

TBEC
NSAI

Machinery Regulation



NSAI

National Standards Authority of Ireland
Providing confidence in your business or product

NSAI.ie



NSAI



8 DECENT WORK AND
ECONOMIC GROWTH



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION





NSAI Manufacturing Standards supporting Business



Consultative
Committee



Additive
Manufacturing



Robotics



Safety of
Machinery





NSAI Manufacturing Standards supporting Business



Consultative Committee

- **Supporting Ireland's Industry 4.0 Strategy**
- **Advising NSAI on CEN BT ballots**
- **Raise awareness and understanding of the Machinery Regulation**
- **Assist on prioritising new work areas through the EU High Level Forum for Standardisation**



Additive Manufacturing

- **ASTM/ISO & CEN**
- **24 Standards under development**
- **EU Commission Annual Union work programme**
- **Potential to revolutionise the Prosthetic Industry**
- **Further use of Technology in Construction industry**



Robotics

- **Shaping Digital Europe, The EU promotes safer robots**
- **Contributing to Harmonised Standards**
- **Irish Researchers From Horizon Europe project feeding into standards**
- **Robots can improve worker safety by doing work that is especially dangerous**



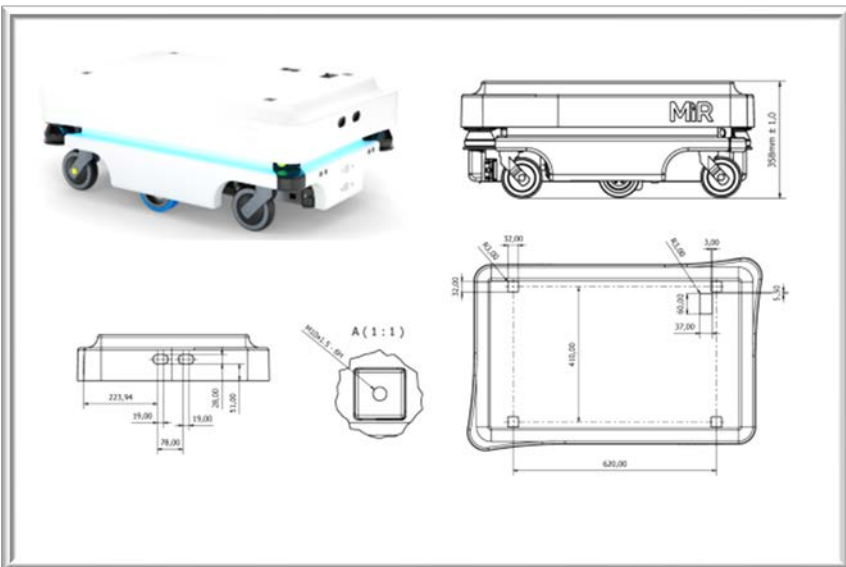
Safety of Machinery

- **Revision of key Safety Standards used to show presumption of Conformity by SME's**
- **Irish experts participating at International Level**
- **Following Changes in Machinery Regulation**

01

➤ Overview

Declaration of Conformity



EU declaration of Conformity

according to the EU Machinery Directive 2006/42/EC, Annex II 1.A

Manufacturer

Mobile Industrial Robots ApS
Emil Neckelmanns Vej 15 F
DK-5220 Odense SØ

Person established in the Community authorized to compile the technical file

Flemming Thinggaard
Mobile Industrial Robots ApS
Emil Neckelmanns Vej 15F
DK - 5220 Odense SØ

Description and identification of the machinery

Product: MIR100 2.1 - Serial no. 180100002100850 and higher
Commercial name: MIR100
Function: MIR100: self-propelled vehicle (battery)

MIR100 is an automatic vehicle that can transport materials internally within factories, warehouses, hospitals and a host of other industrial locations.

The user provides the destination of product delivery via a web interface. MIR100 can be up to run a fixed route or be called on demand besides more special operations.

MIR100 has a map that can be programmed the first time the vehicle is used. While operating, the MIR100 automatically avoids obstacles (people, furniture) that are not mapped.

MIR100's internal map contains specific locations (office, hall, John's room etc.) which can be used for logistical planning.

Each vehicle has its own network.

The vehicle is controlled from a website (HTML5), which is accessed via a browser on a PC, tablet or smartphone.

It is expressly declared that the machinery fulfills all relevant provisions of the following EU Directives or Regulations:

2006/42/EC Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast) (1)

Reference to the harmonized standards used:

EN 60204-1:2006+A1:2009 Safety of machinery – Electrical equipment of machines – Part 1: General requirements
EN ISO 12100:2010 Safety of machinery – General principles for design – Risk assessment and risk reduction (ISO 12100:2010)
EN ISO 13849-1:2015 Safety of machinery – Safety related parts of control systems – Part 1: General principles for design (ISO 13849-1:2015)
EN ISO 13849-2:2012 Safety of machinery – Safety related parts of control systems – Part 2: Validation (ISO 13849-2:2012)
EN ISO 13850:2015 Safety of machinery – Emergency stop function – Principles for design (ISO 13850:2015)
EN 1175-1:1998+A1:2010 Safety of industrial trucks – Electrical requirements – Part 1: General requirements for battery powered trucks

Reference of the other technical standards and specifications used:

