

Working Group 5 - Joint Project 2020 - 2021

Fuel dispensers

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1. Summary

Between June 2020 and November 2022, eleven market surveillance authorities from eight Member States plus Norway, Switzerland and Turkey carried out a joint action in the field of fuel dispensers used in petrol stations to check if they fulfilled the Measuring Instruments Directive (Directive 2014/32/EU). This market surveillance action consisted in a full evaluation control including the performance of some tests on the field and was a combination of market surveillance and inspection in use. Fifty-three dispensers were examined during the project, corresponding to nine different models of equipment, fifty of which were subjected to the accuracy tests, while the remaining three only passed some general controls.

Even though of the fifty-three fuel dispensers that were examined eleven (21%) presented some non-conformity, the general impression of the market surveillance authorities after completion of this joint activity is that the fuel dispensers on the EEA market are functioning properly and, apart from minor defects of a formal nature, mainly associated with their operating software, comply with the applicable European harmonization regulation.

2. Justification of the project

Market surveillance is vital to the smooth functioning of the Single Market. It is essential in protecting European consumers and workers against risks presented by non-compliant products. In addition, market surveillance helps to protect responsible businesses from unfair competition by unscrupulous economic operators who ignore the rules or cut corners. It should also act as a powerful deterrent.

But market surveillance in a context like the European one, needs a coherent and common approach from all Member States, and coordination between the different enforcement authorities to detect, identify and remove from the market any non-compliant product, regardless of in which Member State that product is found. If that is not the case, the “faulty” products will inevitably end up in markets where the Member State’s market surveillance is less strong and efficient.

This approach is applicable to all products with a harmonised European legislation, and among them, the measuring instruments regulated by Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (MID).

Aware of this, the national legal metrology authorities gathered at WELMEC (European Cooperation in Legal Metrology) created a specific Working Group (WG5 Metrological Supervision) inside this WELMEC organization concerning market surveillance.

One of the main objectives of this group is to coordinate market surveillance and surveillance activities, to improve the coordination of the practical enforcement work, and to promote equivalent, effective and sufficient levels of metrological supervision across Europe, and thus achieve a level playing field for economic operators and an equal level of consumer protection across the EU.

With this goal in mind, encouraged by the European Commission, the WELMEC Committee and their national authorities, the members of WELMEC WG5 decided in 2020 to design and implement a European joint action concerning fuel dispensers.

The reason for this choice was that, according to the “*Report on the implementation of the Measuring Instruments Directive 2004/22/EC pursuant to its Article 25*”, elaborated by the Commission for the European Parliament and the Council in June 2011 (COM(2011) 357 final), around 31,200 measuring systems for liquids other than water are sold annually in the EU. This implies that this kind of instruments represent around 7,4% share of the measuring instruments EU market and the majority of them are fuel dispensers, as these measuring systems are installed in every petrol station around EU.

Moreover, apart from the number of fuel dispensers that are sold annually in the EU, it is also very relevant to know the importance of the products that are measured with them. In this regard, oil and petroleum products accounted for the biggest share (35,0%) in the structure of final energy consumption in EU in 2020, and around 89% of these consumption comes from motor gasoline, gas oil and diesel oil. As all these products are measured using fuel dispensers and taking into account their price in the last decade, it is clear that the presence and installation of fuel dispensers that don’t comply with the MID, could be manipulated or don’t measure properly, could have a tremendous impact on the consumer confidence in the control system, thus severely damaging the regional, national and European institutions involved in consumer protection and market surveillance.

3. Objectives of the project

The main objectives of the project were as followed:

- To carry out a joint enforcement action in the participant Member States to verify that the fuel dispensers put onto the EU market comply with the provisions of Directive 2014/32/EU.
- To enhance the efficiency and effectiveness of the market surveillance system concerning measuring instruments in Europe.
- To improve the coordination of the practical enforcement work carried out in relation to measuring instruments in Europe to promote equivalent, effective and sufficient levels of metrological supervision across Europe, and thus achieve a level playing field for economic operators and an equal level of consumer protection across the EU
- To gather information about the fuel dispensers that are sold in the EU
- To strength the confidence of EU citizens in the national and European market surveillance systems
- To show manufacturers, importers and different stakeholders involved in the petrol sector that Member States are taking coordinated actions of market surveillance in this particular field.

