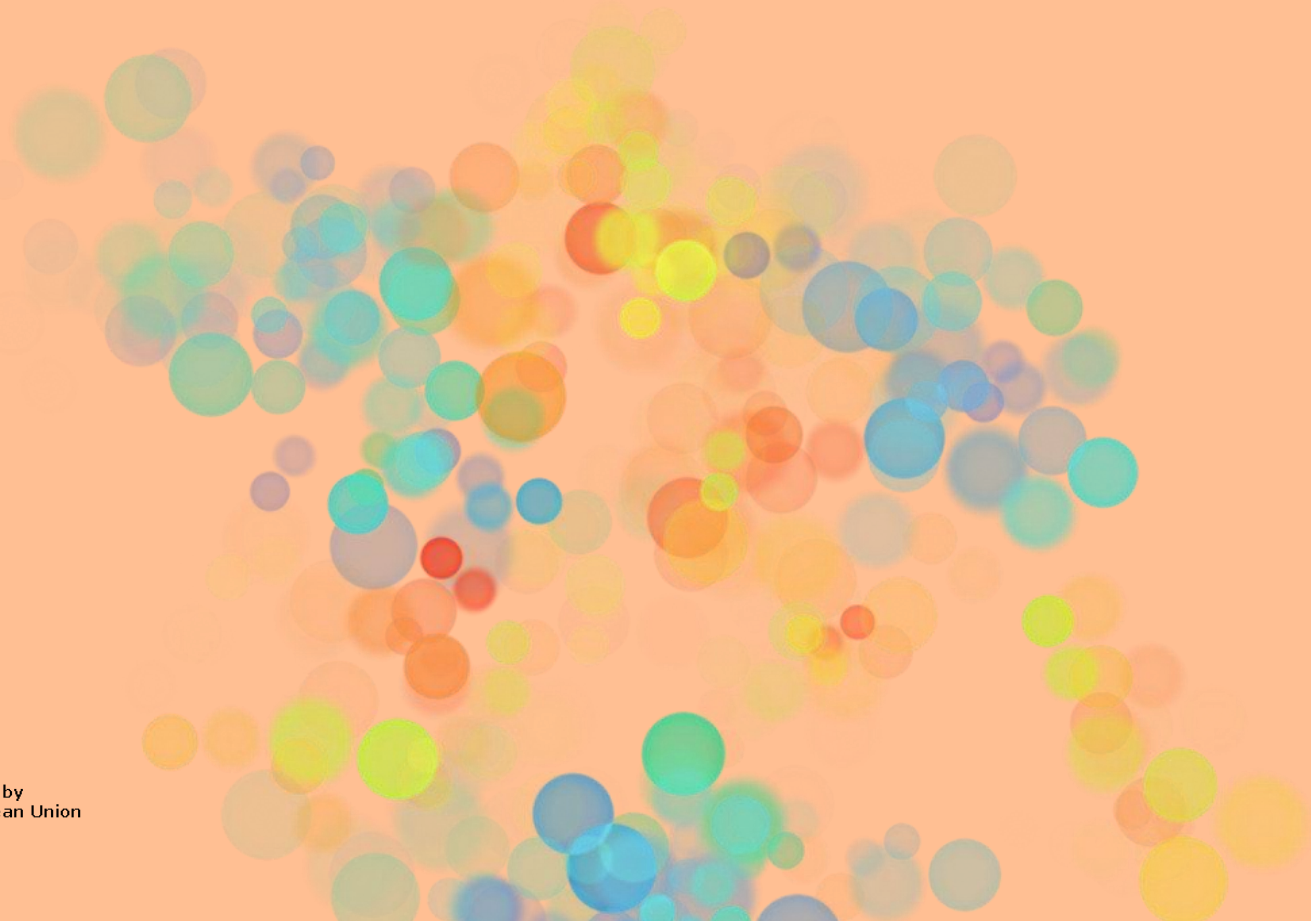
Joint Market Surveillance Action on Harmonised Products JAHARP2021-04

on Scissor Lifts

Layman's report



JAHARP MNIBUS 2021

PROSAFE Joint Actions Best Practice

Co-funded by the European Union

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List of abbreviations

ADCO	Administrative Cooperation Group
CEN	European Standardisation Organisation
DG GROW	European Commission - Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs
EEA	European Economic Area
EISMEA	European Innovation Council and SMEs Executive Agency
EN	Prefix of the reference of a European Standard
EU	European Union
GA	Grant Agreement
ICSMS	Information and Communication System for Market Surveillance
ISO	International Organization for Standardization
MEWP	Mobile Elevating Work Platform
MSA	Market Surveillance Authority
OJEU	Official Journal of the European Union

Glossary

CE MARKING: The CE marking means that the manufacturer takes responsibility and declares that a product sold in the European Economic Area (EEA) has been assessed to meet all applicable safety, health, performance, and environmental requirements.

CONFORMITY ASSESSMENT: a manufacturer can only place a product on the EU market when it meets all the applicable requirements. The conformity assessment procedure is carried out before the product can be sold.

