

# A vision for the European weighing industry BY 2030



# // EXECUTIVE SUMMARY

The European weighing industry is world leader in its industry, providing high quality instruments for a wide range of situations. With this document, CECIP, as representative of the European weighing industry, describes its vision for the future of the industry in 5 key areas from harmonisation to digitalisation.

Weights and measures have been legislated for many centuries and at the moment the weighing industry is highly regulated. Certain legislation is harmonised at EU level, while other legislation is still national such as requirements for reverifications. Harmonisation of legislation, where not yet harmonised, has significant benefits and in Chapter 1 the areas are described where the EU Single Market should be strengthened.

The European weighing industry is working every day on producing weighing instruments compliant with EU legislation. When uncompliant products are placed on the market this results in both a risk for consumers and unfair competition amongst businesses. Therefore, it is important that state-of-the-art legislation is in place and market surveillance on weighing instruments is working properly. In Chapter 2 CECIP explains what should be done to reduce unfair competition and improve consumer protection in the coming decade.

Innovations, particularly in the field of digitalisation, are following each other in a rapid pace. To reap the full potential of these innovations it is important the right choices are made. Innovations should not be hampered and at the same time consumer protection should not be compromised. Chapter 3 on digitalisation describes the aspects that need to be considered to shape the future.

The weighing industry faces the same challenges as many other industries, especially in the engineering industry. To ensure the competitiveness of the European industry CECIP believes certain actions are needed. These actions are identified in Chapter 4.

Finally, the European weighing industry is part of a global industry and European scales are shipped all over the world. This globalisation brings great opportunities for the European weighing instruments and trade barriers should be reduced to allow for these opportunities. What needs to be done to make this possible is described in Chapter 5.





# INTRODUCTION

CECIP<sup>1</sup> is the association representing the European weighing industry. It consists of companies that design, manufacture, import and/or install weighing instruments and provide related services. Weighing instruments cover a large variety of products resulting in an industry turnover of around 3 billion euro and approximately 4,500 companies of which the vast majority are SMEs.

Instruments are being developed to meet a wide range of expectations and needs of industrial, commercial or individual users and end-users (consumers), and last but not least to comply with regulatory requirements. Examples include:

- **High precision scales capable of discriminating up to one tenth of a microgram, essential for scientific research in areas such as searching for new materials, new health molecules, better food or innovations in cosmetics**
- **Retail scales in shops and supermarkets**
- **Scales for parcel transport and mail**
- **Weighing of babies and adults for medical purposes**
- **Large capacity scales for trucks and rail cars that ensure fair trade and also prevent traffic accidents and costly damage to roads by overloading transport vehicles**
- **Weight control on container ships to prevent maritime accidents**
- **Automatic weighing systems in production lines, which guarantee the exact weight in the packaged products and the rights of consumers**
- **Weighing equipment in the chemical, food and pharmaceutical industries that are essential in order to control the reliability, repeatability and traceability. All to assure safety within production processes for food and medicines for humans or animals as well as fertilizers for agriculture**

In short, the use of reliable and trustworthy weighing instruments helps innovation, ensures trade, protects the consumer and environment and contributes to sustainable development. The European weighing industry aims to provide high-quality weighing instruments that support end-users in the best possible manner.

CECIP's mission is to work with all stakeholders to improve and harmonise standards and legislation. Standards are mostly voluntary, while legislation is mandatory and set in EU or national legislation. Improving these is achieved by contributing to the development of globally harmonised and mutually accepted standards. These standards guarantee the reliability of weighing instruments and, with CECIP's support European manufacturers are encouraged to implement these standards. Their use will improve compliance with legislation within the industry and improve the protection of European users and consumers.

This document provides the CECIP vision for the future of the European weighing industry and describes what should change, established and implemented in order to reach the industry's full potential. Innovations may result in substantial changes where choices need to be made. Furthermore, improvements are possible on other aspects that will benefit users, society and the weighing industry.

<sup>1</sup> Comité Européen des Constructeurs d'Instruments de Pesage

# 1 FURTHER HARMONISE LEGISLATION FOR WEIGHING INSTRUMENTS

Weighing instruments need to be in compliance with EU or national legislation when they are being placed on the EU market. Existing EU Directives have harmonised the design, manufacturing and installation requirements of both automatic<sup>2</sup> and non-automatic<sup>3</sup> weighing instruments. CECIP welcomes this harmonisation as it facilitates easy cross-border trade of weighing instruments. According to CECIP this harmonised legislation and the related guides should be consistent, clear and easily understandable.

