European Trade Union Confederation Confédération européenne des syndicats

EFTA

Maskinstandarder: Standardisering og innvirkning på arbeidstakernes sikkerhet

Machinery standards: Standardisation and the impact on the safety of



workers

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The ETUC STAND project

Objective: strengthen trade union intervention to represent social interests in the standardisation process at European level

- Co-ordinate standardisation activities in ETUC
- Competence centre for standardisation / Support and training for trade unionists in standardisation
- Influence standard setting by participating at Political level and Technical level (CEN, ISO, IEC)
- Helping trade unions to participate in standard setting activities, especially through the national level











Working with machines... can be dangerous

- Many workers across several sectors, such as industrial production, agriculture and construction work, work with machines
- Number of workers in Europe being injured by machines increased (2014: 75.000 > 2019: 80.000)
- More than one-quarter (25.7 %) of fatal accidents at work in the EU resulted from losing control of a machine, tool or transport/handling equipment
- 3 in 10 (31.2 %) non-fatal accidents at work in the EU took place on industrial sites
- ETUC followed the reform of the Machinery Directive to a Regulation and now follows the implementation process

From Directive to Regulation



- Machinery Directive and soon Machinery Regulation (EU) lay down health and safety requirements for the design and construction of machinery in European market
- Regulation covers consumer and industrial machinery, ranging from heavy-duty construction machines over entire industrial production lines to robots
- Gives new safety requirements for autonomous machines, human-machine collaboration and Artificial Intelligence systems in machinery (first time)
- Machinery Regulation defines a list of 6 machinery categories which have to go through mandatory conformity assessment because they are considered high-risk (Annex I, Part A)



Implementing the Machinery Regulation through standards

- Directive/Regulation is underpinned by about harmonised standards = Standards concretise the EHSRs and 'translate' them into requirements that the manufacturer will follow when constructing machinery
- Machinery which is in conformity with these harmonised standards are presumed to be in conformity (of the EHSRs) of the regulation
- Manufacturers will apply the regulation by implementing the harmonised standards
 - For high-risk machinery, the Notified Body will check whether the machinery is in conformity with the (part of) harmonised standard
 - For other machinery, the manufacturer is presumed to be in conformity with the EHSRs when he implements the standard.

Standards are key for the good implementation of health & safety when working with machinery



3...2...1 Go!

 EC requests the European Standardisation Organisations to prepare standards which underpin the regulation (=Standardisation Request)

We need new standards to address

- Machines using software or data are protected against corruption
- Machines using AI safety functions
- autonomous mobile machinery
- ergonomics of human-system interaction, including aspects of psychological stress, cognitive workload, interface and communication



Challenges

- Time
 - Machines need to be ready in 2027
- Conformity assessment of so-called high-risk machinery
 - Notified Bodies needs the standards to check whether machines are safe
 - Need for new assessment procedures for new requirements for cybersecurity and AI
- 50% of machinery standards are ISO standards
 - Repercussion of the Malamud Case: since September 2024, only home-grown EN standards are being put forward again.
 - EN ISO/IEC standards under Vienna Agreement are not put forward as candidate harmonised standard.
 - ISO = influence from abroad on harmonised standards





What is the ETUC doing?



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ETUC Task Force on machinery standards

What do we do?

- We participate in the development of selected European and international machinery <u>standards</u>, which underpin the Machinery Regulation
- Provide input to policy development + initiatives at legislative level
- The taskforce will:
 - Regular update on existing and new standardisation work on machinery
 - provide ETUC experts (who participate in CEN/ISO committees) with input
 - Soon: Coordinate trade union intervention at national level and in the standardisation committee
 - Feedback to MEG
 - In close collaboration with ETUI, IndustriAll, EFFAT and EFBWW







 EN ISO 12100 'Safety of machinery — General principles for design — Risk assessment and risk reduction'



- EN 614 'Safety of machinery -Ergonomic design principles'
- There are more than 800 machinery standards...

EN ISO 12100 'Safety of machinery — General principles for design — Risk assessment and risk reduction'

- Scope:
 - Principles and methodology for achieving safety
 - Identifying hazards and evaluating risks
 - Documentation of potential hazards and risks
 - Minimum requirements for user manuals
 - New challenges: Remote Control, Remote Access and Cybersecurity, Al and Collaborative Robotics





EN ISO 12100 'Safety of machinery — General principles for design — Risk assessment and risk reduction'

- ETUC involvement so far:
 - Consideration of Mental Strain at the Human-Machine Interface (+)
 - Considering Changes Due to AI and Machine Learning Over the Lifecycle (?)
 - Tolerable Risk (-)
 - Requirements for Users in the Standard (+)





EN 614 'Safety of machinery - Ergonomic design principles'



EN 614 'Safety of machinery - Ergonomic design principles'











EN 614 'Safety of machinery - Ergonomic design principles'

- Scope:
 - Design of machines and its impact on health and safety of worker
 - focused on physical strain (such as weight, postures, movements, etc.) and mental underload or degeneration (monotony)
 - Challenges: Increasingly also aspects of mental stress (such as interruptions, cognitive overload, conformity to expectations and abilities, etc.)
 - Al: adaptive machines based on statistics = new uncertainties and risks!
 - HMI: becomes more complex and interactive. The boundaries between machine design and management/ leadership are becoming blurred
- ETUC involvement so far:
 - Updating and restructuring EN 614-1 (mostly on mental aspects)
 - Open: New Chapter on Interaction (with autonomous / self-evolving systems)
 - Need to integrate new aspects (preferably from existing standards) e.g. on leadership, culture, collaboration... as they are now also becoming relevant for the design of machines





Bli med

Vi trenger dine innspill om standardisering av maskiner







Let's build a strong network across Europe!

Influence mirror committee during votes

Shape ETUC comments



Put forward trade union comments directly to CEN or ISO

Raise problems and hot issues

Takk for oppmerksomheten



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Challenges





'The hardships of the mountains are behind us. The hardships of the plains lie before us.' *Bertold Brecht*

Standardisation

Implementation



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Challenges





Update Guide to Machinery Regulation

- EC Guide to application of the Machinery legislation as tool for industry with further clarifications on the application of the Machinery Directive.
- Guide is now under revision to update it according to the new EHSRs brought by the Machinery Regulation
- Industry uses the (update of the) guide to *interpret* provisions of regulation
- EC has limited role: lead by Market Surveillance but populated by industry
- ETUC participates to ensure no watering down on provisions such as AI, overhead powerlines, substantial modifications, etc.







Image www.

Updating Annex I - Reporting higher risks

- List of machinery considered high risk is subject to regular update – not fixed
 - regularly national report on accidents
 - EC assessment
- Until July 2025: Member states send their accident data
- July 2025 July 2026: EC assesses the data
- As of July 2026: EC Implementing Decision to change list if needed
- After data is submitted in July 2025, the stakeholders will also be involved in the interpreting data and determining the consequences for Annex I.
- \rightarrow Important for the ETUC to be involved