CORRECTIVE ACTIONS: any actions taken by an economic operator to bring non-compliance to an end where required by a market surveillance authority or on the economic operator's own initiative.

DECLARATION OF CONFORMITY: at the end of the conformity assessment process, the manufacturer confirms compliance by drawing up an EC (now EU) Declaration of Conformity and affixing the CE marking on the product. The EC declaration of conformity is a mandatory document signed by the manufacturer of a product or by his authorised representative to declare that the product complies with all applicable safety, health, performance, and environmental requirements. The EC Declaration of Conformity must be issued before the product is placed on the market.

ECONOMIC OPERATOR: a manufacturer, authorised representative, importer, distributor, fulfilment service provider, or any other natural or legal person who is subject to obligations in relation to the manufacture of products, making them available on the market or putting them into service in accordance with the relevant Union legislation.

EC TYPE-EXAMINATION (now EU type-examination)**:** the procedure whereby a notified body ascertains and certifies that a representative model of a category of machinery referred to in Annex IV satisfies the provisions of Directive 2006/42/EC.

FULL QUALITY ASSURANCE: Annex X of the Machinery Directive 2006/42/EC describes the full quality assurance procedure, in which, rather than assessing an individual product, the notified body assesses the manufacturer's quality assurance system for the design, manufacture, final inspection and testing of one or more machinery categories listed in Annex IV.

HARMONISED STANDARD: a European standard developed by a recognised European Standardisation Organisation defining the technical specifications used to assess/verify that a product complies with the mandatory requirements. Application of harmonised standards is not mandatory but confers a presumption of conformity with the essential requirements it covers.

ICSMS: the Information and Communication System on Market Surveillance (ICSMS - webgate.ec.europa.eu/icsms/) is an IT platform set up and managed by the European Commission which enables the exchange of information between EU-27 market surveillance authorities on non-food product inspections and their results. ICSMS has an internal and a public area. Consumers can access ICSMS' public area to check whether a product model has been inspected and if it is compliant.

INSPECTION: a market surveillance activity aimed at verifying the compliance of products against the requirements defined in the legislation and standards.

MARKET SURVEILLANCE: the activities carried out and the measures taken by market surveillance authorities to ensure that products comply with the requirements set out in Union legislation.

MARKET SURVEILLANCE AUTHORITY: an authority designated by an EU Member State as responsible for carrying out market surveillance in the territory of that Member State.

MODEL: a version of a product of which all units share the same technical characteristics relevant for the conformity assessment, instructions and EC Declaration of conformity.

NOTIFIED BODY: an organisation designated by an EU country to assess the conformity of certain products before they are placed on the market. These bodies carry out tasks related to conformity assessment procedures set out in the applicable legislation, when a third party is required.

NON-COMPLIANCE / NON-CONFORMITY: any failure to comply with a requirement under the Union legislation.

RISK-BASED APPROACH/SAMPLING: the most common approach among market surveillance authorities, used to focus/optimise their limited resources on those products and models considered most likely to pose a risk of non-compliance.

SAFETY GATE: the EU rapid alert system for dangerous non-food products. The Safety Gate system enables that information on measures taken against non-food dangerous products is circulated quickly among the national authorities responsible for product safety in the Single Market countries.

SAMPLES: different units of the same model.

TECHNICAL FILE: documentation compiled by the manufacturer to demonstrate that the model complies with the applicable requirements. The Technical File must be made available to the market surveillance authorities upon request.

Executive summary

Scope and objectives of JAHARP2021-04

JAHARP2021-04 was a European Joint Action focused on Scissor Lifts which was coordinated by PROSAFE and ran from August 2022 until July 2024.

The action fell within the scope of the Machinery Directive 2006/42/EU[1] and aimed at verifying compliance of the products in the EU market with the Union legislation in order to ensure a safer working environment for users and a level playing field for Economic Operators.

Overall, during the project, **43 models of scissor lifts** were inspected and tested. **All of them (100%) presented at least one technical non-conformity**, with the majority having at least 3 non-conformities. In addition, **88% of the products were found non-compliant with respect to their markings.**

In addition, the MSAs conducted documentary checks to verify the compliance of the manufacturer's instructions and EC Declarations of Conformity (DoC) for the identified scissor lifts and concluded that **over 90% of the machines had at least one item of information missing from the instructions** and **72% of the products had non-compliances with respect to their EC DoC.**

The participating authorities carried out an assessment of the level of risk created by the non-conformities detected, before deciding on the corrective measures to be taken with respect to non-compliant products. At the moment of this report, one product has been reported on the EU Safety Gate.

Geographical scope

9 Market Surveillance Authorities from the following 7 Countries participated in this Joint Action coordinated by PROSAFE: Belgium, Czech Republic, Ireland, Latvia, the Netherlands, Portugal, and Spain (Andalusia, the Basque Country and Catalonia).