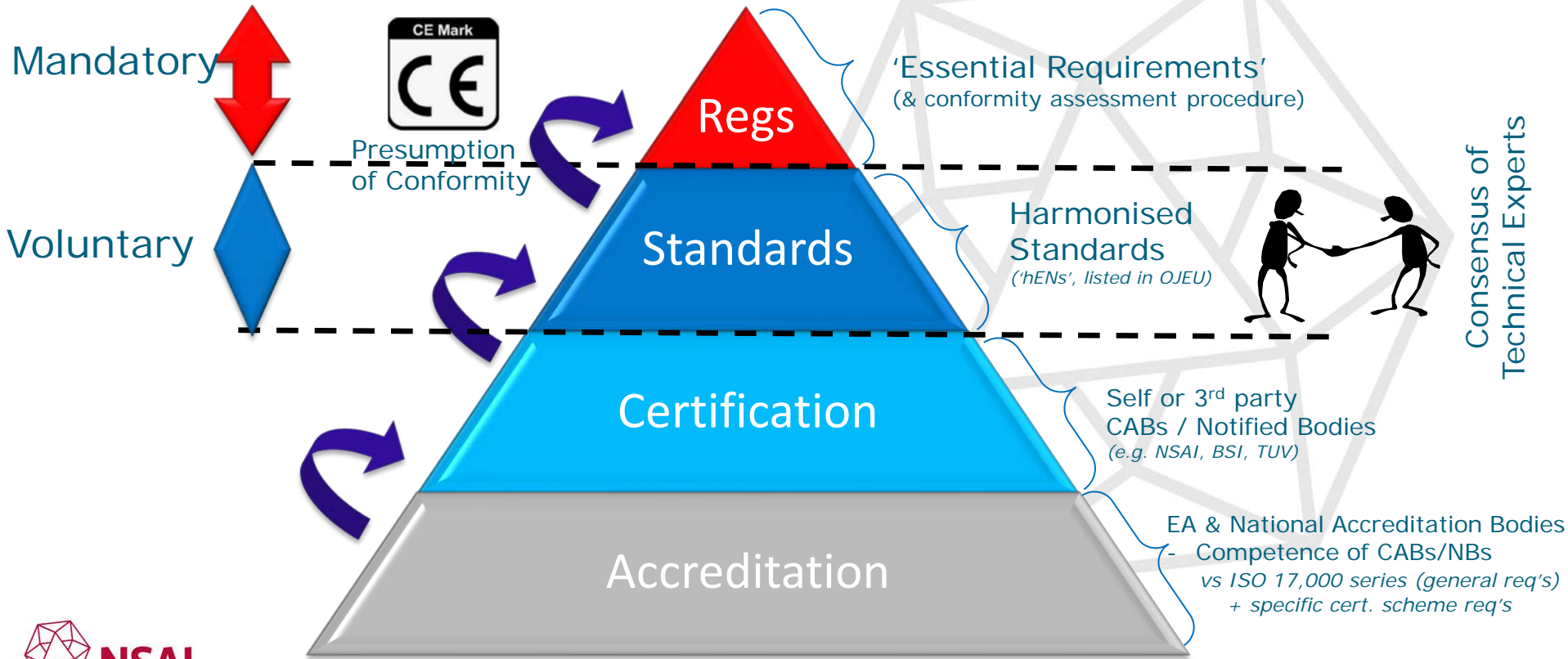
EN 1525:1997-09 Safety of industrial trucks – Driverless trucks and their systems

Odense SØ, 18 June 2018

Signature
Søren E. Nielsen
CTO

Links between Regulations, Standards & Certification

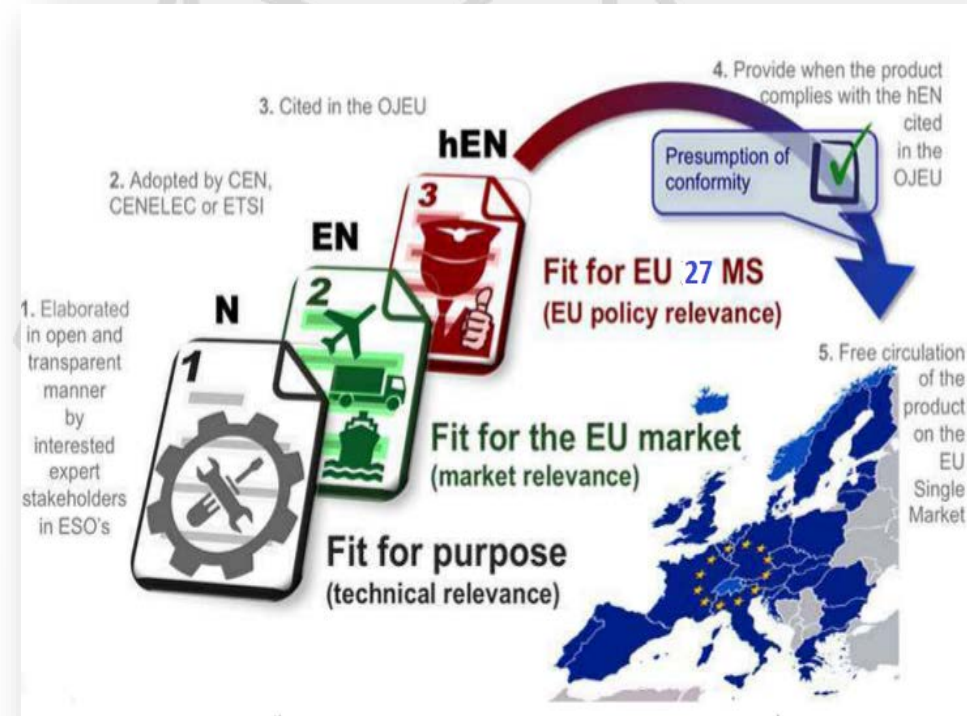
(EU 'New Legislative Framework', NLF – previously called 'new approach')