4. Participants

The following eleven market surveillance authorities (MSA) participated in the project, which was initially coordinated by Bulgaria and, in later stages, by Slovenia and Spain:

Participant name	Country	Population affected (MMp) – 2020
State Agency for Metrological and Technical Surveillance (SAMTS)	Bulgaria	6,9
Direction Générale des Entreprises	France	67,1
Landesbetrieb Mess- und Eichwesen NRW	Germany	83,2
National Standards Authority of Ireland (NSAI)	Ireland	4,9
Agentschap Telecom	The Netherlands	17,4
Norwegian Metrology Service	Norway	5,4
Biroul Român de Metrologie Legală	Romania	19,3
Metrology Institute of the Republic of Slovenia	Slovenia	2,1
Consejería de Economía, Hacienda y Empleo de la Comunidad de Madrid	Spain	47,3
Federal Institute of Metrology	Switzerland	8,6
Metroloji ve Sanayi Ürünleri Güvenliği Genel Müdürlüğü	Turkey	83,1
		345,3

Table 1: Market surveillance authorities that participated in the project

5. Description of the project

A market surveillance action can consist of different levels of control depending on the approach the MSA wants to use. This can vary from a formal check or documentary control to a full evaluation.

In this particular case, the market surveillance action consisted in a full evaluation control including the performance of some tests on the field and was a combination of market surveillance and inspection in use.

In order to design and implement the joint action, the following regulations, guidelines and harmonised standards were used:

A. Regulations:

- Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments.
- Regulation (EC) N° 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93.

- Regulation (EU) 2019/1020 of the European Parliament and of the Council of 20 June 2019 on market surveillance and compliance of products and amending Directive 2004/42/EC and Regulations (EC) N° 765/2008 and (EU) No 305/2011.

B. Normative document:

- OIML R117-1 (Edition 2007) “Dynamic measuring systems for liquids other than water – Part 1: Metrological and technical requirements”.

C. Guides and recommendations:

- WELMEC Guide 5.2 “Market Surveillance Guide (NAWI and MID)” (2015 edition).
- WELMEC Guide 5.3 “Risk Assessment Guide for Market Surveillance: Weigh and Measuring Instruments”.
- The 'Blue Guide' on the implementation of EU product rules (2016 edition).

In general, the action was to be carried out choosing two different types of fuel dispensers in each participant’s country. Given that it was difficult to gain access to this type of equipment that was still in the supply chain and that in a significant number of cases the conformity assessment procedure was not completed until the equipment was installed at the place of use, the project opted to examine fuel dispensers that were already in use at petrol stations. In this sense, in order to avoid that the use of the equipment would have altered its metrological conditions, dispensers were chosen to which the supplementary metrology marking would have been affixed by 2019 at the earliest. Of these two dispensers examined, at least one of them was subjected to metrological tests at the place of use. It is important to clarify that it was not possible to avoid double testing of the same types in different countries, since the market surveillance authorities could not be aware of the fuel dispenser type they were going to examine until they were at the corresponding petrol station.

The controls and tests performed during the project are listed below:

I. General controls:

- Formal checks/documentation control.
- Check of the suitable securing of the instrument, the necessary markings and inscriptions and the software version installed.

II. Tests:

- Accuracy testing for determination of errors, according to point 6.1 of Annex A of R117-1.

The scope of each control and test was uniform for all participants, this being guaranteed by the definition of a common protocol to be used during the examinations.

The joint project took place between June 2020 and November 2022, when the final results were presented to the members of WELMEC WG5.

6. Characteristics of the tested fuel dispenser

Fifty-three dispensers were examined during the project, corresponding to nine different models of equipment. Of the fifty-three devices tested, fifty were subjected to the accuracy tests, while the remaining three only passed the general controls mentioned above.

