CEN/TC 92 / Rev 3 - Business Plan **N407**

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BUSINESS PLAN

CEN/TC 92

Water meters

EXECUTIVE SUMMARY

Scope

The work of CEN/TC 92 encompasses standardization for meters to measure volume flow of cold potable water and heated water enclosed in full conduits, irrespective of technology applied.

Business Environment

Water metering concerns different sectors such as industrial and commercial; agricultural and residential. The European Community (EU) has published the Measuring Instruments Directive 2014/32/EU with dedicated and essential requirements as to water meter.

Parties involved are manufacturers, public and private water suppliers, market surveillance authorities, testing laboratories and certification bodies.

Related standardization work is being carried out by Technical Committees within ISO and OIML.

Benefits

The benefits are to define the necessary standards to be used to perform the desired level of commercial interoperability in Europe and to support the European Community water policies.

The work of CEN/TC 92 aims to remove trade barriers and thus facilitate free trade across borders within the EU.

It increases the confidence of all parties involved with respect to quality and metrological performance of water meters and helps to reduce the cost related to conformity evaluation and assessment of water meter for the manufacturers.

Priorities

The main priority of CEN/TC 92 is to complete the work programme in support of the Measuring Instruments Directive (MID 2014/32/EU).

Additionally, to harmonise or find better coherency among the existing international standards in the field of water meters (mainly between ISO, OIML and CEN) and to facilitate the use of these international standards.

Also, the preparation of further standards according to technological developments in the field of water metering are an integral part. Moreover, by monitoring the system of European directives and requirements of other bodies the standards within the scope of CEN/TC 92 require continuous evolvement.

1 BUSINESS ENVIRONMENT OF THE CEN/TC

1.1 Description of the Business Environment

The following political, economic, technical, regulatory, legal, societal and/or international dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of CEN/TC 92, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards.

Drinking water is a scarce resource on our planet. It has an important role in the development of any human, animal or vegetable life, and in the evolution of our societies. Water metering and subsequent billing is one of the subjects, which makes the public aware of the problem of the ever-increasing water demand. Installation, maintenance and water treatment costs differ significantly between individual countries throughout the EU, resulting in a different awareness and different sense of urgency of the public in general and policy makers alike as outlined in the EU Water Framework Directive (WFD).

Water metering concerns following major sectors in the economy:

- “industrial and commercial”

- “residential”

Those directly interested in these sectors are the manufacturers, public and private water suppliers, market surveillance authorities, testing laboratories and certification bodies.

For suppliers, standardisation is a tool that answers the user’s requirements with precise definitions in accordance with logical and scientific approaches. For the authorities, it assures that water (often the object of commercial transactions) is accurately measured and for laboratories it verifies that water meters conform to the relevant requirements.

The main objects of standardisation are:

- the abolition of technical obstacles and contradictory standards,

- the improvement of the quality and compatibility of the products.

Standardisation in the field of water meters also exists in the International Organization for Standardization (ISO) and in the International Organisation of Legal Metrology (OIML). OIML R49 series has been revised to include, besides cold potable water, also hot water meters and to be in line with the requirements of the MID 2014/32/EU.

As part of the efforts to build a sustainable water management system, traditional mechanical water meter will be replaced by smart devices. These so-called “smart meters” are a core element in the vision for smart grids – intelligent networks that contribute to improve efficiency and reliability in water distribution and better optimisation in allocation of resources and utilisation of assets. Smart metering solutions may incorporate a wide range of applications in the fields of remote meter reading, customer relationship management, demand-side management and value-added services. The adoption of smart metering in

Europe is to a large extent driven by regulations, such as the European Standardization Request (Mandate) M/441 on “Smart Metering”. Consequently, most of the countries in the EU have already adopted a policy of regulation-driven introduction of smart meters.

CEN/TC 92 has answered to this recent change in policies and developed the new EN 14154 Part 4 on “Additional Functionalities”. However, CEN/TC 294 is concerned with the communication technologies involved in smart metering to allow for such “Additional Functionalities”.

