

# National Standardization Activities in Transport in Comparison with the New European Initiatives

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The article points out the role and importance of standardization in the EU economic policy and development strategy and discusses European standardization activities in the field of transport and its basic institutional structure and organization of the work of the technical bodies of the European Standards Organizations (ESOs). The relation between the standardization and legislation and selected European standardization initiatives concerning transport are shown. The article also deals with the principles of cooperation of the EU Member States and ESO technical bodies as well as the main problems of the system of national standardization.

**Keywords:** standardization, transport, technical harmonization.

## 1. INTRODUCTION

Transport is the key part of the economy and the EU's development strategy, and standardization in this area is an integral part of this development. Many European companies are world leaders in the production of means of transport, traffic management systems, fleet management systems, infrastructure and logistics.

This is also reflected in European standardization which now includes both classic forms of transport (road, rail, air, sea) and new trends related to the exploration of space and the deep sea. A very important subject of normalization refers to transport technologies - in particular to the transport of hazardous materials, and new issues related to the organization and operation of transport systems, such as interoperability, inter-modal transport, intelligent transport systems.

The efficiency of the transport system is one of the key factors in competitiveness both across the European Union, and for competition among operators. With the development of international trade, enlargement to new countries, and intensified wide cooperation with the countries of the Mediterranean basin, the role of transport will continue to increase.

On the other hand, with the development of European transportation systems, the role of standardization activities is growing which substantially and continuously has been linked to regulations relating to both technical harmonization of market regulation, safety and interoperability, which, in turn, justifies the statement that European standardization is an area that supports the legislation. For many years, this was confirmed in the strategic documents from the EU economy policy. This approach is not always fully reflected in the appropriate economic environment expected for adaptation at the national level in each Member State.

The basic principles of defining the role and importance of standardization in the EU economy helped to identify a new approach to technical harmonization and standardization, and are contained in the Council Resolution of 7 May 1985 on the implementation of the current evolutionary changes, involving both rules for the conduct and financing of standardization activities and achievements of the implementation of activities in the form of standards. Technical specifications has become an important element of adaptation measures at the national level because of the direct relationship to standards regulations. Therefore, the failure or delay in the required adjustment measures in the Member States may become

a significant barrier to development in many areas, including the field of transport.

## 2. EUROPEAN STANDARDIZATION ACTIVITY IN TRANSPORT AREA

The REGULATION (EU) No 1025/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 October 2012 includes a provision that "European standardisation is organised by and for the stakeholders concerned based on national representation (the European Committee for Standardisation (CEN) and the European Committee for Electro-technical Standardisation (CENELEC)) and direct participation (the European Telecommunications Standards Institute (ETSI)), and is founded on the principles recognised by the World Trade Organisation (WTO) in the field of standardisation, namely coherence, transparency, openness, consensus, voluntary application, independence from special interests and efficiency ('the founding principles'). In accordance with the founding principles, it is important that all relevant interested parties, including public authorities and small and medium-sized enterprises (SMEs), are appropriately involved in the national and European standardisation process. National standardisation bodies should also encourage and facilitate the participation of stakeholders." [1]

"European Standards are based on a consensus, which reflects the economic and social interests of 33\* CEN and CENELEC Member countries channelled through their National Standards Bodies (CEN NSBs)/ National Electro-technical Committees (CENELEC NCs). Most standards are initiated by industry. Other standardization projects can come from consumers, small and medium-sized enterprises or associations, to name some other sources. Many standards are developed to support European legislation. 'Reference to standards' within a legislative text is viewed as a more effective means of ensuring that products meet the essential health and safety requirements of legislation than writing of detailed laws. This allows both processes to support each other, without causing a slowdown. Besides European Standards, CEN and CENELEC produce other reference documents, which can be developed quickly and easily: Technical Specifications, Technical Reports, and Workshop Agreements." [2] The European standardization process is managed and coordinated by CEN-CENELC Management Centre.

### 2.1. THE STRUCTURE OF EUROPEAN STANDARDIZATION ACTIVITY IN TRANSPORT

Standardization activities carried out by CEN and CENELEC for transport can be divided into several areas:

- Road transport
- Railways
- Waterborne transport
- Aerospace
- Intermodal and interoperable transport
- Dangerous goods
- Cableways
- Packaging

By the end of June 2013 more than 3,600 different types of standardization documents were approved, prepared by 27 technical bodies (technical committees, working groups, workshops), and 5 CEN CENELEC technical bodies of the transport sector.