Additionally, to ensure the correct functioning of weighing instruments during its full lifetime, instruments are both periodically controlled and controlled after an instrument is repaired. The rules for these periodic re-verifications and re-verifications after repairing instruments are not set in EU legislation, but only in national legislation. Consequently, there are significant differences in the requirements between the EU Member States. CECIP is convinced that further harmonisation and privatisation of these re-verification requirements will be beneficial for all stakeholders. It is especially important considering potential innovations in areas such as digitization, this makes harmonisation in the short term preferred. For digital developments it is important there is one European Single Market and the divided market for reverifications may hamper innovation.

Further harmonisation will make it easier for companies to carry out re-verification services in other Member States. The administrative burden will decrease, and less unnecessary and cumbersome audits need to be carried out to fulfil the individual requirements in each Member State. At the moment only an estimated 18% of the companies in the weighing industry carry out official reverifications abroad in contrast to 64% of them repairing or maintaining instruments abroad. This indicates that the main problem to carry out the reverifications is not distance or language as the companies are active abroad despite these boundaries. According to a recent CECIP survey around three-quarters of the manufacturers consider the main reason for this discrepancy the differences in rules and procedures for carrying out these official reverifications. Particularly, for SMEs the costs to be active in other EU markets are too high.

Even for the companies carrying out the reverifications abroad harmonisation has significant benefits, the total savings of further harmonisation estimated by CECIP are at least 6 million euro per year. Harmonisation of legislation will have a clear positive impact on the competitiveness of the European weighing industry.

Further harmonisation includes greater consistency of the re-verification procedures. In several Member States reverifications are still only carried out by governmental bodies, while in many other Member States private entities including manufacturers carry out reverifications. Experience in those countries shows that the quality of reverifications and extensive application is guaranteed when private entities carry out the reverifications. At the same time there are advantages of opening the market. It provides more business opportunities for the European weighing industry and results in increased competition as private entities can provide the same services as governmental bodies.

More service providers available will be beneficial for users of weighing instruments that are responsible for the reverifications. Generally, more competition will result in more choice, better service, higher flexibility and lower prices for the users. E.g. stopping the production for a periodic re-verification is costly during operational hours; private companies are often more willing to carry out the reverifications out of office hours. It will also reduce disruptions when the manufacturer that repairs the weighing instrument can do the re-verification at the same time.

Furthermore, consumers are best protected when re-verification requirements are state of the art and the most experienced and competent companies carry out the reverifications. Harmonisation and privatisation can contribute to improved consumer protection. This is further explained in the next chapter.

Strengthening the EU single market with further harmonisation and privatisation is possible in various manners. CECIP's view is that the following four initiatives will have major benefits for users, consumers, industry and society in the future:

<sup>2</sup> Directive 2014/32/EU

<sup>3</sup> Directive 2014/31/EU

## 1 HARMONISATION OF REVERIFICATION REQUIREMENTS

Reverification requirements are different in each Member State resulting in barriers to trade for companies and suboptimal legislation in certain Member States. According to CECIP these reverification requirements should be harmonised to improve consumer protection and to encourage the free movement of services. This includes harmonisation of the tests carried out during reverifications and having one authorisation to carry out reverifications in all EU Member States.

## 2 ALLOW PRIVATE REVERIFICATIONS IN ALL EU MEMBER STATES

Depending on the country, reverifications may be carried out by governmental bodies or private entities. CECIP's view is that reverifications should be allowed by private entities including manufacturers in all EU Member States. This provides benefits for users and business without compromising quality.



## 3 MUTUAL RECOGNITION OF REVERIFICATION AUTHORISATIONS

To carry out reverification services in an EU Member State it is necessary to obtain an authorisation that guarantees the quality of the reverifications. In most countries these requirements for authorisations are relatively similar and based on the same or very similar approved standards. Still, a separate authorisation including audit is necessary in each country. These separate authorisations are cumbersome and do not have any positive effect on the accuracy of weighing instruments. Therefore, mutual recognition of reverification authorisations should be accepted.