Participating EU Market Surveillance Authorities in JAHARP2021-04

Consumer Rights and Protection Centre

economie
FOD Economie, K.M.O., Middenstand en Energie

HSA
An tÚdarás Sláinte agus Sábháilteachta
Health and Safety Authority

ČESKÁ OBCHODNÍ INSPEKCE

EUSKO JAURLARITZA
GOBIERNO VASCO

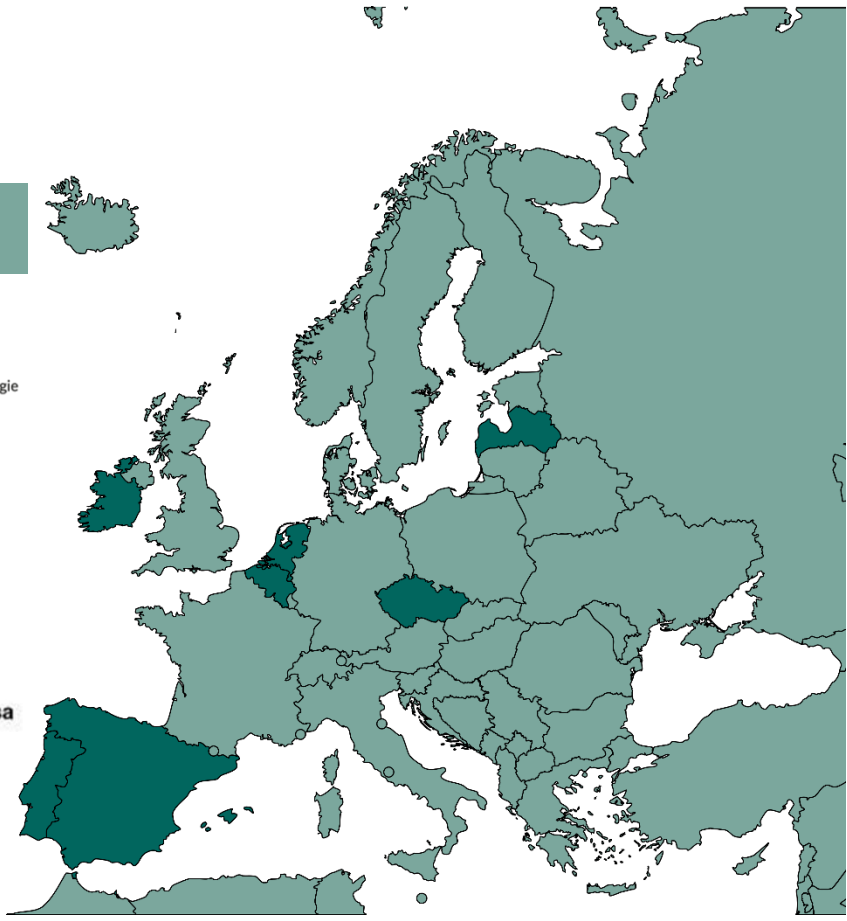
ACT
AUTORIDADE PARA AS CONDIÇÕES DO TRABALHO

Human Environment and Transport Inspectorate
Ministry of Infrastructure and Water Management

Generalitat de Catalunya
Departament d'Empresa i Treball

Junta de Andalucía
Consejería de Transformación Económica, Industria, Conocimiento y Universidades