#### 2.1.1. Road transport

Standards for road transport are developed mainly through the International Organization for Standardization (ISO). However, some topics, in particular: intelligent transport systems, road safety, electric vehicles, LPG, repair and maintenance, recycling equipment vehicles are covered by the activities of CEN. Most of the documents have already been applied to standardization (127) for intelligent transport systems, and have been included in the framework of CEN / TC 278 Standardization of telematics system supports: identification of vehicles, containers, swap bodies and wagons, the communication between vehicles and the road infrastructure; communication between vehicles, human-machine relationships for telematics, traffic management and parking.

Standardization documents for road transport are also developed as a part of the work of the technical committees of CEN/TC 333 (15 items, where 4 of them are harmonized with the Directive 2001/95/EC), CEN/TC 245 (10 items), CEN/SS T03, CEN/TC 301 (12 items, CEN/TC 286 (44 items including 5 items harmonized with Directive 97/23/EC, 1 item with Directive 94/25/EC and 2 items with Directive 94/9/EC) and CEN/TC 326 (1 item).

### 2.1.2. Railways

Railway is now considered as one of the most important transport systems in Europe. In order to achieve the objective of free and unrestricted transfer of goods, services and people across national borders in Europe, the European Union has initially adopted first two directives on the interoperability of high-speed and conventional rail (now consolidated into a single Directive 2008/57/EC). The essential requirements in these directives are supported by standards developed by the European Standards organizations (CEN, CENELEC and ETSI). CEN/TC 256, CEN/CENELEC/WG FPR and CLC/TC 9X are responsible for development of European Standards relating to railway transport, respectively, for all products/mechanical issues and electrical applications.

The interaction with technical directives (such as Directive 2008/57/EC Interoperability of the trans-European rail system), and ERA (European Railway Agency) in charge of drafting the Technical Specifications of Interoperability and standardization, development of the programme of work in support of the above mentioned directives but also for the support of the Public Procurement excluded sector directives, relation with international and European associations active in this sector, future possible standardization development (such as Urban Rail (Mass Transit)), interaction between Technical Committees with related work and the CEN or CENELEC Technical Boards and relations with other sectors are coordinated by the CEN-CENELEC Management Centre, in collaboration with the Sector Forum Rail and four CEN Consultants.

103 European Standards were published by the end of June 2013 which are harmonized with the Directive 2008/57/EC, and have been developed into a base on the European Commission Mandate M/334 EN of 22 May 2003 addressed to the ESO. Special attention in this transport sector should be paid to European Standards (about 250) that are listed in the Annexes to the Technical Specifications for Interoperability (TSI), and to entered decisions of the European Commission, of which the vast majority (over 200), as opposed to the general principle of voluntary application of standards, is obligatory.

The solutions adopted for cross-acceptance of railway vehicles, which are not interoperable, the basis is the reference documents which are lists of standards and technical specifications to facilitate

cooperation between the Member States at the level of acceptance requirements and tests for more than 200 parameters of rail vehicles. These lists include a total of several hundred different types of standardization documents.

Safety rules adopted for the railway sector, in particular the common safety methods (CSMs) and safety management systems of railway undertakings also refer to the practice and approach set out in the standards relating to the quality management system, the competence of certification bodies, the competence of personnel and risk management.

### 2.1.3. Waterborne transport

Standardization in the field of water transport covers three main areas: inland navigation, marine equipment, and pleasure craft. Documents standards, ensuring technical harmonization for the required level of security and containing the technical details of the interfaces between the system of inland waterway transport (consisting of ships, waterways and transshipment facilities) and other transport systems are being developed as part of the work carried out by the Technical Committee CEN/TC 15 'Inland navigation vessels'. The activities of the technical committee are influenced by the Directive 2006/87/EC laying down technical requirements for inland waterway vessels and repealing Council Directive 82/714/EEC. The Rhine Shipping Regulation (RheinSchUO:1995) was adopted as an annex to the directive. CEN-CENELEC Management Centre coordinates the dissemination of information regarding prepared by technical committees of CEN standardization documents to the Committee on Maritime Safety (COSS) as defined in Regulation (EC) No 2099/2002 in order to: update the technical annexes (A.1, A.2) to the European Union Directive 96/98/EC on marine equipment, suggest changes and amendments to the abovementioned Annexes, and maintain contacts with other sectors (e.g. personal protective equipment, shipbuilding).