## 4 COOPERATE TO HAVE CONSISTENT INTERPRETATIONS

Although legislation for placing on the market weighing instruments is harmonised, different interpretations exist on certain elements. For instance, in certain countries certain price-labelling instrument instruments can print a receipt when the weight is below the minimum permitted by the scale and in other countries this is not accepted. This means companies need to adapt their instruments to meet special national requirements causing unnecessary costs and barriers to trade. CECIP calls on authorities to coordinate their interpretations via platforms such as WELMEC (European Cooperation in Legal Metrology).

## 2 IMPROVE CONSUMER PROTECTION

The European weighing industry is committed to manufacture high-quality, trustworthy and compliant scales. Resources are invested to guarantee products comply with all European legislation and standards. Unfortunately, not all products that are placed on the EU markets are compliant. A CECIP project from several years ago showed that a number of scales tested didn't meet the requirements of EU law. This results in unfair competition since CECIP companies bear the cost of compliance with legal requirements, while others may not. Furthermore, this reduces consumer protection as not all scales on the EU market function accurately and reliably. CECIP supports initiatives that contribute to reducing noncompliant weighing instruments being placed on the EU market.

During the lifetime of the instrument its accuracy is not always ensured. Therefore, national reverification requirements are in place in most EU countries to ensure there are checks on a periodical basis or after a repair.

However, CECIP believes that improvements in national reverification requirements are possible in certain countries. This will positively impact consumers all over Europe as weighed products move freely within the EU single market.

If harmonisation is combined with private companies carrying out reverifications it will free resources within the authorities to increase market surveillance actions. This increased market surveillance should improve compliance of installed weighing instruments and, consequently, consumer protection. At the same time via privatisation will make it easier to request reverifications by consumers as more suppliers are available. This will improve compliance as well.

Therefore, to reduce unfair competition and improve the consumer protection in the EU, CECIP believes the following actions are necessary:



# 1 ENHANCE MARKET SURVEILLANCE WITH BETTER COOPERATION BETWEEN CECIP AND MARKET SURVEILLANCE AUTHORITIES

The most important action to reduce non-compliance is enhancing market surveillance for weighing instruments. CECIP wants to set-up joint activities with market surveillance authorities to reduce non-compliance. To formalise this cooperation, CECIP invites market surveillance authorities to establish a closer cooperation between market surveillance authorities and CECIP as is specified in the Market Surveillance legislation<sup>4</sup>.

# 2 ENHANCE MARKET SURVEILLANCE BY FOCUSING ON METROLOGICAL CHARACTERISTICS

Currently, market surveillance in all countries is focusing on checking CE marking, the availability of the CE declaration of conformity, the information accompanying the product and the label fixed on the product.

CECIP is asking market authorities to focus on the metrological characteristics and their conformity with legislation such as performance and reliability. Such simple test can also be performed easily in the market place without too much extra effort. This should include tightening enforcement actions to end infringement.



# 3 HARMONISE REVERIFICATION REQUIREMENTS

## 2

Reverifications are an important element of legislation for weighing instruments. To completely trust the weighing instruments, these requirements need to be in line with the latest developments. In certain countries these reverification requirements should be improved to enhance consumer protection. CECIP is convinced that this can be done best at European level to ensure consumers are protected irrespective of the origin of the weighed product.

# 3 DIGITALISATION

The future of Europe is digital. Digitalisation of the European weighing industry is a key aspect of the industrial future and provides a range of new opportunities. The European weighing industry is constantly improving their products and services, and digital innovations are essential in the field of modern weighing instruments and state-of-the-art weighing solutions.

**These innovations have significant benefits. Some examples are:**

- Software, e.g. cloud-based solutions and solutions for fraud prevention and detection, will become an increasingly important part of a weighing solution or weighing services independent from the weighing hardware. This allows existing companies to enter new fields of business or new business providers to enter the weighing market.
- Productivity in factories can be increased due to weighing instruments being part of the Industry 4.0.
- Downtime of machines can be reduced when installed weighing instruments communicate their needs regarding maintenance by means of predictive maintenance algorithms.
- Agriculture can be made more sustainable when weighing instruments are used to spread the right amount of fertilizer to increase yields and lower the environmental footprint.
- Consumer's will increasingly be facing and using smart devices and smart technologies such as «smart fridges» or «smart (supermarket) scales» where weighing instruments can be instructed by consumers to order or deliver products or regular basis or before they are used up.

