Final Report

Study to identify Key areas of standardisation for SMEs

SBS supporting Green, Digital and Resilient SMEs

2021-12-20

Contents

1. Background and purpose of the study

European and international standards cover a broad range of goods and services from lifts to cosmetics, from quality management to cybersecurity and from tattooing services to water management. They help to ensure that products and services are safe, reliable and of good quality. They are strategic tools that reduce costs by minimizing waste and errors to increase productivity. They help companies to access new markets, comply with legal requirements and facilitate free and fair global trade.

SMEs represent over 99% of all EU businesses. They are present in every sector of the economy and are key to ensuring economic growth, innovation, and job creation in Europe. SMEs are potentially the biggest user of standards. Nevertheless, SMEs and especially micro-enterprises do not always play a leading role in developing standards and find it extremely difficult to get involved in standardisation processes. Standards and their development processes are often simply too complex and difficult to understand for an SME. However, it is also the case that SMEs do not always know how to participate, and some SMEs are not even aware of standards and their importance for their business.

Against this background and in line with the objectives of Regulation 1025/2012[1] Small Business Standards (SBS) aims at:

- increasing the awareness about standards and the participation of SMEs in the European standardisation process;
- ensuring standards meet SMEs needs;
- motivating SMEs to get involved, and;
- promoting a higher uptake of standards among them.

One of the ways in which SBS does this is by ensuring the participation of SMEs in European and international Technical Committees (TCs). The number of standards developed or revised each year is constantly increasing. SBS currently counts more than 60 experts participating in standardisation Committees at the European (CEN, CENELEC, ETSI) and international (ISO, IEC) levels. Nevertheless, these experts only cover a limited part of the ongoing standardisation work.

Considering the variety of sectors in which SMEs are involved and the increasing number of standards, it is important to identify key areas of relevance and strategic importance to SMEs from the standardisation point of view to be able to concentrate the efforts of SBS and its experts in these areas.

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[1] Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation, amending Council Directives 89/686/EEC and 93/15/EEC and Directives 94/9/EC, 94/25/EC, 95/16/EC, 97/23/EC, 98/34/EC, 2004/22/EC, 2007/23/EC, 2009/23/EC and 2009/105/EC of the European Parliament and of the Council and repealing Council Decision 87/95/EEC and Decision No 1673/2006/EC of the European Parliament and of the Council.

The study aims to identify the key areas of standardisation for European SMEs in the next years. This should help to focus the activities of SBS in those areas that have been identified as especially relevant and strategic for SMEs.

2. Applied methodology

The study started in December 2020 and finished in November 2021, after receiving and addressing comments from SBS members.

The methodology and different steps applied to carry out the study are based on the following activities:

- Desk research
- Approval of the 6 criteria to be used to identify key priority areas for SMEs
- Interviews and questionnaires addressed to experts, members, other associations and SMEs
- Identification of sectors that are relevant for SMEs, based on the 6 Criteria and results of the interviews and questionnaires
- Identification of topics of interest for SMEs based on the results of the interviews and questionnaires
- Identification of the priority TCs and Work items considering the sectors and topics identified
- Validation Workshops with SBS members to validate and gather feedback on interim and final results
- Triple Contrast Approach
- Cross-check with current SBS TCs and Work items
- Elaboration of conclusions and recommendations
- Presentation of the conclusions and recommendations to the SBS membership

2.1. Prioritisation criteria

A core pillar of the study methodology is the criteria used for establishing the priorities for SBS technical standardisation work. The criteria were agreed with SBS at the beginning of the study and are further described below.

Criterion 1: Draft standards supporting European Policies and Legislation
Under this criterion, the draft standards intended to support European legislation and policies have been identified and prioritised (see also Section 4).

Criterion 2: Relevance of the sector and topics for SMEs
Under this criterion, sectors and topics have been assessed according to certain indicators such as:

- number (and percentage) of SMEs;

- added value generated by them;
- employment (jobs) generated and maintained by SMEs.

See also Section 6 for data on the economic relevance of sectors for SMEs.

Criterion 3: Declared Importance of the sectors and topics for SBS stakeholders

This criterion considers the declared importance of sectors and topics for SBS stakeholders. A series of interviews and questionnaires have provided an indication of the perceived importance of sectors and topics, complementing criterion 2, based on objective criteria.