European standards in the field of equipment and maritime navigation and radio communication under the Dresden Agreement concluded between CENELEC and IEC are the implementation of International Standards developed by the IEC, and are approved on the basis of the results of voting conducted in parallel in both organizations. The lists of standards in this area are published in the above mentioned technical annexes to Directive

96/98/EC. Standardization work on issues related to shipbuilding and maritime carried out by CEN/SS T01 in close cooperation with international organizations, in particular the ISO/TC 8.

#### 2.1.4. Aerospace

The standardization activities in the field of air transport, there are three main thematic areas: aircraft design and materials used in aviation systems and equipment for ground handling of aircraft and traffic management (ATM). Standardization work on general (including sectoral quality management system), structural components, processes, installation, parts, assemblies and aircraft components and materials used in aviation are conducted in the Aerospace and Defence Industries Association of Europe - Standardization ASD-STAN (more than 2,100 approved documentation standards). Issues related to equipment and ground support equipment for aircrafts are carried out by CEN/TC 274 (24 items) and issues relating to air traffic management are carried out by CEN/TC 377 (2 CEN/TS). European Standards developed through the work of CEN/TC 274 are harmonized with the Directive 2006/42/EC on machinery. The purpose of standardization in air traffic management is to ensure and maintain a high level of security and to improve the efficiency and quality of management of the constant increase in traffic intensity. Standardization in this subject area supports the implementation of the Single European Sky, for which the regulatory framework was created in 2004.

Special attention should be paid to series of standards for quality management system which includes 16 items.

Since 2006, the Directorate-General for Transport (MOVE) of the European Commission has given CEN/CENELEC/ETSI several mandates requesting the development of Community specifications (CS) for the interoperability of the European Air Traffic Management Network (EATMN). The mandates of the Commission propose to develop European standards to ensure compliance with the essential requirements and / or will be rules for the implementation of the regulation on the interoperability of systems, together with the appropriate procedures or ingredients.

#### 2.1.5. Intermodal and interoperable transport

In June 2000, the Technical Board of the European Commission approved the final report of the workshop organized by the CEN standardization and interoperability of multimodal transport solutions aimed at the European market shift transport from one type of transport to multimodal and interoperable transport systems, both for passengers and cargo.

The maximum authorized dimensions of certain road vehicles circulating within the Community in national and international traffic and the maximum authorized weights in international traffic are laid down in Council Directive 96/53/EC.

In the area of transport and intermodal transport, interoperable standards are not harmonized within the meaning of 'New Approach'. Standardization documents in this area are developed through the work of the Technical Committee CEN/TC 119. Many of the standards in this area are also being developed under the 'railway applications'.

It should be noted, however, that the work on interoperability in the rail sector and civil aviation should be treated as parallel and independent of the development of intermodal transport.

#### 2.1.6. Dangerous goods

The aim of European Standards in the field of dangerous goods is to support the legal requirements set out in the regulations for the safe transport of dangerous goods. The legal frameworks in this area are related to the provisions of the United Nations system, in which more than 200 European Standards are established. These standards are developed based on the mandate M/086 'Dangerous goods', which the European Commission granted to CEN in 1995 and support requirements of Directives 94/55/EC, 96/87/EC, 96/86/EC and 96/49/EC or regulations and requirements regarding safety related to the transport of dangerous goods as defined in Directive 2008/68/EC on the inland transport of dangerous goods and 2010/35/WE Directive on transportable pressure equipment. Centre for the CEN-CENELEC Management coordinates the work of the transport of dangerous goods, with the help of CEN consultant. European standardization documents in this area are developed by CEN/TC /296. To date, 26 documents for standardization have been approved and a further 15 are under development.

### 2.1.7. Cableways

The work developed in this field is intended to improve the safety of installations designed to transport persons by rope (winter sport installations, funicular, etc.).

The vast majority of European standards in this field is being developed in the framework of CEN/TC 242. This committee works in conjunction with OITAF (International Organization Rope Transport).

The standards developed by the committee include the so-called harvesting. mandated standards (i.e. developed by one of the European Organization of Standardization for the European Commission) and are harmonized with Directive 2000/9/EC of 20 March 2000 relating to cableway installations intended for the carriage of passengers. To date, 25 European Standards published in the series, last published in 2005, have been in and out, and the Technical Committee shall review the provisions of a series of updates.