1.2 Quantitative Indicators of the Business Environment

The European Union has launched the EU Water Framework Directive (WFD) in the year 2000 to encourage member states to implement better water management practises. This is a direct response to the pressures on water resources that are continuously increasing. The European member states are requested to implement policies to ensure good water quality in sufficient quantity, and to ensure the good status of all water bodies across Europe.

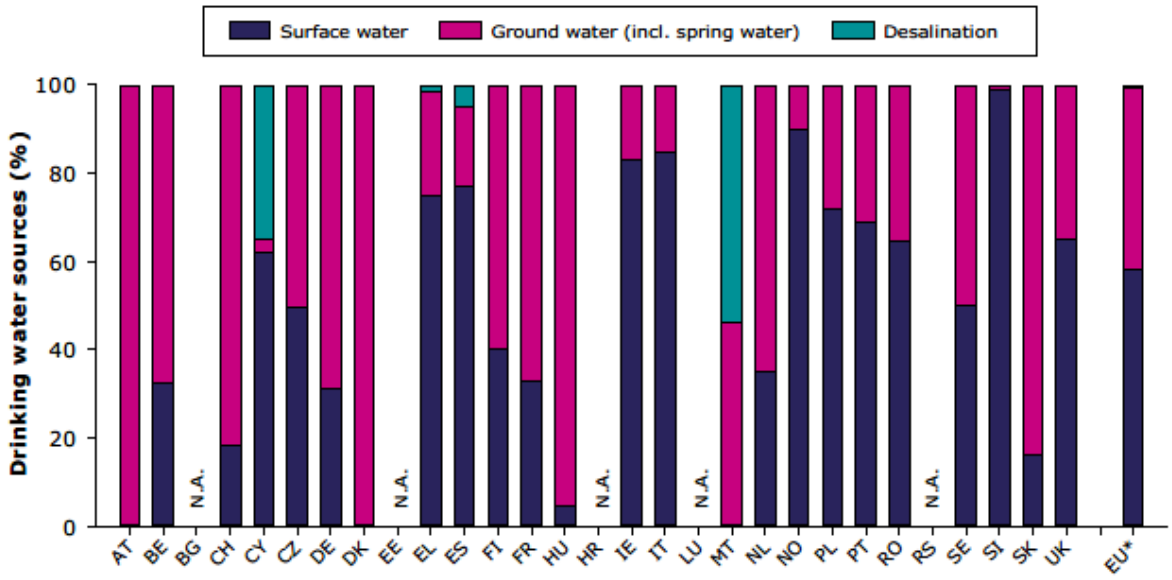
Studies have shown that apart from recovering costs, managing demand through tariffs and by providing usage information to customers appear to be a useful instrument to manage domestic water demand. However, the lack of sufficient metering infrastructure in the household sector leads to households being short of incentives to use water wisely.

The increase of water consumption directly increases the stress on water resources. Different levels of water stress correspond to different water management challenges, as shown in the table for selected European countries:

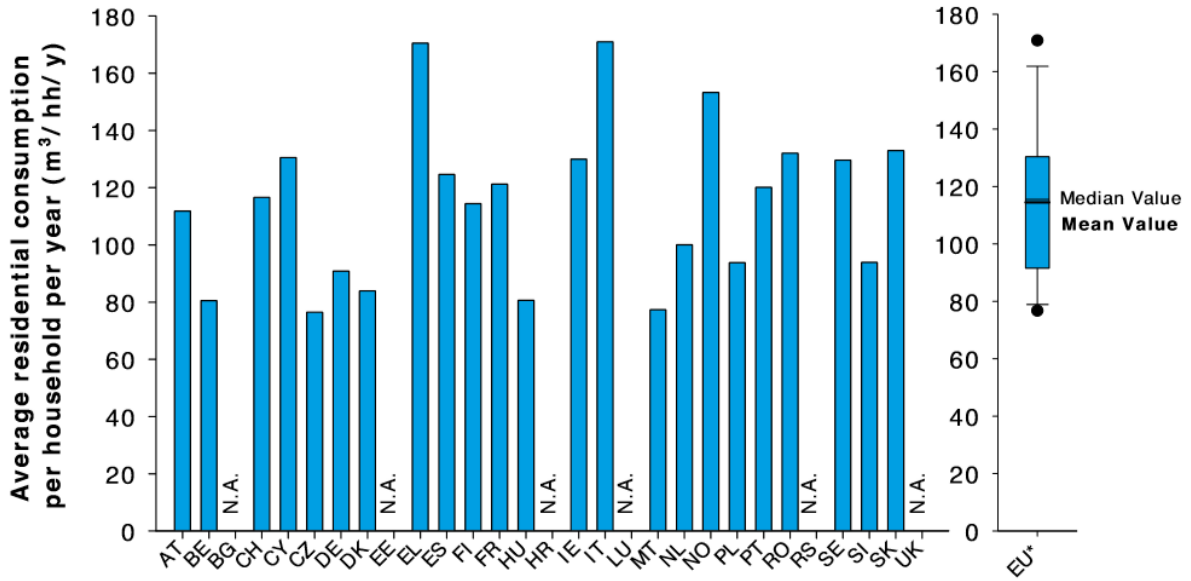
Water management challenge	Countries				
Droughts and water scarcity (with increasing intensity and frequency in recent years), sometimes leading to abstraction restrictions	CY	ES	FR	IT	RO
Overexploitation of groundwater resources	CY	DK	ES	IT	
Mismatches between water demand and water availability: seasonal peaks in periods with low precipitations, geographical concentration of water demand versus distribution of water resources (e.g. along coasts)	CY	DE	ES	IT	
Scarcer groundwater resources due to pollutants	DE	DK	ES		
Low efficiency of the water network	IT	RO			

(Taken from Reference 1)

Drinking water is coming from different sources and there are significant variations from one country to the next. An EurEau study (Reference 2) suggests that more than half of the 44.7 billion m^3 per year supplied in the EU stem from surface water rather than ground water:

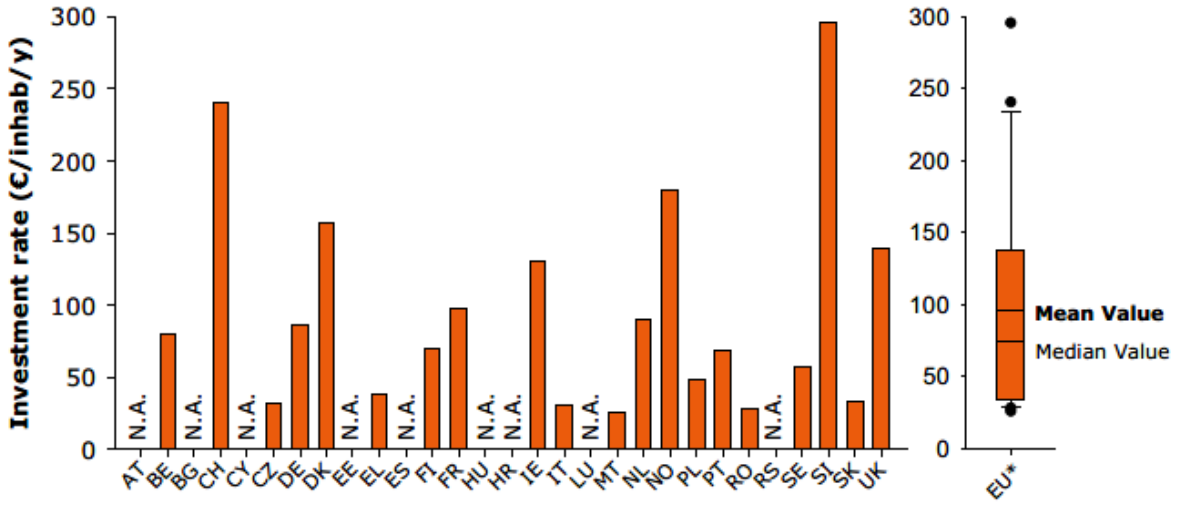


Low efficiency of water distribution networks can also be an important water management issue. The reduction of leakage in water supply networks and more efficient use of water has the potential to save up to 50% of water abstracted and to reduce water consumption from approximately 130 litres per person per day to 80 litres across Europe.