Research & Innovation	Industrial Policy	Connectivity	Data & Privacy	IPR	Cybersecurity	Law Enforcement	Trust & Safety	E-commerce & Consumer Protection	Competition	Media	Finance
Digital Europe Programme Regulation, (EU) 2021/694	Recovery and Resilience Facility Regulation, (EU) 2021/241	Frequency Bands Directive, (FEC) 1987/372	General Data Protection Regulation (GDPR), (EU) 2016/679	Database Directive, (EC) 1996/9	Regulation for a Cybersecurity Act, (EU) 2019/681	Law Enforcement Directive, (EU) 2016/680	Product Liability Directive (PLD), (FEC) 1985/374, 2022/0302(COD)	Unfair Contract Terms Directive (UCTD), (FEC) 1993/13	Technology Transfer Block Exemption, (EC) 2014/316	Satellite and Cable I Directive, (FEC) 1993/63	Common VAT system, (EC) 2006/112, 2022/0407(CNS)
Horizon Europe Regulation, (EU) 2021/695, (EU) 2021/764	InvestEU Programme Regulation, (EU) 2021/623	Radio Spectrum Decision, (EC) 2002/676	Regulation to protect personal data processed by EU Institutions, bodies, offices and agencies, (EU) 2018/1725	Community Design Directive, (EC) 2002/6, 2022/0391(COD)	Regulation to establish a European Cybersecurity Competence Centre, (EU) 2021/687	Directive on combating fraud and counterfeiting of non-cash means of payment, (EU) 2019/713	European Standardization Regulation, (EU) 2012/1025	E-commerce Directive, (EC) 2000/31	Company Law Directive, (EU) 2017/1132, 2023/0089(COD)	Information Society Directive, (EC) 2001/29	Payment Service Directive 2 (PSD2), (EU) 2015/2366, 2023/0209(COD)
Regulation on a pilot regime distributed ledger tech. market, (EU) 2022/868	Connecting Europe Facility Regulation, (EU) 2021/1153	Broadband Cost Reduction Directive, (EU) 2014/61, 2023/0046(COD)	Regulation on the free flow of non-personal data, (EU) 2018/1807	Enforcement Directive (IPR), (EC) 2004/48	NIS 2 Directive, (EU) 2022/2555	Regulation on terrorist content online, (EU) 2021/764	Radio Equipment Directive (RED), (EU) 2014/53	Unfair Commercial Practices Directive (UCPD), (EC) 2005/29	Market Surveillance Regulation, (EU) 2019/1020	Audio-Visual Media Services Directive (AVMSD), (EU) 2010/13	Digital Operational Resilience Act (DORA Regulation), (EU) 2022/2554
Research & Innovation	Regulation on High Performance Computing Joint Undertaking, (EU) 2021/1173	Open Internet Access Regulation, (EU) 2015/2120	Open Data Directive (PSI), (EU) 2019/1024	Directive on the protection of trade secrets, (EU) 2016/943	Information Security Regulation, 2022/0084(COD)	Temporary CSAM Regulation, (EU) 2021/1232, 2022/0155(COD)	eIDAS Regulation, (EU) 2014/910, 2021/0136(COD)	Directive on Consumer Rights (CRD), (EU) 2011/63	P2B Regulation, (EU) 2019/1150	Portability Regulation, (EU) 2017/1128	Crypto-assets Regulation (MICA), (EU) 2023/1114
	Regulation on Joint Undertakings under Horizon Europe, (EU) 2021/2085, 2022/0033(NLE)	European Electronic Communications Code Directive (ECCD), (EU) 2018/1972	Data Governance Act (DGA Regulation), (EU) 2022/658	Standard essential patents, 2023/0133(COD)	Cybersecurity Regulation, 2022/0085(COD)	E-evidence Regulation, 2018/0108(COD)	Regulation for a Single Digital Gateway, (EU) 2018/1724	e-Invoicing Directive, (EU) 2014/55	Vertical Block Exemption Regulation (VBER), (EU) 2022/720	Satellite and Cable II Directive, (EU) 2019/789	Digital euro, 2023/0212(COD)
	Decision on a path to the Digital Decade, (EU) 2022/2481	Roaming Regulation, (EU) 2022/612	ePrivacy Regulation, 2017/0003(COD)	Design Directive, 2022/0392(COD)	Cyber Resilience Act, 2022/0272(COD)	Digitalization of travel documents	General Product Safety Regulation, (EU) 2023/988	Geo-Blocking Regulation, (EU) 2019/302	Digital Market Act (DMA Regulation), (EU) 2022/1925	Copyright Directive, (EU) 2019/790	Financial Data Access Regulation, 2023/0205(COD)
	European Chips Act (Regulation), 2022/0032(COD)	Regulation on the Union Secure Connectivity Programme, (EU) 2023/588	European Data Act (Regulation), 2022/0047(COD)	Compulsory licensing of patents, 2023/0129(COD)	Cyber Solidarity Act (Regulation), 2023/0109(COD)		Machinery Regulation, (EU) 2023/1230	Digital content Directive, (EU) 2019/770	Regulation on distortive foreign subsidies, (EU) 2022/2560	European Media Freedom Act, 2022/0277(COD)	Payment Services Regulation, 2023/0210(COD)
	European critical raw materials act (Regulation), 2023/0079(COD)	.eu top-level domain Regulation, (EU) 2019/517	European Health Data Space (Regulation), 2022/0140(COD)				AI Act (Regulation), 2021/0106(COD)	Directive on certain aspects concerning contracts for the sale of goods, (EU) 2019/771	Horizontal Block Exemption Regulations (HBER), (EU) 2023/1065, (EU) 2023/1067		Revision of the late payments Directive
	Establishing the Strategic Technologies for Europe Platform (STEP), 2023/0199(COD)	New radio spectrum policy programme (RSPP 2.0)	Regulation on data collection for short-term rental, 2022/0358(COD)				Eco-design Regulation, 2022/0095(COD)	Digital Services Act (DSA Regulation), (EU) 2022/2065	Platform Work Directive, 2021/0414(COD)		
		Telecoms Act / Fair Share Initiative	Harmonization of GDPR enforcement 2023/0202(COD)				AI Liability Directive, 2022/0303(COD)	Right to repair Directive, 2023/0083(COD)	Single Market Emergency Instrument (SMEI), 2022/0278(COD)		
			Interoperable Europe Act, 2022/0379(COD)						Political Advertising Regulation, 2021/0381(COD)		