### 3. EUROPEAN INITIATIVES FOR TRANSPORT STANDARDIZATION

Due to the constantly growing transport needs it is necessary to make optimum use of the entire infrastructure, and to make passenger and freight transport efficient and environmentally friendly. European standards play an important role in the implementation of new concepts and technologies developed as a result of research and development, particularly in relation to the integration of innovative solutions in terms of technology and/or organizations, including the use of new technologies and innovative solutions for vehicles transshipment, the integration of logistics, intermodal terminals, or the use of information and communication technologies.

Initiatives for new standardization work in the field of transport at European level stemming directly from the provisions contained in the legislation of the European Commission on European standardization and economic policy, in particular in COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL AND THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE - The annual Union work programme for European standardization (Brussels, 31.7.2013 COM(2013) 561). Strategic priorities for European standardization define guidelines for future activities, which correspond

to suggestions for new topics, including the following topics and related demands:

1. Clean vehicles and vessels
  - common European Standards in the field of charging points for vehicles with electric drive must be developed and implemented by December 2015;
  - common European standards for hydrogen refuelling stations and hydrogen-powered vehicles must be developed and implemented by 2015;
  - common European Standards for measurement methods and research characterizing the performance of hydrogen and fuel cell technologies must be developed
2. Air transport
  - develop, in collaboration with the European Organisation for Civil Aviation Equipment (EUROCAE) and in close coordination with the European Aviation Safety Agency (EASA), the list of European standards specified in the Schedule-city European ATM Master Plan and is currently being developed by the EU-ROCAE;
3. Railways
  - develop new European Standards to support the following areas:
    - measures to prevent the spread of fire;
    - travel by train in Europe without issuing a ticket and train ticket to reception before departure;
  - faster introduction of innovative solutions into the market, in order to achieve a fully integrated and interoperable European rail system.
4. Alternative fuels
  - Develop new European Standards to enable implementation of the package "constant energy for transportation" including the European strategy for alternative fuels and the proposal for a directive of the deployment of infrastructure for alternative fuels,
  - develop new European Standards defining the technical specifications concerning the charging points and fuelling, in the form of electricity, hydrogen, LNG and CNG,
  - standards which must be complied with, referring to refuelling points and vessels must be developed and implemented by 2014,

- common European standards in the field of LNG refuelling stations and CNG passenger cars, trucks, and ships must be developed by December 2015,
  - in case of bio-fuels develop standards for the higher content of mixtures of ethanol in gasoline fuel.
5. Space – GNSS
- develop standards
    - for areas receivers for terrestrial applications;
    - for support system based on a new generation of satellite equipment SBAS;
    - in the case of aerodrome equipment, add procedures and requirements to avoid duplicating of the existing rules, be they in a “New Approach” Directive or “Single European Sky” (SES) implementing rules. Use, as appropriate, standards issued by recognised standardisation bodies, such as the ISO, CEN, CENELEC, ETSI or EUROCAE;
    - the introduction of the Galileo system for positioning of mobile devices and an action plan for the system “EGNOS Enabled”;
6. Intelligent transport system
- develop standards for:
    - connected systems for intelligent transportation;
    - multimodal connections search engine;
    - open platform board architecture;
    - digital maps;
    - interoperability of public transport and the urban environment of ITS;
    - electronic fee collection.
  - develop guidelines and technical specifications to ensure safe interaction between humans and machines..

Issues covered by the initiatives largely take into account environmental considerations in the development of standards in other area. In this regard, special attention should be paid to the technical specification CEN/TS 16524:2013 “Mechanical products - Methodology for optimizing environmental ' prepared by CEN/TC 406” Project Committee - Mechanical products – Eco-design methodology” which is directed primarily to the SME sector and describes a pragmatic methodology for examining environmental aspects

in product design. Among other initiatives including environmental issues, the establishment of CEN and CENELEC coordinating group of e-mobility could be pointed. The first meeting of this group took place in March 2012. This group consists representatives of the members of CEN and CENELEC, the organization representing different sectors (e.g. automotive industry) and the European Commission. Standardization documents in this area are a response to the mandate M/468 and are being developed as part of CLC/TC 69x, CLC/TC 23 and CLC BX/BTWG 112-1 activity, ensuring compliance with the essential requirements of the European Communities Directives (e.g. Directive LVD and EMC Directive). Lists of European Standards developed in response to the mandate M/468 concerning issues related to the charging of electric vehicles as well as the standardization work program in this area can be found at:

[www.cencenelec.eu/standards/HotTopics/ElectricVehicles/Pages/default.aspx](http://www.cencenelec.eu/standards/HotTopics/ElectricVehicles/Pages/default.aspx).