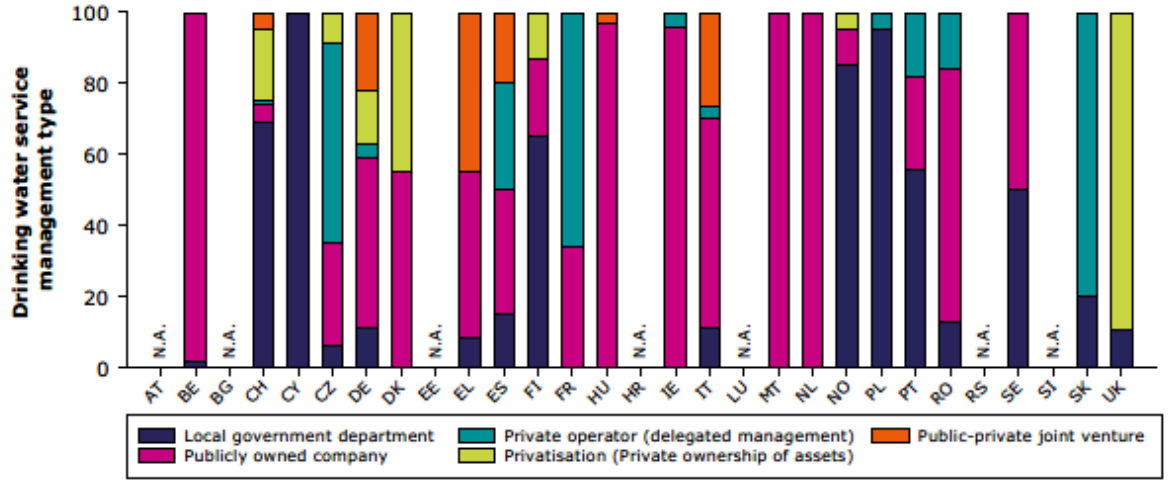
(Taken from Reference 2)

Annually, European water services invest approximately €45 billion in water infrastructure. This results in an average of €93.5 per person per year. This investment is financed mainly through tariffs and taxes.



(Taken from Reference 2)

Throughout the EU member states the type of water service management varies significantly from one country to the next, ranging from public authorities, public-private joint ventures to wholly privately-operated water supply networks being in charge.



(Taken from Reference 2)

2 BENEFITS EXPECTED FROM THE WORK OF THE CEN/TC

The complete work programme of CEN/TC 92 supports the Measuring Instruments Directive (MID 2014/32/EU) and the relevant standards will be harmonised, thereby meeting the essential requirements specified in the MID 2014/32/EU.

Any such measures remove trade barriers and thus facilitate free trade across borders within the EU and is therefore to be welcomed by all parties concerned.

The work increases the confidence of all parties involved in respect to quality and metrological performance of water meters. This includes the end users who will have higher confidence that the measurement of their water consumption is accurate.

With the availability of harmonised standards there will be a reduction of cost related to conformity evaluation and assessment for the manufacturers.

The uptake on the European Standardization Request (Mandate) M/441 on “Smart Metering” and definition of “Additional Functionalities” paves the way for the development of new, innovative smart water meter.

The harmonization of EN ISO 4064:2014 and OIML R49 was well received in the market and has supported the goals of CEN/TC 92 to increase confidence with respect to quality and performance of water meters, and at the same time reduce the cost related to conformity evaluation and assessment for the manufacturers and certification bodies.