Coordinated by PROSAFE Joint Actions Best Practice



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

Highlights and key results

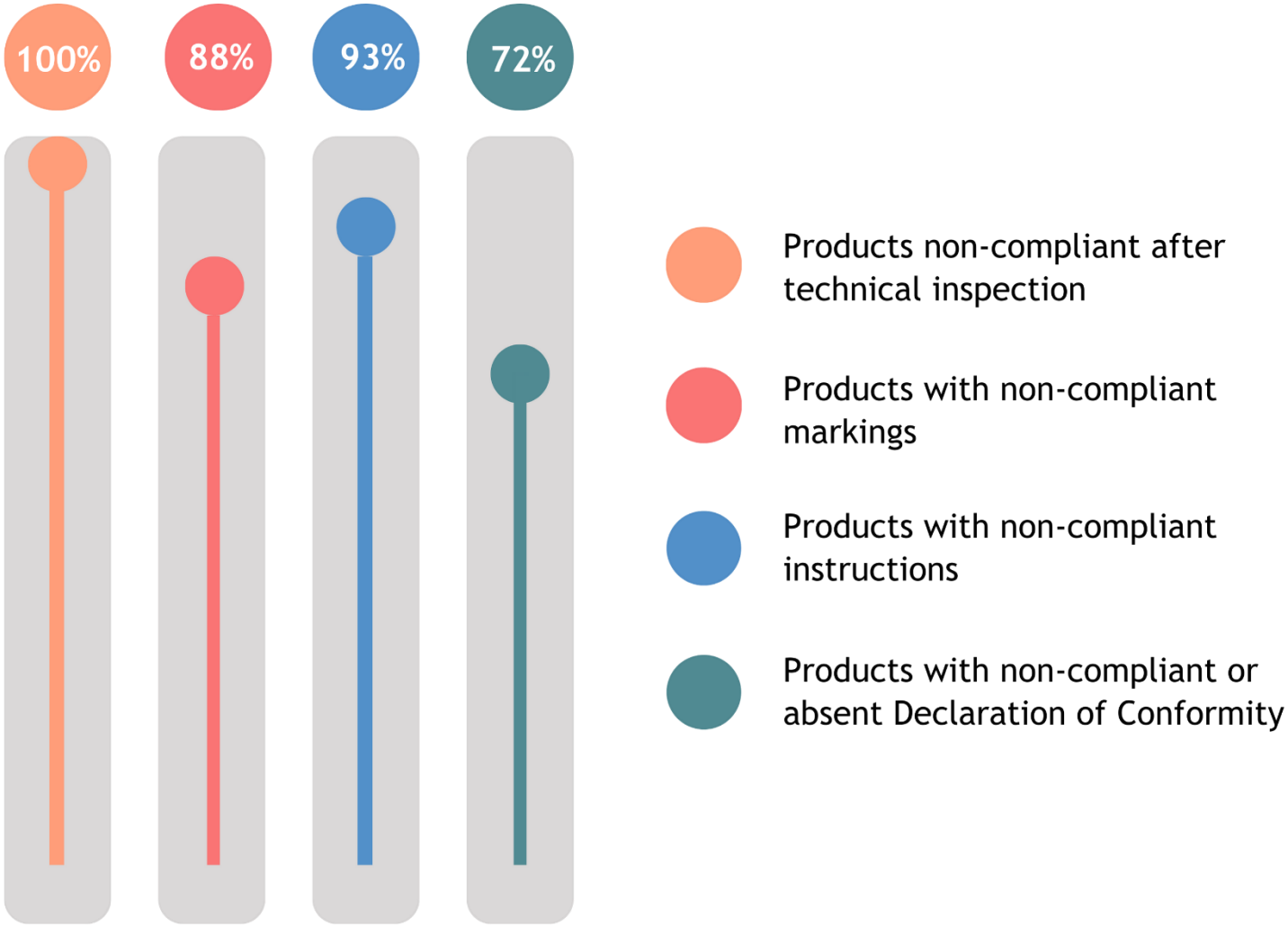


Figure 1 Key results of JAHARP2021-04

CAUTION!

These results are based on products inspected in the participating countries by experienced market surveillance inspectors. As in most market surveillance activities, the results represent **the targeted efforts that authorities undertook to identify non-compliant products**. Because of that, **the results of this joint action do not present a statistically valid picture of the situation of the entire market.**