In February this year, a workshop organized by the ACOS (Advisory Committee for Safety IEC) took place, during which were discussed aspects associated with including in the standardization activities the electrical safety issues within electric vehicles, functional safety for electric vehicles and the security of the electric vehicle connected to the mains supply.

In addition, environmental issues are reflected in the standardization of various European initiatives, including but not limited to issues concerning: refuelling with hydrogen, the development of common standards for issues Refuelling LNG and CNG and LNG shipping.

Other types of issues are proposals for new standardization documents submitted by CEN/CLC/TC 5/WG 1 ‘Navigation and positioning receivers for road applications’. The proposal includes the development of a European Standard, and consists of three parts under the common title “Space - Use of geo-positioning services for navigation and localization applications”: “Part 1: Minimum Operational Performances definition methodology for GNSS-based positioning terminals used In- Road transport applications, Part 2: Performance assessment tests of GNSS-based positioning terminals, and Part 3: Security aspects of performance assessment tests.”

Recommendations for standardization also found a place in the area related to intermodal passenger transport. There are several researches and developments especially in the context of

projects such as the "Smart Cities" and "SAFECYCLE" on cycling which ended in November of last year. In conclusion, this project included the integration of the demand requirements of bicycle traffic in the ITS, indicating possible ways of implementation:

1. The use of the relevant requirements of existing standards developed by the work carried out by CEN/ TC 278 Road traffic and transport telematic - mainly in the area of applications based on vehicle equipment or infrastructure;
2. Consider the creation of a new working group within CEN/TC 278 in order to begin work on the preparation of proposals for new standards in the field of cycling as a part of the intelligent transport system.

Accents on the European standardization activities can also be found in the new European agenda Europe 2020 Strategy. The new forms of organization of research and development which remain under the supervision of the EC are also indications of the recognition of the role of standardization in almost all areas in which the program exists. A particular example is the information obtained from CEN/TC 377 "Air Traffic Management" on call experts to work on the issues of the relations between standardization, innovation, and airport data mapping.

#### 4. NATIONAL ACTIVITIES IN TRANSPORT STANDARDIZATION

National standardization activities in the field of transport areas concentrated mainly in the sector of Logistics, Transport and Packaging (SLT), which collaborates with 15 technical committees (TC), in the Polish Committee for Standardization. The core business of the TC are standardization activities at national, regional (CEN/CENELEC/ETSI) and international (ISO/IEC) levels. Topics of work of the technical committees, with whom the SLT PKN collaborates, includes the following topics: general purpose internal transport (CT 245 and CT 248), road transport (TC 17 and TC 187), railways (TC 138 and TC 265), a technique of vessels (TC 18 and TC 230), air transport (CT 19), cranes, mobile platforms and their assemblies (TC 101, TC 131 and TC 163), storage (TC 133, TC 135 and TC 162). In addition, some standardization activities in the field of air transport, in particular the hardware and electrical installations in aircraft and air traffic

management is carried out in the Sector of defence and public safety, it collaborates with eight technical committees. The activity TC 177 - one of these eight technical committees - is related to aviation and maritime navigation and radio communication equipment and systems.

TC individual subject areas include:

TC 17 - road and off-road vehicles (cars and lorries, trailers, motorcycles, mopeds and bicycles); elements of equipment such vehicles (mechanical, electrical and electronics, with the exception of tires and glass), active and passive vehicles and passengers safety, the conditions for the safe movement of certain vehicles on public roads and off-road, transport, information and communications in transport and traffic, equipment and accessories for Liquefied Petroleum Gas (LPG);

TC 18 - The design and construction of ships and inland hull and deck equipment, on-board equipment, gym and drive, interior design, piping systems, equipment and installations and the design, construction, equipment, furniture and facilities systems technology and inland vessels;

TC 19 - Aircraft and spacecraft, their equipment and fittings, actuators, assemblies, parts, components, and non-metallic materials and manufacturing processes, air transport, ground support and operating equipment;

TC 101 - Terminology, classification, design guidelines and calculate for cranes (with the exception of mobile platforms and cranes), their assemblies and the standard parametric;