Criterion 4: Sectors or topics are relevant for the 14 recovery industrial ecosystems

Section 3 of this report contains a description of the importance of the 14 recovery industrial ecosystems identified by the European Commission and their relationship with SMEs. This provides an additional criterion for prioritisation.

Criterion 5: Degree of effort and difficulty (in case of European or International standardisation)

This criterion considers if the work is mainly performed at the European or international level. In general, some sectors such as machinery, electrotechnical, healthcare and digital mainly produce international standards.

Additional criteria: Cross-check with current SBS sectors

The results of the prioritisation above have been cross-referenced with current SBS areas of activity. This has provided an overview of areas that are currently not covered by SBS.

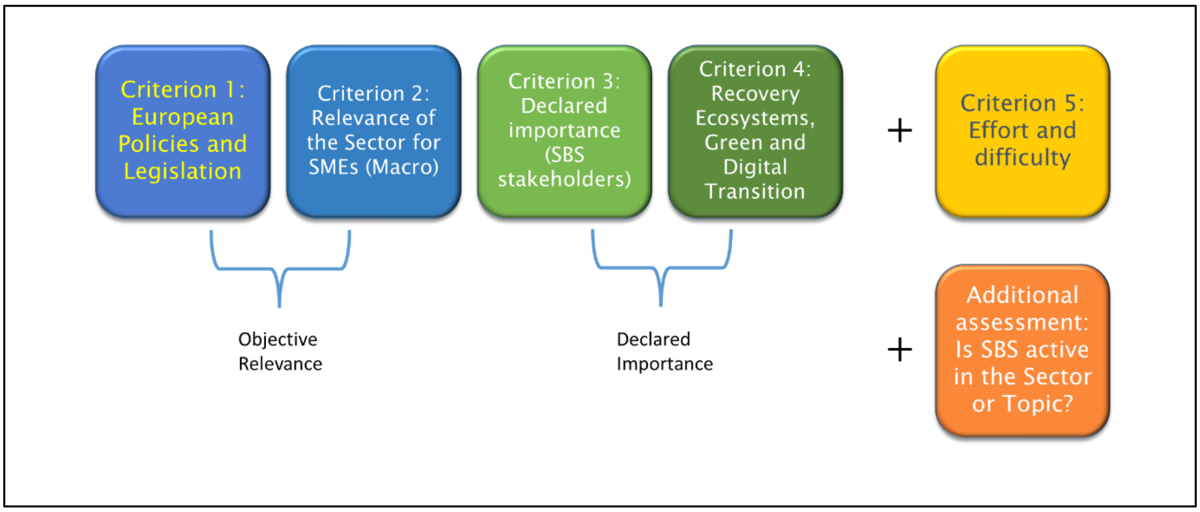

Figure1 – Agreed criteria for prioritisation of the standardisation sectors

2.2. Desk research

Desk research was performed to obtain relevant information for the study:

- Details on the 14 recovery industrial ecosystems
- Details on the New approach legislation / Standardisation requests

- Work programmes of CEN, CENELEC, ETSI, ISO and IEC
- Identification of strategic standardisation topics
- Standards mostly used in public procurement in Europe
- Statistics on the economic importance of sectors for SMEs:
    - GDP in the EU (pre and post Brexit)
    - EU intra and extra trade
    - Number of SMEs per sector

Details on the data obtained and main conclusions that could be made following the analysis of these data are provided below, under the corresponding sections of this final report.

2.3. Validation workshops

A validation workshop with SBS members was held on 19 May 2021. During the workshop the work carried out so far and the main intermediary conclusions were presented. This was also an opportunity to discuss the preliminary findings and get further feedback from the SBS members. During the validation workshop it was clearly pointed out that in addition to priority sectors the study should also look at strategic transversal (cross-cutting) topics. The need to consider some initiatives linked to sustainability, the EC Circular Economy Action Plan and the EC Sustainable Products initiative as input for the prioritisation was also highlighted.

A final validation workshop took place on 18 October 2021. This workshop helped to gather some final feedback and validate the final conclusions and recommendations of the study.