Tips for users and EOs

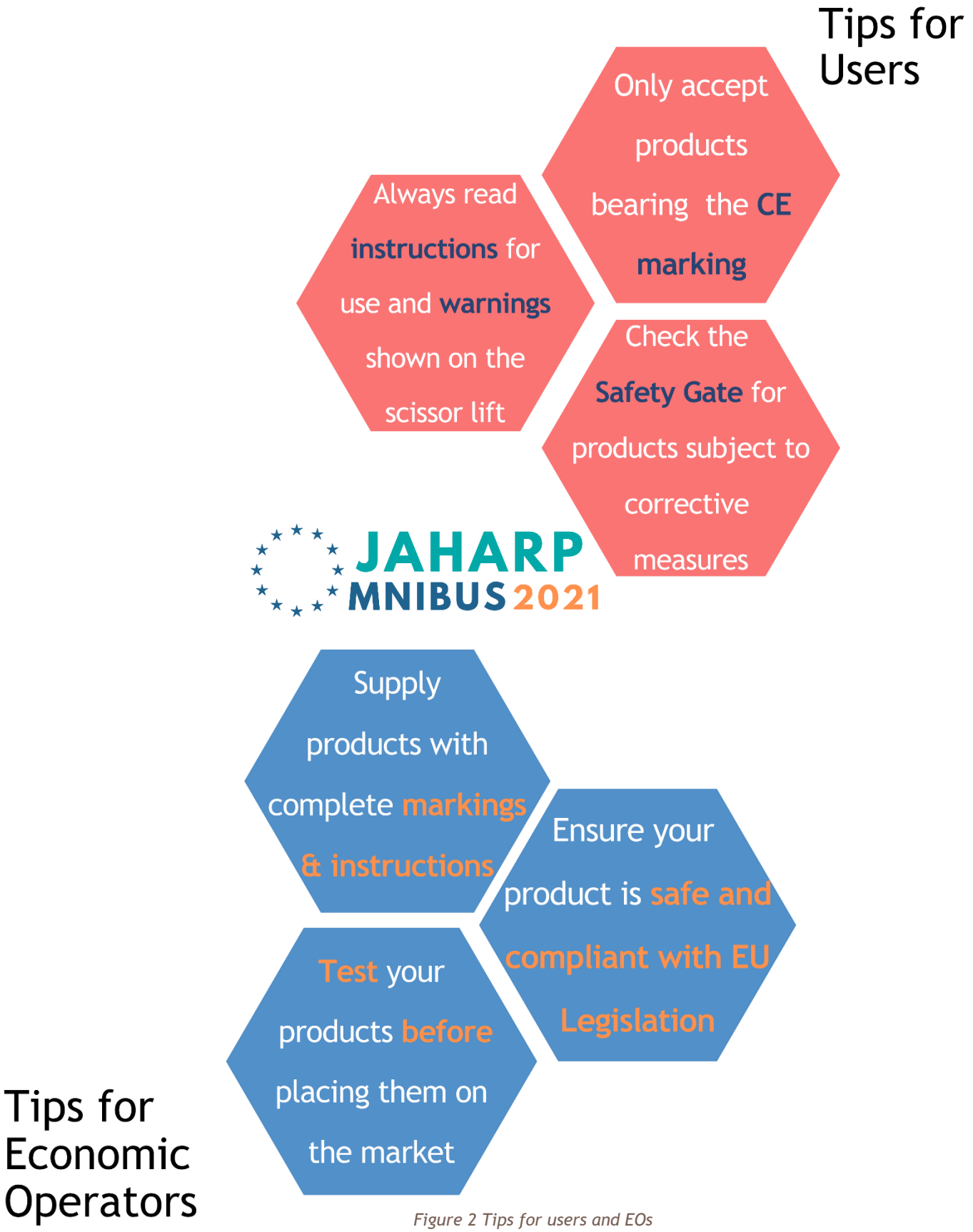


Figure 2 Tips for users and EOs

Introduction to JAHARP2021-04

Scissor lifts belong to the general category of **mobile elevating lift platforms (MEWPs)** used to provide access for work at a height.

The elevating structure of scissor lifts is a scissors mechanism driven by one or more hydraulic cylinders.

Before the start of the project, national authorities responsible for occupational health and safety and for market surveillance of products for professional use had carried out a number of surveys and accident enquiries showing **deficiencies in the application of the safety requirements** for mobile elevating work platforms and, in particular, scissor lifts.

The main challenges for the market surveillance of scissor lifts concern the size and purchase price of the machinery, which make it difficult to take samples from the market for testing. Checks on such products also require a level of expertise which authorities often do not have 'in house'. For JAHARP2021-04, a Technical Expert was contracted to carry out inspections of scissor lifts on site in the different countries participating in the project.

Use of scissor lifts involves **significant risks,** for example a person falling off the work platform, the collapse or overturning of the work platform itself, operators being crushed between the work platform and elements in the environment and being trapped between elements of the scissor mechanism.

PROSAFE and the MSAs participating in this Joint Action therefore considered critical to conduct compliance assessments of this type of machinery and work towards common and harmonized methodologies for market surveillance in the field.

Methodology

Figure 3 Timeline of JAHARP2021-04

The participating **MSAs shared information** on the situation in their local markets for scissor lifts. They also collected **data on accidents** involving these machines to help them to identify criteria for the selection of products to be inspected.

They then prepared a common **checklist for documentary checks** to be carried out by the MSAs themselves.

PROSAFE launched a call for **tender for the selection of a Technical Expert and an Accredited Inspection Body.**

The MSAs drew up inspection and test programmes, based on the relevant harmonised standard, which were validated with the selected Inspection Body.

Most of the Inspections were conducted on site in each country, while 2 scissor lifts were sampled and taken to the selected Inspection Body for testing.

An analysis of the results and an **assessment of the risks** was then conducted, after which **enforcement actions** are following. MSAs informed Economic Operators (EOs) of the results and appropriate corrective measures are taken where necessary.

Inspection and test results

The MSAs identified 43 models of scissor lift, from 19 different brands, for inspection. All the scissor lifts inspected were Group A, Type 3 Mobile Elevating Work Platforms.

These categories are defined in Clause 1.4 – *Classification* - of the harmonized standard EN 280:

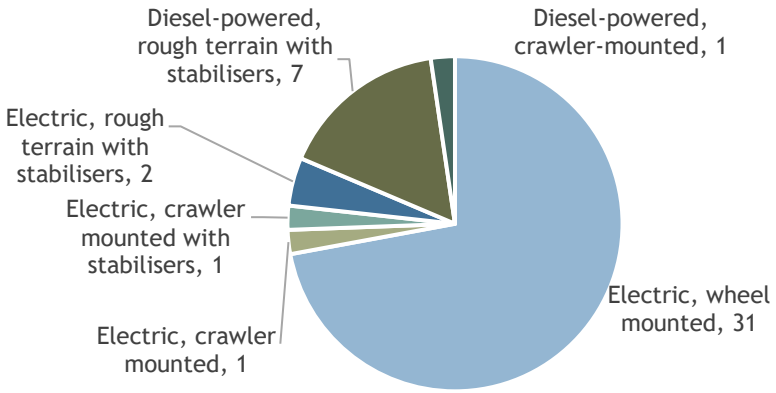
- *Group A: MEWPs where the vertical projection of the centre of the area of the platform in all platform configurations at the maximum chassis inclination specified by the manufacturer is always inside the tipping lines.*
- *Type 3: Travelling with raised work platform is controlled from a point of control at the work platform.*

The picture on the right portrays an example of scissor lift in this category.

Figure 4 Example of Scissor lift Group A Type 3

Scissor lifts may also be differentiated according to their power source (electric battery or diesel engine) and according to their means of travel (wheels, crawlers, with or without stabilisers).