TC 131 - Guidelines for the design, operation and acceptance of elevators, escalators and moving walkways;

TC 133 - Packaging and distribution of goods - general issues including terminology, marking and test methods, packaging materials and utensils - spools, drums, sacks, bags, plastic packaging - drums, buckets, cans, tubes and boxes, crates, filled transport packages;

TC 135 - Metallic packaging and closing - Terminology, requirements and test methods, jars, cans, tubes, aerosol containers, barrels, buckets, canisters;

TC 138 - Construction and testing of rolling stock, rail surface, overhead line hardware, security, railway, trucking, containers, tanks used for transporting hazardous materials;

TC 162 - Logistics - including terminology and requirements in the following areas: logistics companies, supply chains, macro-logistics systems, storage, design, logistics and distribution centres

etc.; electronic economy - including terminology and requirements in the following areas: global identifiers for goods, services and locations by the GS1 System (bar codes, technologies, EPC/RFID), automatic identification systems, electronic data interchange, electronic directories and documents and transactions etc.; storage - including

terminology and requirements for equipment and warehouse equipment (pallet load, truck load units, logistic units, shelving and storage racks, loading bridges, elevated platforms, ladders Storage Warehouse buildings, etc.), packaging machines (including palletizers and depalletizers), loads transport (e.g. in transport: road, rail, sea,

Table 1.

TC National		CEN and CENELEC	
Nr	Name	Nr	Name
17	Vehicles and Road Transport	CEN/SS T03	Road vehicle
		CEN/TC 245	Leisure accommodation vehicles
		CEN/TC 278	Intelligent transport systems
		CEN/TC 301	Road vehicles
		CEN/TC 320	Transport - Logistics and services
		CEN/TC 326	Gas supply for Natural Gas Vehicles (NGV)
		CEN/TC 333	Cycles
		CEN/TC 354	Ride-on, motorized vehicles intended for the transportation of persons and goods and not intended for use on public roads - safety requirements
18	Ships and Marine Technology	CEN/TC 15	Inland navigation vessels
19	Aerospace	ASD-STAN excluding D2	Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN)
		CEN/CLC/TC 5	Space
		CEN/SS T02	Aerospace
		CEN/TC 274	Aircraft ground support equipment
101	Cranes and their Assemblies and Parts	CEN/TC 147	Cranes-Safety
		CEN/TC 168	Chains, ropes, webbing, slings and accessories – Safety
131	Lifts, escalators and moving walks	CEN/TC 10	Lifts, escalators and moving walks
		CEN/TC 198	Printing and paper machinery - Safety
133	Packaging	CEN/SST 14	Packaging
		CEN/TC 194	Utensils in contact with food
		CEN/TC 261	Utensils in contact with food
135	Metallic packaging and closures	None	-
138	Railways	CEN/CLC/WG FPR	Fire protection on railway vehicles
		CEN/TC 119	Swap bodies for combined goods transport
		CEN/TC 256	Railway applications
		CEN/TC 296	Tanks for transport of dangerous goods
		CEN/TC 280	Offshore containers
162	Logistics Barcode and Warehouse Management	CEN/TC 146	Packaging machines – Safety
		CEN/TC 225	AIDC Technologies
		CEN/TC 344	Steel static storage systems
		CEN/TC 368	Product identification
163	Cable and Cableways	CEN/TC 168	Chains, ropes, webbing, slings and accessories – Safety
		CEN/TC 242	Safety requirements for passenger transportation by rope
177	Designing and Production of Arms and Military Equipment	ASD-STAN/D2	ASD -STAN D2 Electric
		CEN/BT/WG 125	Standardisation for Defence Procurement
		CLC/SR 80	Maritime navigation and radio communication equipment and systems
		CEN/TC 377	Air traffic management
187	Tyre and Rim Valve	None	-
230	Small Crafts	CEN/SS T01	Shipbuilding and maritime structures
245	Transport Equipment for General Continuous Use	CEN/SS 109	Materials handling and storage equipment
		CEN/TC 148	Continuous handling equipment and systems – Safety
248	Industrial trucks	CEN/TC 150	Industrial trucks –Safety
265	Urban transport	None	-



combined, the in-house), and monitoring of transport;

TC 163 - Rope drives and their components, equipment and maintenance of cable cars, cable cars, ski lifts, cableways structures, steel wire and wire ropes;

TC 177 - Design and production of dual-use in particular of aviation, armoured vehicles, radar equipment, optoelectronic and electronic equipment, marine technology. Communication systems transmitting data and air traffic control;