2.4. Triple contrast approach

The objective of this phase of the study is to assess the validity of the findings and conclusions obtained during the desk research, analysis of the information, interviews, and workshops. This approach has also allowed to check the coherency of the three sources of information: data, industry, and institutions.

Further details on the work performed and the main conclusions of this phase can be found in section 9 below.

3. Recovery industrial ecosystems

3.1. Description and relation to SMEs and standardisation

The European Commission has identified 14 industrial ecosystems as the core of the EU Strategy for recovery and resilience. These ecosystems do not match exactly with the existing sector classifications of the European Standards Organisations (ESOs) and their designation does not provide sufficient information on which economic sectors are covered by them. Therefore, it is essential to define them and link them with the ESOs (or SBS) sectors:

#1 Aerospace and Defence		
Industrial Ecosystem[2]	SME dimension and data	ESOs or SBS sectors
The Aerospace and Defence ecosystem covers manufacturing companies in: • aeronautics, • space • defence • space operators and data and service providers • research institutes Number: 3.2 million firms and 99% of them are SMEs. EU Added value: 1.99% (EUR 241 billion). Direct employment: 3.92 million people employed	SMEs and start-ups represent an important part of the Aerospace and Defence ecosystem. In civil aeronautics, they represent more than 80% of all companies, providing, amongst others, high-tech material processing and engineering services. SMEs are strongly represented in the downstream space sector and New Space start-up companies are developing at a fast pace. In Defence, more than 2,500 SMEs play a central role in the complex defence supply chains across Europe.	CEN-CLC: Transport: Air and Space + Defence and Security ETSI: • Transportation / Aeronautical • Public Safety • Security SBS: No direct sector for Air and Space. Health and Safety and Textiles partially cover some aspects of Defence.

#2 Agro-food		
Industrial Ecosystem[3]	SME dimension and data	ESOs or SBS sectors
The agri-food ecosystem covers all operators in the food supply chain (farmers, food industry, food retail and wholesale, and food service) and their suppliers of inputs and services (seeds, pesticides, fertiliser, machinery, packaging, repair, transport, finance, advice and logistics). It partially overlaps - with the Tourism and the Retail ecosystems. Number: 599,000 firms (99.4% of SMEs) 4.84% of EU value-added (EUR 585 billion) 16.3 million people employed	SMEs are the backbone of the agri-food ecosystem. Only 1% of food and drink companies are leading large enterprises; they however employ 40% of the workforce and generate 52.5% of the turnover of the sector. On average, food retailers are predominantly SMEs. Farms are mostly SMEs: Farms are not classified as SMEs in business statistics, however, an extremely small number of holdings may not fall within the SME criteria, as only 1.0% of the EU farm holdings have a turnover of over EUR500 000 per year.	CEN-CLC: Food and agriculture SBS: No direct sector

[2] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

[3] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

#3 Construction		
Industrial Ecosystem[4]	SME dimension and data	ESOs or SBS sectors
The construction ecosystem covers contractors for building and infrastructure projects, some construction product manufacturers, engineering, and architectural services as well as a range of other economic activities (e.g., rental and leasing of machinery and equipment, employment agencies). Number: 5.3 million firms (99.9% of SMEs) 9.6 % of EU value-added (EUR 1,158 billion) 24.9 million people employed	The production structure is dominated by micro and small enterprises. 99.9% of companies of the ecosystem are SMEs, which represent 90% of employment and 83% of the total added value. Around 90% of the companies are microenterprises, representing 45% of employment and 32% of the total added value. Challenges: New skills are be needed for digital (e.g., BIM, HBES / Domotics) or green (environmental and sustainability) new trends in the sector.	CEN-CLC: Construction ETSI: Home and Office SBS: Construction