The following graph shows the different types of scissor lift inspected under this project:



Given that the share of electric scissor lifts on the market is growing, the participating authorities decided to limit the proportion of inspected diesel-powered lifts to 25% and to focus mainly on electric-powered machines.

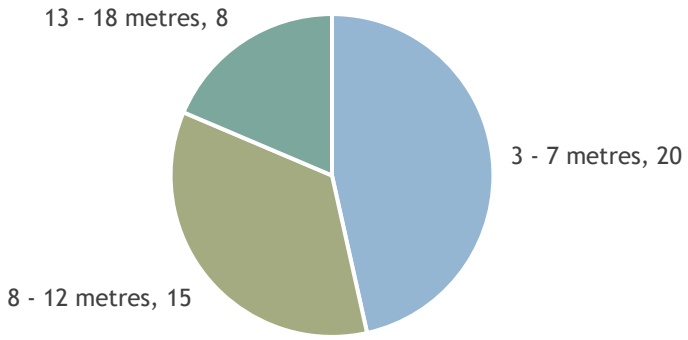
Diesel-powered scissor lifts are used for outdoor, rough terrain work and cannot usually be used indoors because of their gaseous engine emissions. Electric machines on the other hand can usually be used both indoors and outdoors, thus providing greater flexibility of use. Furthermore, they are less noisy.

A key parameter of the capacity of scissor lifts is the maximum height, which enables users to choose a machine appropriate to the tasks to be performed.

In their sales documents, manufacturers of scissor lifts usually indicate 2 heights: the **Maximum Platform Height** and the **Maximum Working Height**. The Maximum Platform Height is the distance between the ground and the floor of the work platform at the maximum extension of the scissors. The Maximum Working Height is about 2 meters higher than the Platform Height and corresponds to the height that can be reached by the hands of an operator standing on the work platform.

For the purpose of selecting models of scissor lift to be inspected, the Project Group decided to refer to the Maximum Platform Height.

The following graph indicates the ranges of Maximum Platform Height of the scissor lifts inspected:



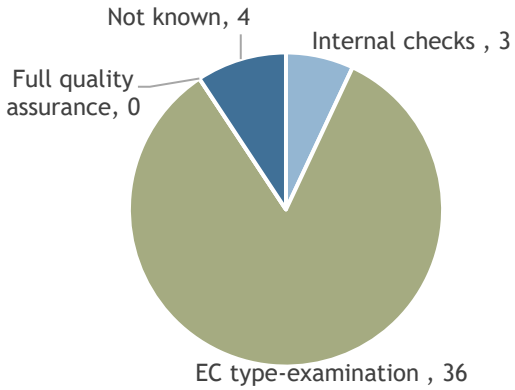
Conformity Assessment

Scissor lifts are listed under item 17 of Annex IV to the Machinery Directive 2006/42/EC.

Manufacturers of the categories of machinery listed in Annex IV have a choice of 3 conformity assessment procedures:

a) the procedure for assessment of conformity with **internal checks on the manufacture of machinery** (this option can be chosen if the manufacturer applies the relevant harmonised standard in full)
b) **EC type-examination** by a Notified Body.
c) Approval by a Notified Body of the manufacturer's **full quality assurance system**.

The following graph indicates the conformity assessment procedure followed by the manufacturers of the 43 scissor lifts inspected and tested.



The above graph shows that a large majority of manufacturers of scissor lifts opt for the EC type-examination procedure, while only 3 of the machines inspected were assessed by the manufacturers themselves, using the procedure for assessment of conformity with internal checks on the manufacture of machinery.

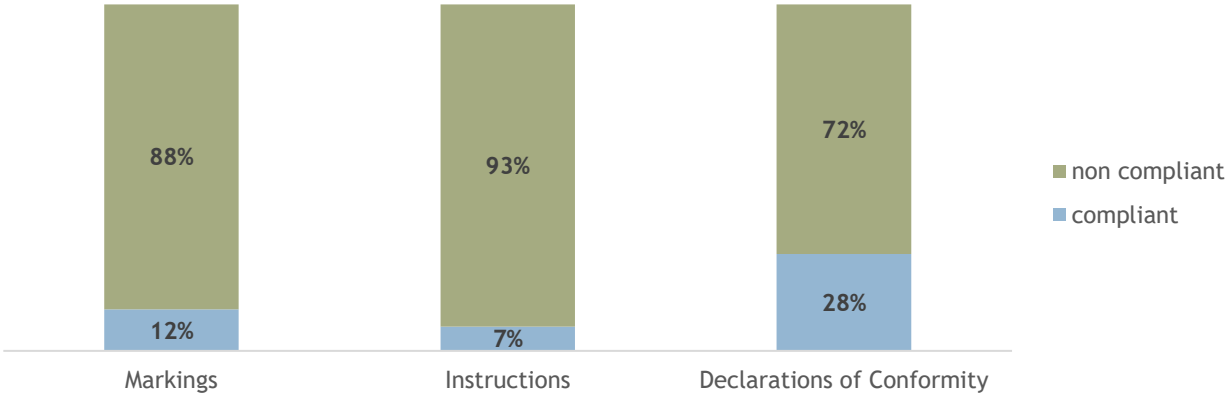
None of the manufacturers of the scissor lifts inspected used the option based on approval of their full quality assurance system, confirming the limited uptake of this option noted in similar surveys in the machinery sector.