Although the minimum number of fuel dispensers to be tested was two per participant, some market surveillance authorities examined a larger number, which made it possible to obtain a more representative sample of the market. The following figure shows the number of dispensers tested per participant as well as how many of them were tested for accuracy:

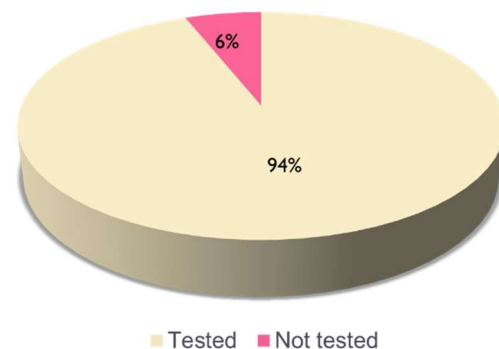


Figure 1. Proportion of tested and not-tested fuel dispensers

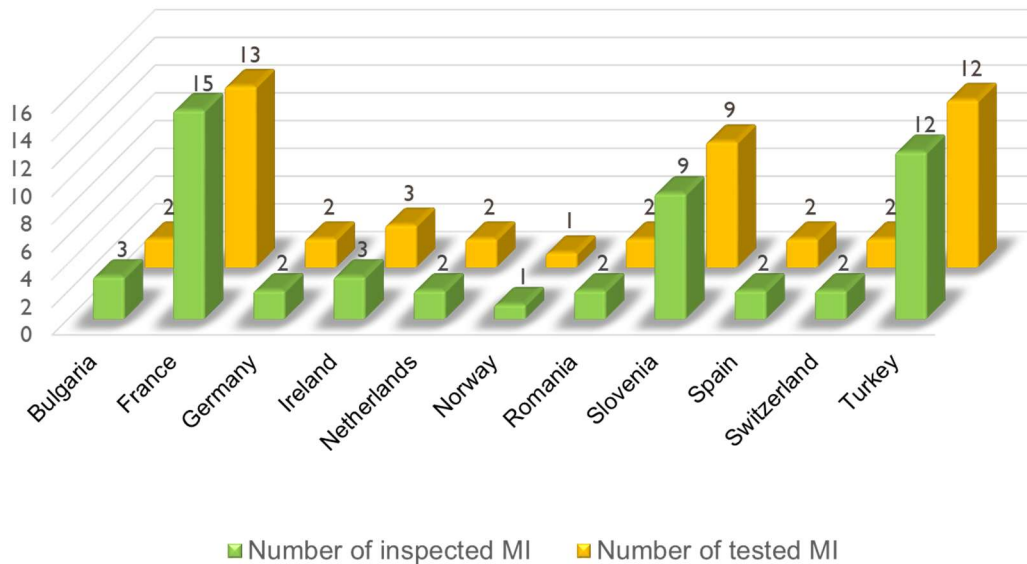


Figure 2. Number of fuel dispensers inspected and tested by each participant

The fifty-three fuel dispensers examined corresponded to nine different types of eight different manufacturers.

Concerning the conformity assessment procedure used to put them into the market, all of them had undergone a module B + module D.

Five notified bodies participated in the modules B (EU-type examination) and six were involved in the supervision of module D (conformity to type based on quality assurance of the production process).

	Number
Participants	11
Fuel dispensers examined	53
Types examined	9
Manufactures	8
Notified Bodies for module B	5
Notified Bodies for module D	6

Table 2. General figures

The tables below show the types examined and the manufacturers of the devices.

Type	Fuel dispensers	%
Type 1	18	34%
Type 2	16	30,2%
Type 3	6	11,3%
Type 4	4	7,5%
Type 5	3	5,7%
Type 6	2	3,8%
Type 7	2	3,8%
Type 8	1	1,9%
Type 9	1	1,9%
TOTAL	53	100%

Table 3. Types of fuel dispensers examined in the project

Manufacturer	Fuel dispensers	%
Manufacturer 1	18	34%
Manufacturer 2	18	34%
Manufacturer 3	6	11,3%
Manufacturer 4	4	7,5%
Manufacturer 5	3	5,7%
Manufacturer 6	2	3,8%
Manufacturer 7	1	1,9%
Manufacturer 8	1	1,9%
TOTAL	53	100%

Table 4. Manufacturers of the fuel dispensers examined in the project

Concerning the notified bodies involved in the conformity assessment procedures used by the manufacturers of the examined fuel dispensers, the following tables show that two thirds of the EC-type examination certificates were issued by two notified bodies and that those same notified bodies controlled the module D of nearly 90% of the examined measuring systems.