TC 187 - Tires, valves and wheel rims for cars, trucks, buses, agricultural vehicles, construction machinery and road, aircraft, wheeled vehicles and forklift trucks and inner tubes for tires;

TC 230 - The design and construction of small ships, hull and deck equipment, on-board and drive, interior design, navigation equipment, piping systems and electrical systems;

TC 245 - Cash handling continuous motion (conveyor) tension, non-tensions and intermediate medium, for transferring bulk or individual, intended for general use;

TC 248 - Lift truck industry, mainly used in materials handling, driven, manual and a trailer for general use, as well as rail carriages for in-house transport;

TC 265 - Requirements for rolling stock, and parts of the rolling stock related to the safety and comfort of passengers, safety tram, trolleybus, bus and metro, the requirements for the location of bus stops in the public transport and equipment; specific issues not within the scope of the activity of other TC.

It is worth noting that the technical bodies of ETSI, as a third party recognized at European Standards Organization, are not listed in Table 1. It is due to differences in the nature of membership compared to the CEN-CENELEC.

5. SUMMARY

One of the main problems associated with national standardization activities is a very small number of national standardization documents supporting the legislation, which are published in the Polish language. The economic does not make much use of the achievements of normalization. The policy requiring consideration of standards and technical specifications in public procurement is not used. A particular case is a large percentage of Terms of Reference, in which out-of-date standards are referenced (including industry), standards withdrawn without replacement or even worse - those which are withdrawn and replaced by various kinds of European standardization documents. Under national law, in relation to most of the areas covered by the technical harmonization at European level, there are still no clear regulations allowing the use of standards as codes of good practice. Unifying the definitions of the codes of good practice and reference systems included in EU Regulation concerning the assessment of the risks of changes to the rail system [10] is not sufficient for their use in economic and administrative practice. An equally important problem is too little involvement of the public, the business community, in particular SMEs and public administrations, in the standardization works at national level, which results in a very small number of experts, and some thematic areas almost totally lack national experts involved in standardization work at national as well as at European levels. Figure 1 shows the structure of the composition of the national Technical Committees directly involved in standardization activities in the field of transport.

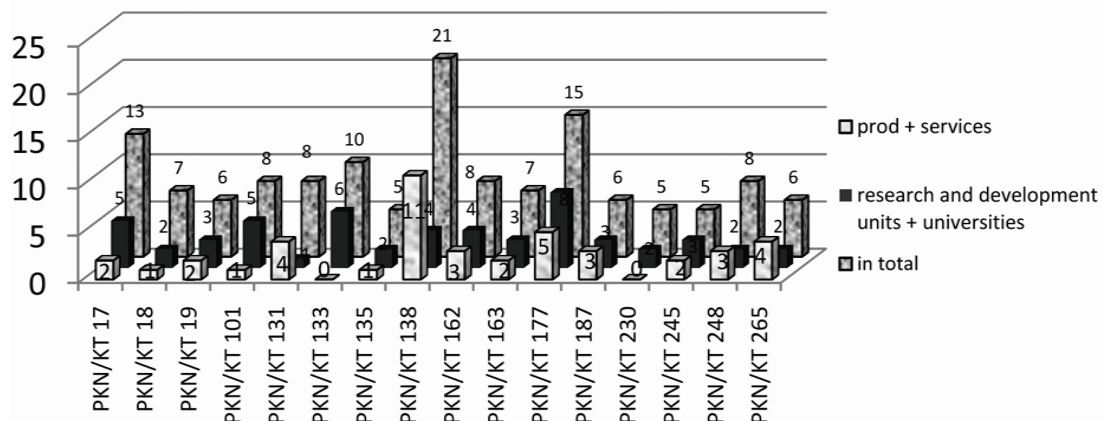


Fig. 1. The structure of the composition of the national Technical Committees.

Some of these problems, according to the Resolution of the European Parliament [9] also occur in other EU member states. Another kind of problem is the cooperation structure of national TC with so-called mirror technical bodies CEN and CE-NELEC. In this case, the problem is the scope of this cooperation. In practice, this means that a single national TC collaborates with several European counterparts, which in their structure have several subcommittees and working groups, assigned to specific issues. A graph in Figure 2 shows the structure of national TC cooperation with relevant technical bodies CEN and CENELEC..

