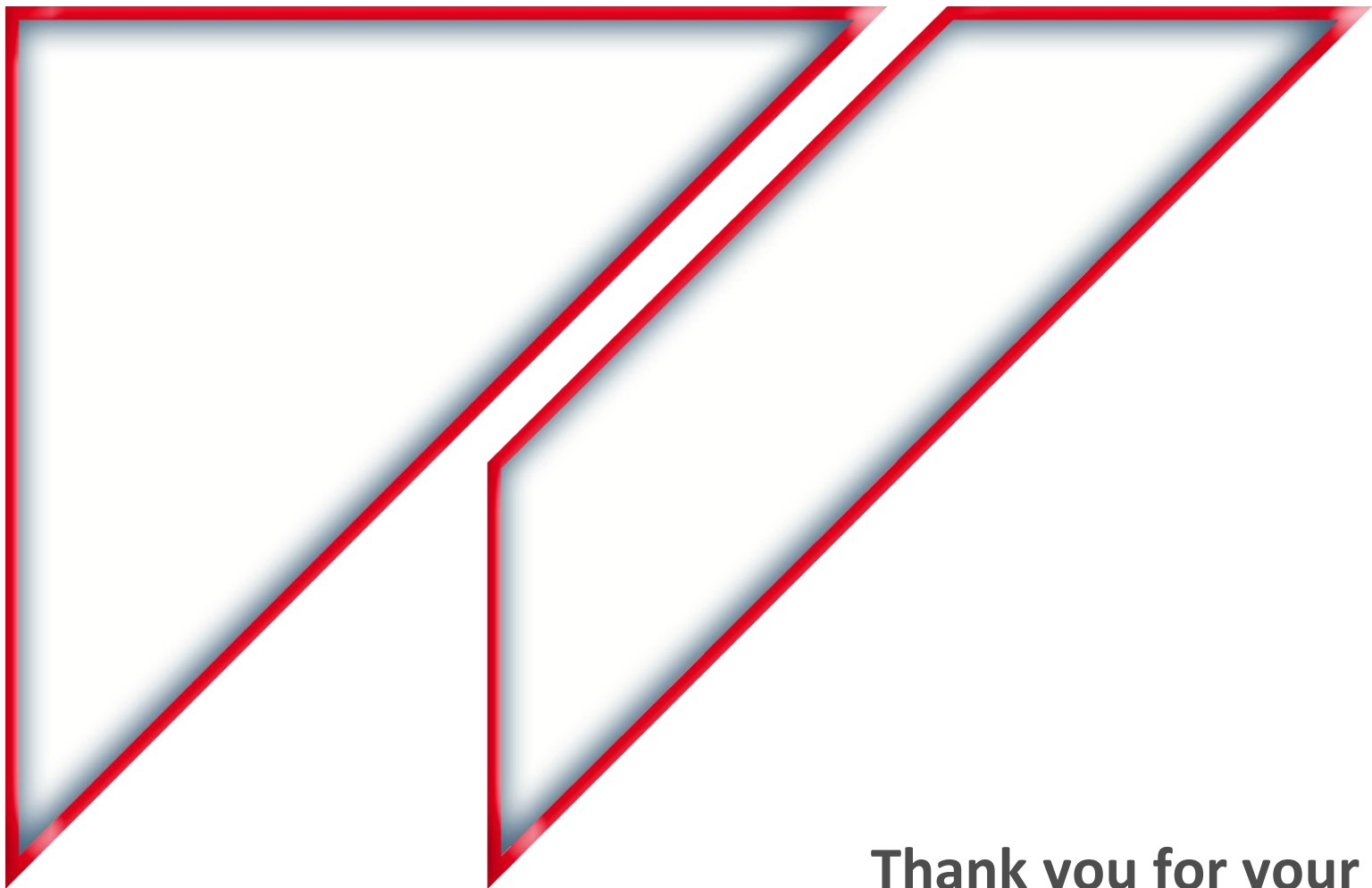
- Is the machine/installation working safely?
- Are there still any risks that can be avoided (e.g. installation of a protective grid)?
- Are all safety references (e.g. signposting) installed?
- Are there any risks “forgotten” to be mentioned in the instructions?
- (Documentation of safety devices by photos/videos)





Any questions?





Thank you for your attention