In the cases where the conformity assessment procedure is indicated as not known, either no EC Declaration of Conformity was provided, or it did not indicate the procedure followed by the manufacturer.

Markings, Instructions and EC DoC

The participating MSAs verified the manufacturer's instructions and the EC Declaration of Conformity of the 43 sampled products. They found a high level of non-compliance with only 3 complete instructions and 12 complete and correct EC DoCs.

In addition, the markings on the scissor lifts, that provide information on correct use and safety warnings, were checked during the on-site inspections. Only 5 products presented complete markings.



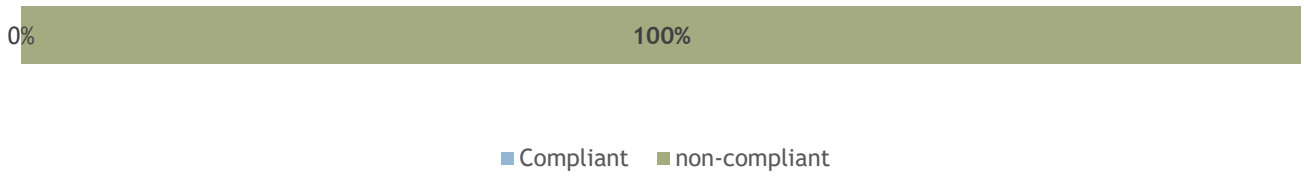
Even though these non-conformities are less serious than the technical non-conformities observed during inspections**, the lack of necessary warnings or instructions can increase the probability of accidents.**

Results of Inspections and tests

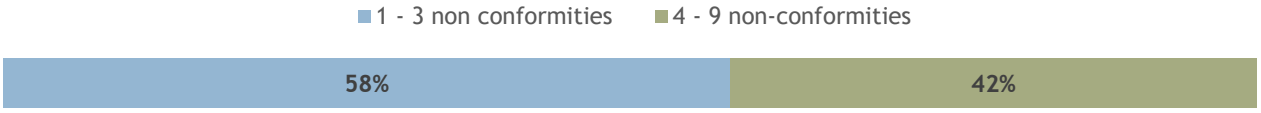
Most of the checks were carried out by means of **visual inspection and functional tests** at the premises of importers or distributors of scissor lifts or at rental companies, in each of the countries participating in the Joint Action, by a Technical Expert from the selected Inspection Body, assisted by the national inspection team.

In addition, 2 models of scissor lift were sampled and transported to the selected Inspection Body for more comprehensive inspection and testing. The outcome of these comprehensive tests showed similar results to those of the on-site inspections.

All of the scissor lifts inspected were non-compliant, with 42 out of 43 presenting more than 1 non-conformity.



The graph below shows the percentage of scissor lifts having between 1 and 3 and the ones having between 4 to 9 non-conformities:



The most frequent non-conformities detected concerned the **design of the handrails** on the work platform and the **dimensions of the ladder fitted for access to the work platform**. However, exchanges with Economic Operators have shown that the requirements of the harmonised standard for these design aspects have been subject to divergent interpretations. These issues will be discussed with the relevant standardisation group.

Other common non-conformities included:

- Malfunctioning of the 'first descent limit' intended to prevent bystanders from being caught in the scissor mechanism
- Insufficient ventilation of the battery compartment
- Malfunctioning of the emergency lowering device
- Possibility to select the indoor/outdoor mode outside the access position
- A lack of limitation of operation without stabilisers.

Among the most serious non-conformities identified were the **malfunctioning of the load sensor** and the **malfunctioning of the inclination indicator**. The table below explains the requirements for these two safety devices and the risks associated with their malfunctioning:

	Malfunctioning of the load sensor	*Malfunctioning of the inclination indicator*
Requirements	The load sensor should prevent the lifting of a weight higher than the maximum rated load. It should: • Actuate after the rated load is reached and before 120% of the rated load is exceeded. • When actuated, a visual and audible warning shall be given. • If the system is actuated while the work platform is stationary, it shall prevent all normal movement of the work platform. Normal movement can only restart if the overload is removed. • For MEWPs of Group A, the system need not be activated until the work platform is elevated more than 1 m or 10% of lift height, whichever is the greater. If an overload condition is sensed at or above this height, further elevation shall be prevented.	This indicator is fitted to prevent travel if the machine is on too steep a slope. In particular: • All MEWPs need to have a device that gives a visual or acoustic signal to indicate that the inclination of the chassis has reached the limits permitted by the manufacturer. • On MEWPs of types 2 and 3, while travelling out of the transport configuration, the device shall prevent the chassis exceeding those limits. When the chassis reaches the limit of inclination and the inclination limiter has been triggered, the device shall prevent continuation of travel in the selected direction. • The device shall be protected against damage, accidental change of its setting and unauthorised operation (e.g. sealed or locked).
Risks	Exceeding permissible stresses on the structure of the machine, leading to **mechanical failure**, to the **collapse** or to the **tipping over** of the machine in case of overloading.	This malfunctioning can lead to the **overturning** of the scissor lift.