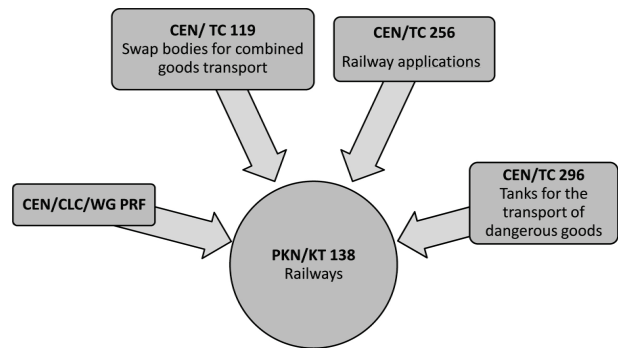


Fig. 4. The TC 19 cooperation structure with technical bodies CEN and CENELEC.

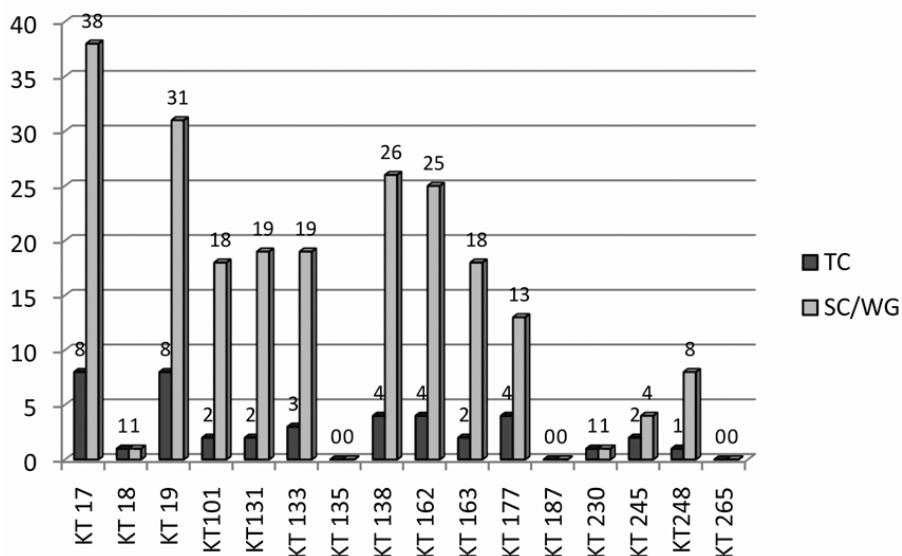


Fig. 2. The structure of national TC cooperation with relevant technical bodies CEN and CENELEC.

The detailed structure cooperation of selected national TC with their counterparts in CEN and CENELEC is shown in Figures 3 and 4.

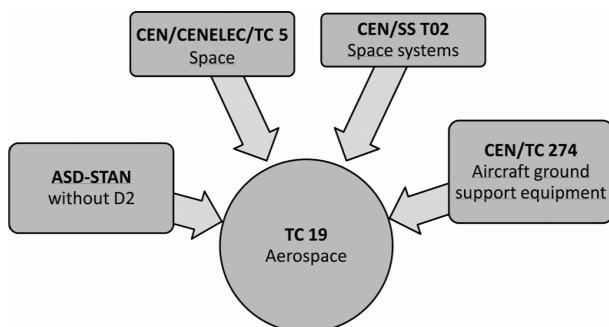


Fig. 3. The TC 19 cooperation structure with technical bodies CEN and CENELEC.

Another problem Another problem related to standardization activities both at national and European level is very small contribution to the issues of standardization in training programs at all levels, including training managers. This results in a very small number of their own topics suggested to standardization bodies (in years 2011-2012 in the field of transport reported one suggestion), which contrasts with the significant number held in the country for research and development.

The correct principle would be to restore the so-called verification standardization of all projects in which requirements or required tests should or can be based on standards documents. Verification of the accuracy of the reference of standards must be performed independently as a specialized task. Otherwise, errors may occur which will result in conflicts or damage, difficult or impossible to repair.

Delays in the implementation of Committee rules on the use of standards, the establishment of the rules and their updates have had and will always have fatal consequences in cooperation and will cause barriers to development. The problem of dualism and the controversy surrounding the voluntary application of the standards on the one hand and on the other its use required by law will be deepened if the institutions responsible for legislation in specific areas do not take into account the standardization as the activity actually supporting the creation of rules.

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