3 PARTICIPATION IN THE CEN/TC

All CEN national members are entitled to nominate delegates to CEN Technical Committees and experts to Working Groups, ensuring a balance of all interested parties. Participation as observers of recognized European or international organizations is also possible under certain conditions. To participate in the activities of CEN/TC 92, please contact the national standards organization in your country.

Representatives of more than 10 CEN member countries, out of the 32 registered CEN member countries, regularly participate in the meetings and information exchange of CEN/TC 92. The delegates mostly represent national standardization bodies, regulators, industrial associations and manufacturers.

Plenary meetings are held within a timeframe of 12 to 18 months. Working Group meetings are held more frequently depending on the progress of the current Work Items.

There is currently one active CEN/TC 92 Working Group: WG 2 on “General requirements”.

CEN/TC 92 liaises with other international bodies to ensure its standards take due account of related work elsewhere: OIML/TC 8/SC 5, ISO/TC 30/SC 5 and TC 30/SC 7, CEN/TC 294, Aqua Metering and Aqua Europa.

4 OBJECTIVES OF THE CEN/TC AND STRATEGIES FOR THEIR ACHIEVEMENT

4.1 Defined objectives of the CEN/TC

CEN/TC 92 was created on the 1st January 1994 with two Working Groups.

The CEN/TC 92 WG 1 on “Mechanical water meters with electronic totalising devices” has been disbanded in the meantime.

Whereas CEN/TC 92 WG 2 originally worked on “General Requirements”.

The main objective is to further develop functional standards relative to water meters. The technical committee redefined its scope to permit the use of all kind of meters, irrespective of technologies.

The aim of these standards is to define common rules for all meters submitted to metrological verification in the European Union.

These standards deal with meters to measure volume flow of cold potable and warm sanitary water enclosed in full conduits. These standards will be complemented, if necessary, by special standards for dedicated meter technologies.

4.2 Identified strategies to achieve the CEN/TC's defined objectives.

Standards are a very important requirement to underpin the declared performance of products and to ensure a consistency of testing and acceptability. This is enhanced using third party certification.

The combined approach of product innovation underpinned by up-to-date standards assists Europe to continue to be recognised as a major player in the design, production and supply of water meters.

CEN/TC 92 and its working groups will continue to work using electronic circulation of documents and by holding technical meetings. Meetings are conducted in English with translation confined to a minimum and all committee papers are circulated in English only, which ensures maximum progress with savings in cost and time. Normally CEN/TC 92 holds one plenary meeting within a timeframe of 12 to 18 months. Working Group meetings depend on the actual progress of the work items.

4.3. State of the Work Items

Beginning from 2000 CEN/TC 92 strengthened the liaison with ISO and OIML to promote the harmonisation of standards in the field of water meters. As a result, a Joint Working Group between ISO/TC 30/SC 7, OIML/TC 8/SC 5 and CEN/TC 92 started to develop an approximation of EN 14154, ISO 4064 and OIML R49.

In 2005 CEN/TC 92 WG 2 published three European Standards for water meters concerning aspects of General Requirements, Installation and Conditions of Use and Test Methods and Equipment (EN 14154 Part 1-3). In further amendments until 2011 these standards have also been harmonised with the Measuring Instruments Directive 2014/32/EU).

In 2014 with the publication of the new harmonized EN ISO 4064:2014 and OIML R49 the EN 14154 Parts 1 to 3 have been notified for withdrawal. EN 14154 Parts 1 to 3 were finally withdrawn in June 2017.

In parallel the new EN 14154 Part 4 on “Additional Functionalities” has been developed and published in 2014, answering the European Standardization Request (Mandate) M/441 on “Smart Metering”.

Most recent activities include the development of Annexes ZA for EN ISO 4064 Parts 1, 2 and 5 to meet latest requirements by the European Commission.