Current Status

- ✓ Harmonized standards with current machinery directive [LINK](#)
- ✓ Notified bodies [Links](#)
- ✓ The Blue Guide [LINK](#)
- ✓ Standardization requests [LINKs](#)
- ✓ **Market Surveillance** [LINKS](#)



Publication of the Machinery Regulation 2023/1230

- ✓ Successor to the Machinery Directive 2006/42/EC
- ✓ Publication in the EU Official Journal on the 29.06.2023
- ✓ Come into force 20th January 2027
- ✓ No National transposing legislation required



✓ **Main Changes**

- Regulation VS Directive
- Alignment to the New Legislative Framework
- Integration of Artificial Intelligence and Cyber Safety related provisions for safety control systems
- Autonomous and remote-controlled Machinery
- Commission empowerment to issue technical specifications
- Mandatory Notified Body conformity assessment for 6 product categories
- Regulation through Essential Health and Safety Requirements supported by harmonised standards cited in the EU Official Journal



✓ Changes concerning structure at a first glance

EU Machinery Directive (2006/42/EC)	Subject	EU Machinery Regulation (2023/1230)
63	# of pages	102
29	# of articles	54
12	# of Annexes	12
Annex I	Essential Health & Safety Requirements	Annex III
Annex II	Declarations	Annex V
Annex III, XI	CE Marking, Notified bodies	See Articles and Reg 765/2008
Annex IV	Machine Categories	Annex I, Part A&B
Annex V	Safety Components	Annex II
Annex VI	Assembly Instructions	Annex XI
Annex VII	Technical Documentation	Annex IV
Annex VIII, IX, X	Conformity assessment procedures	Annex VI, VII, VIII, IX, X

02

➤ Digital Technologies

- “AI” is not defined by name but is included in the Machinery Regulation:
 - ... fully or partially self-evolving behaviour[..]
 - ... machine learning [..]
 - ... varying levels of autonomy [...]
 - ... self-evolving behaviour or logic [...]
 - ... problem solving[...]
 - ... learning, adaptability [...]





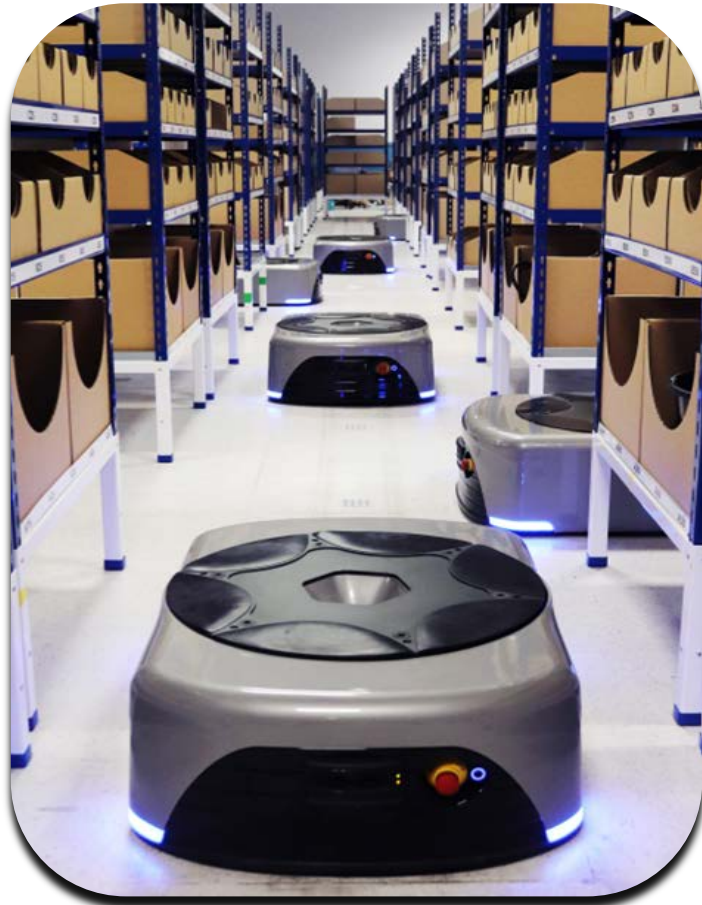
The risk assessment shall include hazards that might arise during the lifecycle of the machinery that are foreseeable at the time of placing the machinery on the market as an intended evolution of its fully or partially self-evolving behaviour

If those risks cannot be foreseen, the machinery cannot be placed on the market



➤ Cybersecurity

- ✓ With a view to addressing the risks stemming from malicious third-party actions that have an impact on the safety of products within the scope of this Regulation
- ✓ Intended and unintended external influences, including reasonably foreseeable malicious attempts from third parties leading to hazardous situation
- ✓ Other risks to new digital technologies are those provoked by malicious third parties that have an impact on the safety of products



➤ Autonomous mobile machinery

- ✓ Autonomous mobile machinery are now specified in the Annex III
- ✓ The requirement for supervisory function specific to the autonomous mode is stated
- ✓ Safety functions need to perform independently of the supervisory function is specified
- ✓ The condition for a risk assessment on the area where autonomous mobile machinery are intended to operate is set out
- ✓ The direction for Protective systems or devices to be considered in relation to travelling function
- ✓ Failure in the steering system shall not have an impact on the safety