Notified Body	Types issued	Fuel dispensers affected
Notified Body 1	3 (33,3%)	35 (66%)
Notified Body 2	3 (33,3%)	12 (22,6%)
Notified Body 3	1 (11,1%)	3 (5,7%)
Notified Body 4	1 (11,1%)	2 (3,8%)
Notified Body 5	1 (11,1%)	1 (1,9%)
Total	9	53

Table 5. NoBo involved in modules B

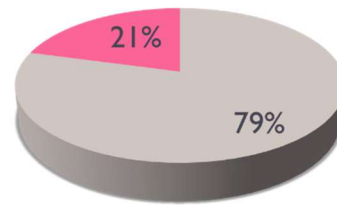
Notified Body	Fuel dispensers affected	%
Notified Body 1	33	62,3%
Notified Body 2	12	22,6%
Notified Body 3	3	5,7%
Notified Body 6	3	5,7%
Notified Body 7	1	1,9%
Notified Body 5	1	1,9%
Total	53	100%

Table 6. NoBo involved in modules D

7. Results

Of the fifty-three fuel dispensers that were examined, eleven (21%) presented some non-conformity. On eight of those eleven cases, the non-conformity was related to the software, in one was related to the software and the sealing, in another to the UE declaration of conformity and in the last one the accuracy errors exceeded the maximum permissible errors.

The non-compliant dispensers were spread across six different countries, with Slovenia detecting the largest number of non-compliant dispensers. However, it should be noted that the Slovenian market surveillance authority was one of the three that examined the largest number of equipment, so the probability of detecting any nonconformity was higher than in many other countries.



■ Compliant ■ Non-compliant

Figure 3. Proportion of examined fuel dispensers that presented some non-conformity