Recently ISO 4064, EN ISO 4064 and OIML R49 were under the systematic review. All three standardization organisations have indicated the need for further evolving the standard under their respective auspices. It is the strong intention by CEN/TC 92 to establish a new Joint Working Group between ISO/TC 30/SC 7, OIML/TC 8/SC 5 and CEN/TC 92 with the aim to keep ISO 4064, EN ISO 4064 and OIML R49 harmonized.

WI Number	Reference	WI Status	Action Required	Target dates	Responsibility
0092018	EN ISO 4064-1-2014	Published	Systematic Review	June 2019	CCMC
0092019	EN ISO 4064-2-2014	Published	Systematic Review	June 2019	CCMC
0092020	EN ISO 4064-3-2014	Published	Systematic Review	June 2019	CCMC
0092021	EN ISO 4064-4-2014	Published	Systematic Review	June 2019	CCMC
0092022	EN ISO 4064-5-2014	Published	Systematic Review	June 2019	CCMC
0092023	EN 14154-1:2005+A2:2011	Published	Withdrawal	June 2017	CCMC
0092024	EN 14154-2:2005+A2:2011	Published	Withdrawal	June 2017	CCMC
0092025	EN 14154-3:2005+A2:2011	Published	Withdrawal	June 2017	CCMC
0092026	EN 14154-4:2005+A2:2011	Published	Systematic Review	February 2021	CCMC

Table: Active Work Items and Published Standards (Taken from Reference 5)

4.4 Environmental Aspects

Water meters are a tool to address environmental aspects in general. As water meters do provide quantitative data, they serve directly to the evaluation of water stress of the environment of a region. In section 1.2 the societal and environmental significance of water meters are outlined.

As water meters are generally of low volume or (in case of high volume, low in number of pieces) and their time of use is usually a decade or more, the environmental impact of water meters is seen to be minor by CEN/TC 92.

Typical materials used in water meters are plastics and metal alloys which can be easily separated for recycling. Some meter may include batteries as the power source. Special attention must be drawn to the environmentally friendly recycling of such batteries.

The scope of the European Standardization Request (Mandate) directly addresses environmental aspects as “Smart Meters” are intended to raise awareness of water consumption with the consumers. By future revisions of the standards CEN/TC 92 will use CEN Guide 4 as a mean to systematically analyse the standards clause by clause considering environmental aspects.

However most ongoing projects of CEN/TC 92 are under the Vienna Agreement (see reference 3) and under ISO lead, thus on these work items CEN/TC 92 cannot actively change the scope of work.

5 FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE CEN/TC WORK PROGRAMME

The finalization and alignment with the latest CT-001 of OIML R49 with MID, as published by WELMEC WG13, of Annexes ZA to the existing ISO EN 4064 Part 1, 2 and 5 is still work in progress. The aim is to ensure the publication of the EN ISO 4064 as a harmonized standard in the Official Journal (OJ) of the EC.

CEN/TC 92 aims to revise the EN ISO 4064 series in such a way that the aspects of the "non-exploitation of the MPE" is fully covered. CEN/TC 92 seeks the close collaboration with ISO/TC 30/SC 7, responsible for the ISO 4064, to pursue its aims for the EN ISO 4064.

6 REFERENCES:

1. European Environment Agency (EEA):
   Water Management in Europe, July 2017
   https://www.eea.europa.eu/themes/water/european-waters/water-management/water-management-in-europe

2. EurEau:
   Annual Review 2017
   http://www.eureau.org/resources/publications

3. Vienna Agreement:
   http://www.iso.org/va

4. EU Drinking Water Directive:
   https://ec.europa.eu/environment/water/water-drink/legislation_en.html

5. CEN/TC 92 Published Standards
   https://standards.cen.eu/dyn/www/f?p=204:32:0::::FSP_ORG_ID,FSP_LANG_ID:6075,25&cs=1CACEE0172C93B6A85F0081A9DEB2A3A3