List of product
categories with
mandatory
Notified Body
conformity
assessments



CE

NEW

1. Removable mechanical transmission devices including their guards.

2. Guards for removable mechanical transmission devices.

3. Vehicle servicing lifts.

4. Portable cartridge-operated fixing and other impact machinery

NEW

5. Safety Component with fully or partially self-evolving behaviour using machine learning approaches ensuring safety functions

6. Machinery that has embedded systems with fully or partially self-evolving behaviour using machine learning approaches ensuring safety functions that have not been placed independently on the market, in respect only of those systems

Remaining machine types from former Annex IV, are now in Annex 1 Part B



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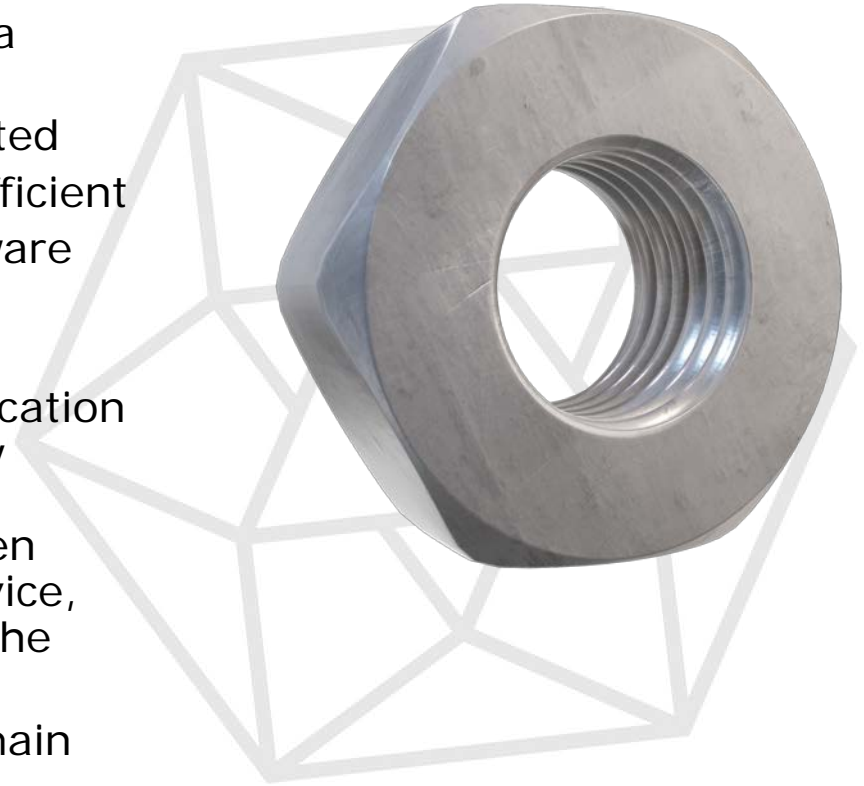
03

➤ Key Technical Changes

“Substantial Modification”

NEW

- A modification of machinery may be a substantial modification if
 - New hazards or higher risks are created
 - The existing safety concept is not sufficient
 - Substantial modification can be software driven
- Substantial modification is the modification of machinery or a related product, by physical or digital means after that machinery or related product has been placed on the market or put into service, which is not foreseen or planned by the manufacturer
 - The existing documentation shall remain valid for the unmodified part

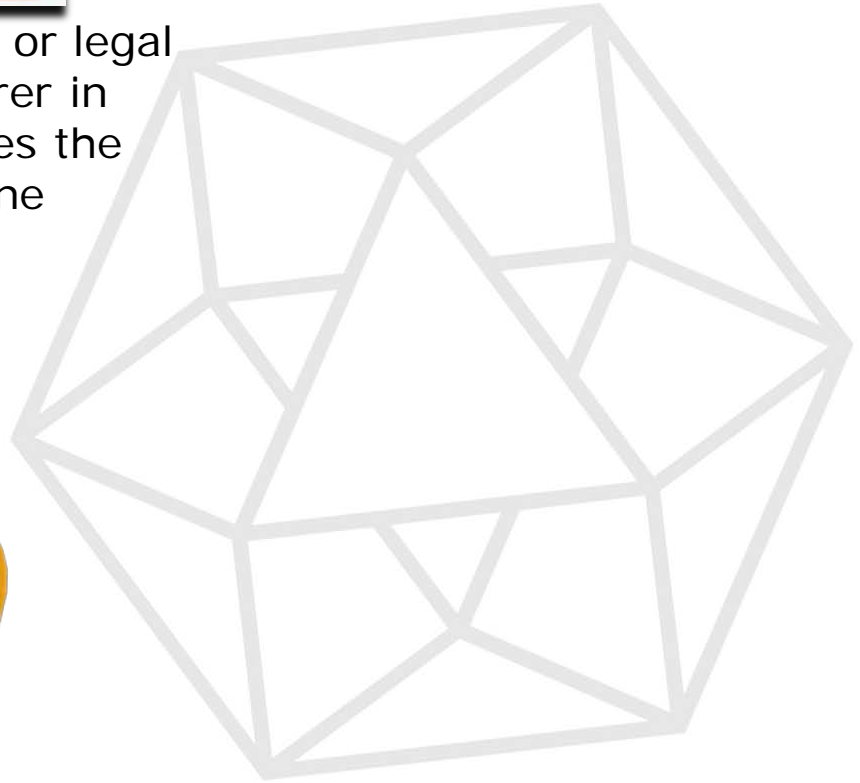


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"Authorised representative"

NEW

- An authorised representative (person or legal entity) may represent the manufacturer in the European Market, this role includes the provision of documents (DoC, machine documentation)



"Duties for distributors, importers & economic operators"