Moreover, weighing equipment, weighing solutions and weighing services are integrated into computerised process control for trade and advanced industrial production, e.g. as part of solutions and initiatives using web based/cloud solutions, blockchain technologies, artificial intelligence (AI) aspects and/or machine learning functionalities. These IT solutions are controlled by companies that implement or merge hardware and software through the IT departments of production chain companies, providers of IT and/or cloud services, as well as distribution and consumer channels. All these hardware and software companies should become part of the weighing industry and should be integrated into the national, regional and global regulatory framework.

The European weighing industry is working hard to make these innovations happen. To reap the full potential of the opportunities it is important that these developments are not hampered, but actively encouraged. All without compromising the consumer protection by having reliable and accurate weighing instrument. Hence, legislation and guides should be ready for this digital age and be updated.

**To realise the potential, the following actions should be taken:**



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## DEFINE DIGITALISATION FRAMEWORK FOR INNOVATIONS

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CECIP encourages the introduction of a digitalisation framework that covers future needs within the weighing industry, be it from the point of view of the manufacturers, users or consumers, and regulatory authorities. Taking into account digital developments in the field of fraud prevention and detection, blockchain technologies and artificial intelligence (AI) it is important the legal framework is fit for purpose to deal with these technologies and the changes that come with them.

The legal framework should be set to allow the development and introduction of new technologies. This can be done by defining and embedding respective future specifications and standards that avoid hampering innovation and ensure consumer protection.

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## ENCOURAGE OPC/UA COMMUNICATION INTERFACE STANDARD

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Weighing instruments must be able to communicate easily with other systems in the value chain. This is easier when there is a common communication interface. As a first step towards further digitalisation the European weighing industry developed a voluntary OPC UA standard. CECIP believes the use of this communication interface standard should be encouraged to foster the digitalisation of the weighing industry.



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## EMBED NEW SERVICES AND/OR NEW ECONOMIC PLAYERS IN THE LEGAL METROLOGY FRAMEWORK

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Innovations where weighing software becomes independent from hardware, e.g. in a weighing cloud framework, may result in new economic players entering the weighing business and new services becoming part of the weighing process. CECIP wants to assure that hardware and software specifications are properly implemented by economic players dealing with aspects such as data transaction and process control on top of simple weighing data acquisition from weighing sensors.

This changes the situation with respect to legal metrology and raises questions on aspects such as the entity responsible for product liability and applicable legal requirements. Clear rules should be set with respect to these new companies and services to include them in the legal metrology framework.

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## SIMPLIFY SOFTWARE REQUIREMENTS

Details on software requirements for weighing instruments are generic in nature in EU legislation. Details are set in WELMEC guides and harmonised standards. Due to extra requirements being added with each revision the guides include overly technical and complicated requirements that are open to different interpretations. These software requirements should be futureproof, and this can be done by making simpler, transparent and aligned WELMEC guides.

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## RISK BASED APPROACH

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The present legal framework consists of requirements that are based on outdated concepts that reflect the status of technology in the early 2000's. It does not clearly address the state-of-the-art technologies and often the market surveillance authorities feel that the present concepts required by legislation are incomplete and confusing.

According to CECIP the software requirements should widen the scope of the technical scenarios to include a wider range of options and configurations and move away from specific technical solutions. It will provide manufacturers the possibility to fulfil the essential requirements using risk assessment tools which will help identifying the impact of changes to software.

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## SET RIGHT RULES ON DATA TRANSMISSION

With the increase of data collected and transmitted by weighing instruments it is important that this data transmission is reliable. Therefore, there needs to be control of metrologically significant information. This level of legally prescribed control should be appropriate when set in national or European legislation. The right balance needs to be found between risk management and the burden of the controls.



# GENERAL INDUSTRIAL STRATEGY

The European industry is an important element of the European economy. Within the European industries millions of people are employed including 50,000 within the European weighing industry. On top of that millions are employed in European industry's supply chain and related sectors. In many of those sectors such as the weighing industry, the European industry is world leader. For the future of Europe, CECIP believes it is essential that these industries remain competitive and will be able to contribute to the European economy and increase employment.

At the moment there are many challenges and opportunities for the European industry. For example, challenges to find employees with the right skills. For the competitiveness of the European industry it is important initiatives are taken to tackle these challenges and offer more opportunities.