Risk Assessment and Follow-up measures

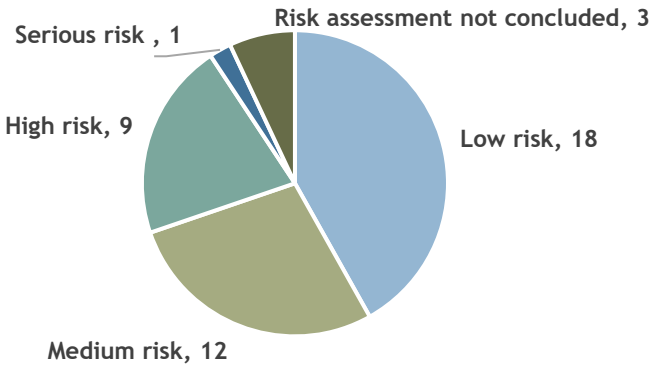
The **risk assessment** is the responsibility of each authority, however, in order to foster a common approach to important non-conformities, the project group worked together on some examples of risk assessment using the European Commission's online RAG application.

The method consists of the development of one or more accident scenarios triggered by the non-conformity considered. The application computes the severity of the possible injury in combination with the probability of occurrence of each step in the scenario, and generates a risk level: low, medium, high or serious.

The two non-conformities mentioned in the previous paragraph were the ones to which the participants assigned the higher risks, In particular:

- The malfunctioning of the load sensor was considered a **HIGH RISK**
- The malfunctioning of the inclination indicator was considered a **SERIOUS RISK**

The graph below shows the risk levels associated with each scissor lift, based on the non-conformities presented.



For three products, the risk assessment has not been concluded yet at the time of this report, due to ongoing discussions between the MSAs and the concerned EOs.

Based on the risk assessment, the MSAs took **corrective and follow-up measures** for all inspected scissor lifts. Since several different authorities had inspected models of scissor lift from the same brand, the project group adopted a method aimed at ensuring, as far as possible, a consistent approach. Each authority informed the manufacturers concerned (or their representatives) about the non-conformities detected. They then communicated the response of the manufacturer to the other authorities dealing with scissor lifts from the same brand, in order to discuss issues common to the different files.

All of the market surveillance files were notified to the internal area of the EU Information and Communication System for Market Surveillance (ICSMS), in order to make them available to the authorities of the other Member States.

To date, one non-compliant product posing a serious risk was notified on the EU rapid alert system for dangerous non-food products - Safety Gate.

In addition, as a result of the enforcement actions taken by the MSAs, **1 product was withdrawn, and 1 product was recalled** from the market by the responsible EOs.

In some cases, where the defects detected during the inspection seemed to have resulted from inadequate maintenance of the machines during use, the market surveillance authorities have transferred the file to the authorities in charge of **health and safety at the workplace**.

Conclusions and contribution to future work

The large number of non-conformities detected during the inspections and tests, including defects giving rise to **significant risks for users**, was an unexpected finding, given that the manufacturers of scissor lifts are mostly multi-national companies having strong design and regulatory conformity teams. Furthermore, their professional associations show a consistent concern for the safety of MEWPs, which are promoted as safer solutions for work at a height than alternatives such as ladders or scaffolding.

Overall, JAHARP2021-04 on scissor lifts has provided the participating MSAs with a **valuable experience of application of the 'on-site inspection' approach** to market surveillance of large and expensive products. At the same time, we believe that the impact of this Joint Action goes beyond the 9 participating authorities.

The experience and the lessons learnt from this project will be useful for the **conception and planning of future market surveillance actions** in the machinery and other sectors. The checklist for the documentary checks on instructions and the EC Declaration of Conformity and the inspection and test programmes developed for this project can be adapted and used for future work in this area.

Furthermore, the outcomes of the inspections and tests will enable all the EU MSAs to **plan and prioritise** checks on particularly problematic aspects of elevating work platforms in their future work.

The Joint Action has also had a **positive impact on the industry sector**, by raising considerable interest when it was initially presented to representatives of stakeholders. This interest was kept high through the development of the project until the end, when the results of the inspections and tests carried out during the Joint Action were presented to the representatives of the same stakeholder groups during the Final Conference held on 26 June 2024. The project took this opportunity to also share some elements identified as requiring particular attention from stakeholders. In particular, the results showed the **importance of carrying out functional tests** on each lifting machine before it is placed on the market (as required by the Machinery Directive).

Moreover, the Project Group has formulated a number of **suggestions for improvement of the harmonised standard EN 280** which are being shared with the European Commission and the relevant standardisation group.

PROSAFE is coordinating a number of other projects and Joint Actions with the aim of contributing to the implementation of Regulation (EU) 2019/1020, together with other regulations concerning product safety and energy efficiency. We will keep working with market surveillance authorities, consumer and business associations to ensure to ensure that products comply with EU Safety and Environmental Regulations.

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