NEW

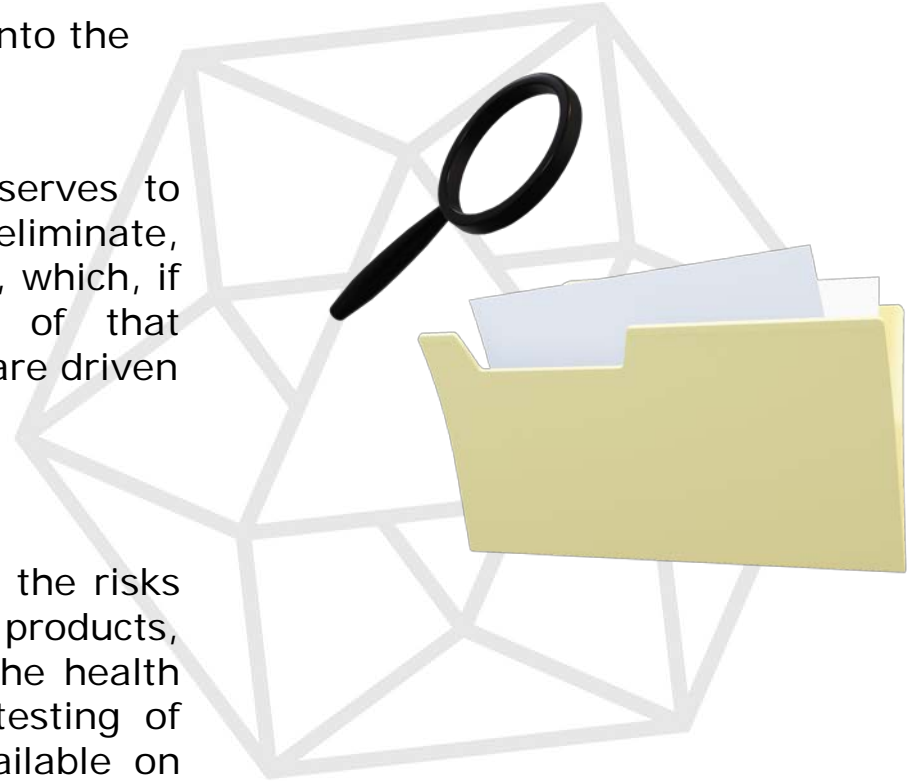
- Economic operators are typically manufacturers, authorised representatives, importers, distributors or a person that is part of the product supply chain
- The Regulation specifies the obligations of "Economic operators"
- Distributors and importers have a more active role in the machinery safety process
- If no AR is present for non-EU manufactures, the economic operator need to provide access to the technical documentation and cooperate with the relevant Market Surveillance Authority



A red rectangular badge with the word "NEW" in white capital letters and a white arrow pointing to the right.

“Testing of Safety Functions” by the user

- Definition of “Safety function” was added into the regulation
 - safety function’ means a function that serves to fulfil a protective measure designed to eliminate, or, if that is not possible, to reduce, a risk, which, if it fails, could result in an increase of that risk; Substantial modification can be software driven
- Obligations of Economic Operators:
 - When deemed appropriate with regard to the risks presented by machinery or related products, manufacturers shall, in order to protect the health and safety of users, carry out sample testing of machinery or related products made available on the market and investigate their results.



Essential Health and Safety Requirements

NEW

- Machinery or related products shall be designed and constructed in such a way that it is possible for the user, where applicable, to test the safety functions.
- The Machinery or related product shall be supplied
 - with all the special equipment and accessories
 - Where appropriate, description of specific functional test procedures



"Digital instructions" for documentation

- When the instructions for use are provided in digital format, the manufacturer shall Mark on the machinery or related product, or, where that is not possible, on its packaging or in an accompanying document, how to access the digital instructions.
- It will be only possible to deliver machinery with digital instructions
- Paper version will be provided on request
- The EC Declaration of Conformity can also be provided in digital form
- Partly completed machinery can be delivered with digital assembly instructions as well as with a digital declaration of incorporation
- Kept available for at least 10 years in digital format