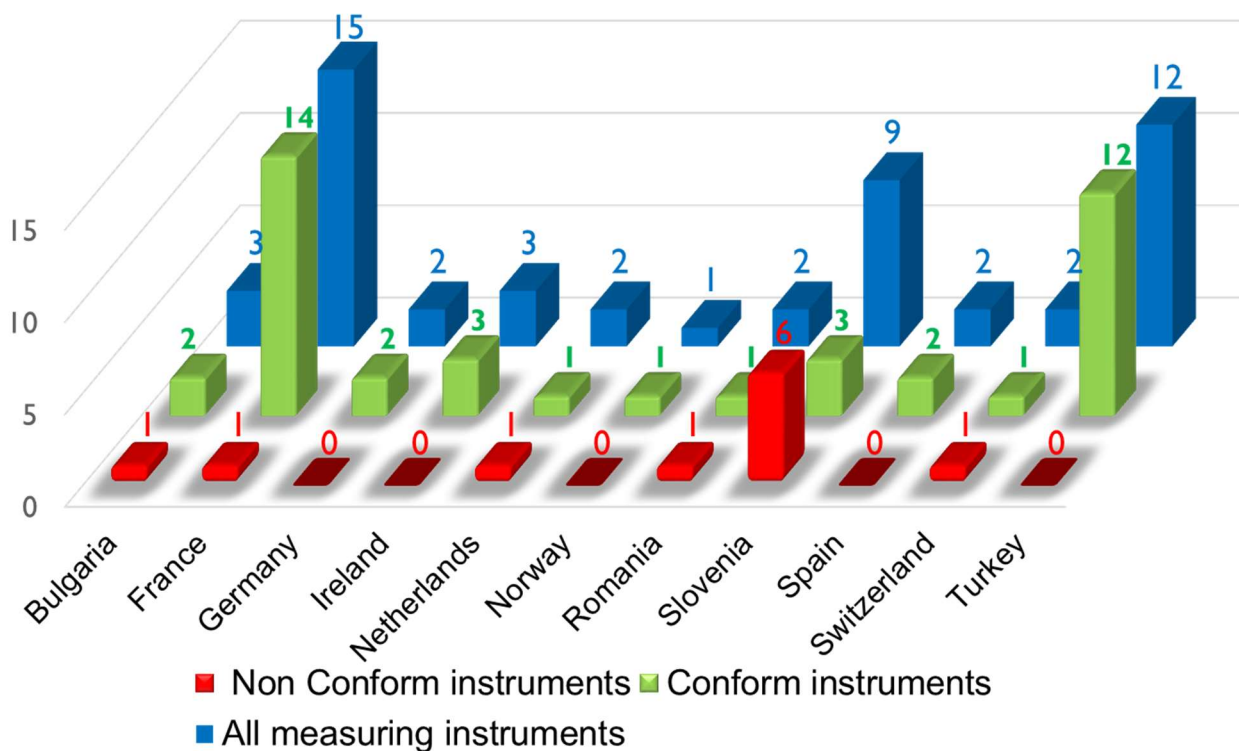


Figure 4. Number of non-conform fuel dispensers detected by each participating MSA

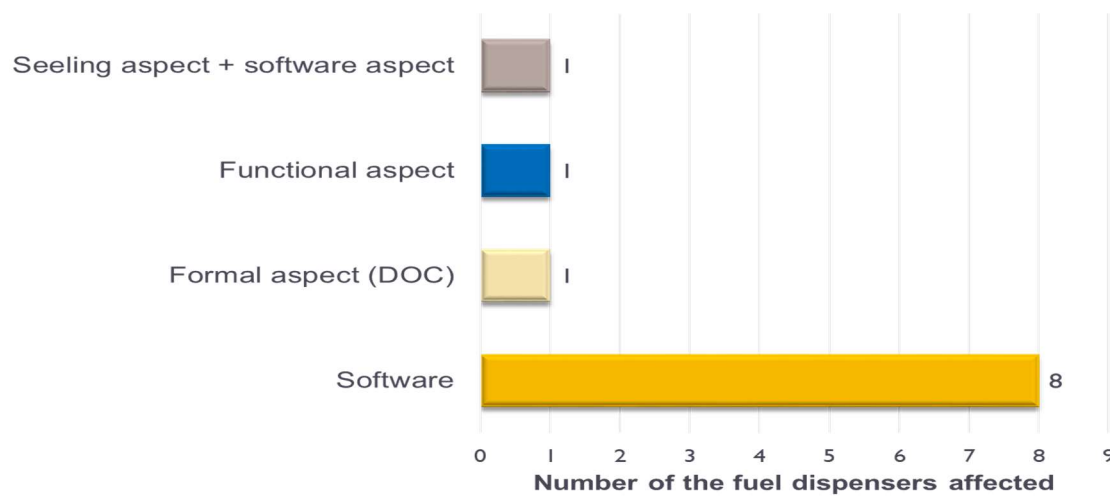


Figure 5. Type of non-conformities detected and number of the examined fuel dispensers affected

Of the eleven non-conform fuel dispensers, eight presented a non-conformity related to the software, one a non-conformity related to the software and the sealing, another one a problem with the UE declaration of conformity and the last had accuracy errors higher than the maximum permissible errors.

Software-related non-conformities were as follows:

- The way to check the legally relevant software was not indicated neither in the EU-type examination certificate nor in the instruction manual.
- The checksum of the legally relevant software did not match the one stated in the EU-type examination certificate.
- A remote control was required to check the software version and this had not been available to the market surveillance authority.

On the other hand, the non-conformities related to sealing and formal aspects were as follows:

- The plate of the pumping unit was not correct.
- The configuration of the fuel dispenser was not covered by the EU-type examination certificate and it was not sealed accordingly.
- The dispenser was mechanical class M2 and according to the EU-type examination certificate, it should be M1.

8. Actions taken

The identified non-compliances have been addressed by the market surveillance authorities in accordance with national legislation and procedures. In cases where the legally relevant software was not adequately covered by the EU-type examination certificate or the installed dispenser configuration was not included among the possible ones in the EU-type examination certificate, the EU-type examination certificate is in the process of being amended.

In any case, the general impression of the market surveillance authorities after completion of this joint activity is that the fuel dispensers on the EEA market are functioning properly and, apart from minor defects of a formal nature, mainly associated with their operating software, comply with the applicable European harmonization regulation.