Next to the specific issues for the weighing industry, the CECIP calls on the EU institutions to support the general competitiveness of the European industry. **The main actions that should be taken are:**



# 1 DEVELOP AN INDUSTRIAL STRATEGY

- The European industry is important for the European economy. Still, there is at the moment no holistic EU strategy for the European industry. An EU industrial strategy that provides guidance on initiatives at EU and national level should be developed. CECIP is part of the Industry4Europe coalition consisting of over 100 European industry associations that requests the development of the EU industrial strategy.

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# 2 SUPPORT INNOVATION WITH EU RESEARCH FUNDING

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- One of the key comparative benefits of the European weighing industry is the high-quality research and development. EU research programmes such as Horizon 2020, Horizon Europe and EMPIR are encouraging the developments of new technologies and innovations. EU research programmes and innovation policies should remain a cornerstone of EU policy.

# 3 ENCOURAGE THE RIGHT SKILLS

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- Innovations in weighing instruments such as digitalisation will result in changes in the skills necessary to work in the European weighing industry. Hence, it is vital that the right skills for these changes are available within the companies. The EU and Member States should invest in education and lifelong learning. Moreover, the European workforce should be stimulated to obtain the skills necessary for the future.



# 5 INTERNATIONAL COOPERATION

Weighing instruments produced by the European industry are sold all over the world. European instruments are considered reliable, accurate and of high quality. This results in a strong place of the European weighing industry on the world market.

CECIP calls on all stakeholders to reduce trade barriers and support the industry to make use of the global opportunities. **This can be done in the following ways:**



## 2 SUPPORT THE WORK OF OIML

The International Organisation of Legal Metrology (OIML) works on global standards (so-called recommendations) for the weighing industry. These standards are implemented and used in a large number of countries enabling weighing instruments to cross the globe without significant modifications. CECIP welcomes the international cooperation on OIML level and fully supports the work done in areas such as the OIML Certification System. It calls on all OIML member states to contribute to OIML and work on the worldwide acceptance of OIML recommendations and the OIML Certification System.

## 1.5 CONTINUE THE WORK ON FREE TRADE AGREEMENTS

Where trade barriers are reduced, opportunities arise for the European weighing industry. To foster trade the EU should continue the good work on new free trade agreements. These free trade agreements can reduce tariffs, encourage regulatory convergence or allow for mutual recognition of conformity assessments. CECIP believes reducing trade barriers could be particularly interesting for countries with a high potential for the weighing industry.

## 3.5 STRONGER COOPERATION BETWEEN WEIGHING INDUSTRY ASSOCIATIONS

At the moment CECIP works closely together with weighing industry associations from the US, Japan and China. CECIP values this cooperation and believes it is important to work together as a global industry. It provides a useful platform to exchange information on developments in different parts of the world and align positions. Therefore, CECIP aims at strengthening this cooperation in several areas in the future.

# 6 CONCLUSION

The European weighing industry is committed to remain a world leader in the next decade in order to enable users to contribute to a better world. Moreover, it will support the European economy and guarantee employment in Europe. CECIP calls on EU and Member States' decision-makers to take the necessary initiatives to ensure the competitiveness of this industry and, in parallel, protect consumers with safe and reliable manufactured products.

One of the main points is that it is vitally important that, by 2030, the European weighing industry should be faced with a true single European market for products and services such as reverifications. CECIP believes it is essential that the metrological legislation and guides establishing the requirements for the design, production and periodical verification of weighing instruments are fully harmonised in the EU. European legislation on reverification services for weighing instruments in the EU must be developed and enforced.

Where harmonised and efficient regulation for design and production of weighing instruments is already in place, private entities, including manufacturers, must be allowed to carry out the official reverifications. The owners and users of weighing instruments should be able to freely choose their providers of reverification services, based on criteria of proximity, efficiency, quality and proportionate costs. In this environment, companies in the weighing industry will be able to focus on research and innovation ensuring growth and wealth for all involved parties.

Additionally, there should be fair competition and consumers and business are well-protected since weighing instruments function correctly or noncompliant products are taken from the market. All this must be guaranteed by adequate market surveillance.

An EU industrial strategy should in place that tackles the main challenges of the European industries to ensure its general competitiveness. At an international level European instruments can be sold all over the world with, as much as possible, frictionless trade.

Finally, weighing instruments must be fully integrated into the digital world through communication interfaces that are compatible with other control and data processing equipment. In the next decade the weighing industry will innovate continuously and further develop new products and services. Therefore, legislation should not become overly rigid, thereby making it difficult or impossible to implement and apply technological developments.



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