Manufacturer:	Person in the Community Authorized to Compile the Technical File:	
Universal Robots A/S Energievej 25 DK-5260 Odense S Denmark	David Brandt Technology Officer, R&D Universal Robots A/S, Energievej 25, DK-5260 Odense S	
Description and Identification of the Partly-Completed Machine(s):		
Product and Function:	Industrial robot multi-purpose multi-axis manipulator with control box & with or without teach pendant Function is determined by the completed machine (robot application or cell with end-effector, intended use and application program).	
Model:	UR3e, UR5e, UR10e, UR16e (e-Series): Below cited certifications and this declaration include: Effective October 2020: Teach Pendants with 3-Position Enabling (3PE TP) & standard Teach Pendants (TP). Effective May 2021: UR10e specification improvement to 12.5kg maximum payload.	
Serial Number:	Starting 2020 5 0 00000 and higher year ——— ——— Sequential numbering, restarting at 0 each year e-Series ——— ——— 3 = UR3e, 5 = UR5e, 0 = UR10e, 6 = UR16e	NOTE: This DOI is NOT applicable when the OEM Controller is used.
Incorporation:	Universal Robots e-Series (UR3e, UR5e, UR10e and UR16e) shall only be put into service upon being integrated into a final complete machine (robot application or cell), which conforms with the provisions of the Machinery Directive and other applicable Directives.	
It is declared that the above products fulfil, for what is supplied, the following directives as detailed below: When this incomplete machine is integrated and becomes a complete machine, the integrator is responsible for determining that completed machine fulfils all applicable Directives and providing the Declaration of Conformity.		
I. Machinery Directive 2006/42/EC	The following essential requirements have been fulfilled: 1.1.2, 1.1.3, 1.1.5, 1.2.1, 1.2.4.3, 1.2.5, 1.2.6, 1.3.2, 1.3.4, 1.3.8.1, 1.3.9, 1.5.1, 1.5.2, 1.5.5, 1.5.6, 1.5.10, 1.6.3, 1.7.2, 1.7.4, 4.1.2.3, 4.1.3, Annex VI. It is declared that the relevant technical documentation has been compiled in accordance with Part B of Annex VII of the Machinery Directive.	
II. Low-voltage Directive 2014/35/EU	Reference the LVD and the harmonized standards used below.	
III. EMC Directive 2014/30/EU	Reference the EMC Directive and the harmonized standards used below.	
Reference to the harmonized standards used, as referred to in Article 7(2) of the MD & LV Directives and Article 6 of the EMC Directive:		
(I) EN ISO 10218-1:2011 TUV Nord Certificate # 44 708 14097607	(I) (II) EN 60204-1:2018 as applicable	(III) EN 60664-1:2007
(I) EN ISO 13732-1:2008 as applicable	(II) EN 60529:1991+A1:2000+A2:2013	(III) EN 61000-3-3: 2013
(I) EN ISO 13849-1:2015 TUV Nord Certificate # 44 207 14097610	(I) EN 60947-5-5:1997+A1:2005 +A11:2013+A2:2017	(III) EN 61000-6-1:2019 UR3e & UR5e ONLY
(I) EN ISO 13849-2:2012	(I) EN 60947-5-8:2020	(III) EN 61000-6-2:2019
(I) EN ISO 13850:2015	(III) EN 61000-3-2:2019	(III) EN 61000-6-3:2007+A1: 2011 UR3e & UR5e ONLY
		(III) EN 61000-6-4:2019
Reference to other technical standards and technical specifications used:		
(I) ISO 9409-1:2004 [Type 50-4-M6]	(II) EN 60320-1:2021	(III) EN 61784-3:2010 [SIL2]
(I) ISO/TS 15066:2016 as applicable	(III) EN 60068-2-27:2008	(III) EN 61326-3-1: 2017 [Industrial locations SIL 2]
(III) EN 60068-2-1: 2007	(III) EN 60068-2-64:2008+A1:2019	
(III) EN 60068-2-2:2007		
The manufacturer, or his authorised representative, shall transmit relevant information about the partly completed machinery in response to a reasoned request by the national authorities.		
Approval of full quality assurance system (ISO 9001), by the notified body Bureau Veritas, certificate #DK015892.		

04

➤ Standards

Next Steps

- Harmonised standards published in the Official Journal of the European Union will provide the presumption of conformity
- How to achieve?
 - **Option 1** – Update all harmonised standards to comply with the new Machinery Regulation EHSRs, before 20 January 2027
 - **Option 2**- Wait for old harmonised standards to be updated, when finalised to include in the new list one-by-one, over time beyond 2027.2028
 - **Option 3**- Understand and identify the shortcomings of the current stock of harmonised standards, and (re)-publish them with the relevant restrictions, before 20 January 2027

Gap Analysis

Gap analysis being carried out by TC through an online tool, it is expected to be carried out until end of October 2024

- In principle three possible outcome scenarios for each Gap analysis:
 - ***hEN is not affected*** by the new/modified EHSRs:
 - Likely to be cited in the OJEU under MR as it is
 - ***hEN is affected*** by some of the new/modified EHSRs, but already covers them:
 - Likely to be cited in the OJEU under MR as it is
 - ***hEN is affected*** by some of the new/modified EHSRs, but is not (sufficiently) Addressing them:
 - Citation in the OJEU possible, but with restriction(s)

European Commission Work Programme

- Each year the European Commission publishes an Annual Work Programme for European standardisation. It lays down the Commission's intentions to use standardisation in support of new or existing legislation and policies, and mandate the development of new standardisation deliverables to the European Standardisation Organisations CEN, CENELEC and ETSI.



Annual Union Work Programme 2024

Actions for the development and revision of European standards or European standardisation deliverables supporting the green transition

Ref	Title	Reference	European standards/European standardisation deliverables	Specific objectives and policies for European standards/European standardisation deliverables
61	Machinery products	Regulation (EU) 2023/1230 of the European Parliament and of the Council of 14 June 2023 on machinery and repealing Directive 2006/42/EC of the European Parliament and of the Council and Council Directive 73/361/EEC	Develop or revise European standards for machinery products to cover the proposed Regulation's new essential safety and health specifications.	The main objective is to ensure health and safety by ensuring harmonised European standards are maintained, reflecting the generally acknowledged state of the art. The availability of harmonised European standards will facilitate market access, in particular for SMEs. Users and owners of machinery products will benefit from improved safety and may benefit from knock-on effects such as efficient use of energy and easier access to innovative technologies. Economic operators will benefit from legal certainty.

Standardisation Request

COMMISSION IMPLEMENTING DECISION

of **XXX**

on a standardisation request to the European Committee for Standardization and to the European Committee for Electrotechnical Standardization as regards machinery in support of Regulation (EU) 2023/1230 of the European Parliament and of the Council

(Text with EEA relevance)

(Only the English, French and German texts are authentic)

Harmonised Standards

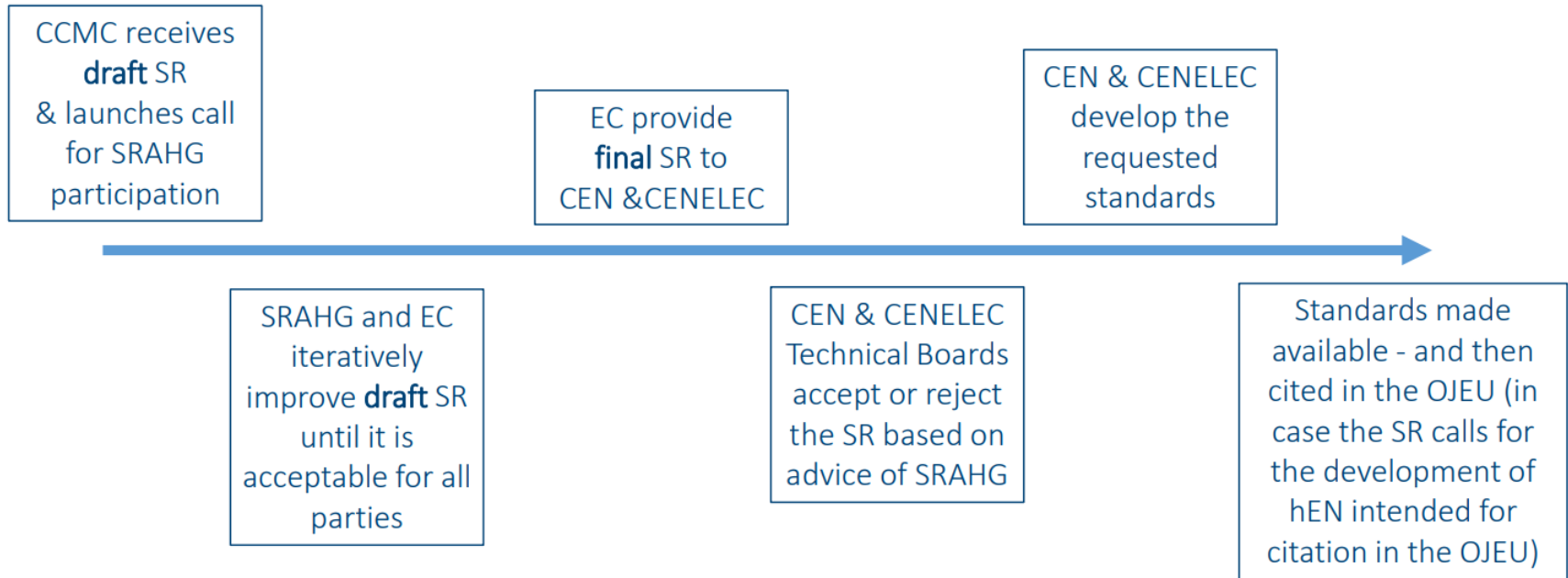
- ▶ A harmonized standard (hEN) is a European Standard (EN) developed in response to a formal Standardization Request (SR) of the EC

Two (main) types of hEN

- **Not for citation** in the OJEU
- Requested by the EC for example to address certain standardization gaps
- Can be a basis for the development of hEN that will be intended for citation in the OJEU

- **hEN intended for citation** in the OJEU
- Provide presumption of conformity (PoC) with EU legislation

How are harmonized standards made?



05

➤ Key Take aways

Points to Note

- User test of the safety functions **1.1.2.(e)**
- Avoiding demanding work postures or movements and manual force exertions that exceed the operator's capacity **1.1.6.(b)**
- AI use of adapting human-machine interface **1.1.6.(f)** and responses **(g)**
- AI use in control systems, data recording, reliability and safety (Including reasonably foreseeable malicious attacks) **1.2.1**
- Avoiding avoidance of risk of contact in case of human machine interaction or coexistence in a shared space **1.3.7**
- Adequate machine access dimensioning **1.6.2**

Points to Note

- Portable hand-held or hand-guided machinery having fume exhausts **2.2.1.**
- Seating as regards safety-belt reminder or inhibition of operating certain mobile machinery when the safety-belt is not used **3.2.2.**
- AI Autonomous and remote-controlled mobile machinery **3.3.3.**
- Filtration of hazardous substances for operators of ride –on mobile machinery applying such substances **3.5.3.**

Points to Note

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- Filtration of hazardous substances for operators of ride –on mobile machinery applying such substances **3.5.3**

NEW •

- ✓ Protection against corruption – new **1.1.9**
- ✓ Supervisory function – new **3.2.4**
- ✓ Risk of contact with overhead powerlines – new **3.5.4**

Points to Note

- Standardization Request (SReq) for MR will very likely be adopted later than mid-2024. Exact timeframe is not known yet
- TCs shall prepare gap analysis will help to draft Annex Z For MR
- Template of Annex Z for MR is available on CEN and CENELEC Boss
- HAS assessments of draft hENs for MR are already now allowed
- Each TC shall decide how to organise the work in this TC on gap-analysis
- European TC shall agree with International TC who shall make gap-analysis

06

➤ Resources



Sectoral Study of Standards in Manufacturing

[LINK](#)



Introduction to NSAI/TC 49/SC 2 & standardization for Additive Manufacturing

[LINK](#)

Advanced Manufacturing Technologies



Scan to
visit!



Input to draft Standards

Your Standards,
Your Say

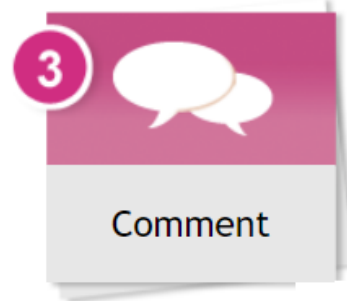
*Review, Read &
Comment* on drafts

www.nsainep.ie

ur Say

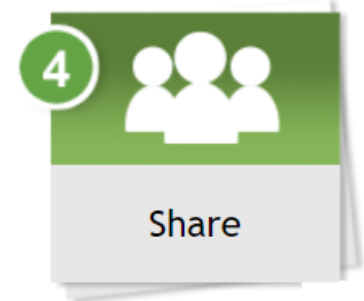
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standards, Your Say



ent
c how it
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Comment on the draft standard
and help shape its future



We make it easy for you to
share standards and comments
with colleagues

the consumer and industry through the development and promotion of



Report of TWG AI:
**Landscape of
AI Standards**

Editor: Lindsay Frost
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