#4 Cultural and Creative Industries		
Industrial Ecosystem[5]	SME dimension and data	ESOs or SBS sectors
The ecosystem contains: • audiovisual (TV, videogames, VOD, cinema, VR/AR), • music, • books and press publishing, • advertising, • cultural heritage (museums, historical sites), • performance (theatre, dance) and • visual arts. Creative entrepreneurs are driving the creative economy (e.g., music, publishing and media, architecture, design). Cultural education is considered part of the ecosystem. 1.2 million firms (99.9% of SMEs) 3.95% of EU value-added (EUR 477 billion) 8.02 million people employed	Excluding some big companies, like broadcasters and several media conglomerates, the CCIs are composed of a high number of small, independent companies. SMEs in CCI are smaller than the market average, due to a high share of freelancers and micro-enterprises. The CCI market is fragmented along national/linguistic territories. SMEs (mostly micro) employ over 90% of the workforce in such sectors as visual arts and design. They also contribute to over 80% of the value-added of these sectors, and almost 85% in audiovisual production and music publishing (78% of value-added).	LOW IMPACT OF STANDARDISATION, except for related equipment. CEN-CLC: No direct sector. Consumer products and Services partially covered. No strong standardisation in this cluster. ETSI: Content delivery SBS: No sector

[4] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351
[5] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

#5 Digital		
Industrial Ecosystem[6]	SME dimension and data	ESOs or SBS sectors
The ecosystem contains: • ICT Manufacturing, • Services (excluding telecommunications), • Telecommunications. ICT Services account for 95% of the total ICT value-added. Within the ICT Services subsector, telecommunications play an important role: they make up around 35% of the value-added of the services sub-sector and 16% of its employment. Number: 1.2 million firms (99.8% of SMEs) 5.17% of EU value-added (EUR 625 billion) 6.8 million people employed	Networking and lock-in effects of digital technologies play in favour of companies with an established dominant position in this ecosystem at the expense of smaller competitors. SMEs are involved in niche solutions tailored to specific needs. Some of the start-ups are even very successful in introducing new products, as examples of unicorns show.	CEN-CLC: CEN: Digital Society CENELEC: Digital Society ISO-IEC: • Digital • Software and Systems ETSI: • Networks • Wireless systems • Connecting things • Interoperability • Security SBS: Digital Society Priorities:

#6 Electronics		
Industrial Ecosystem[7]	SME dimension and data	ESOs or SBS sectors
The electronics ecosystem covers: • design and manufacturing of electronic components; • raw materials (semiconductor wafers) • manufacturing tools. The value chain stretches from design to semiconductor manufacturing to 'assembly-test-packaging' facilities, before reaching end-user companies, which integrate the chips into their product solution. Number: 104,000 firms (98.9% of SMEs) 1.06% of EU value-added (EUR 128 billion) 1.79 million people employed	SMEs play a strong role in value chains, for electronics board design and integration, photonics, and equipment manufacturing, often strongly associated to the value chains of specific big companies but are as well active in chip design.	CEN: No sector CENELEC: Digital Society and Electronic, electromechanics and electrotechnical supplies ISO-IEC: Digital IEC: Consumer electronics SBS: Digital Society (parcial coverage)

[6] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

[7] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

#7 Energy-Intensive Industries		
Industrial Ecosystem[8]	SME dimension and data	ESOs or SBS sectors
The Energy-Intensive Industries covers: • chemicals, • Steel, • Paper, • Plastics, • Mining, extraction and quarrying, • Refineries, • Cement, • Wood, • Rubber, • Non-ferrous metals, • Glass, • Ceramics. 548,000 firms (99.4% of SMEs) 4.55% of EU value-added (EUR 549 billion) 7.8 million people employed	SMEs represent 99.4% of companies and have a 51.25% share of employees working in this ecosystem. SMEs also represent 31.3% of the ecosystem turnover and 36.9% of the value-added. All parts of the ecosystem have a mix of large companies and SMEs. At one extreme, the refineries sector accounts for 40 large companies, at the other, the manufacture of wood products has around 100,000 SMEs.	CEN-CLC: • Mining and Metals • Construction • Agriculture and food (partial coverage of wood) • Chemical SBS: • Construction • Textiles (disinfectants and antiseptics only) • Parcial coverage of chemical sector

#8 Energy – Renewables		
Industrial Ecosystem[9]	SME dimension and data	ESOs or SBS sectors
Renewables include wind energy, solar energy (photovoltaics, thermal and concentrated solar power), hydropower, bioenergy (including sustainable biofuels), geothermal energy, ocean energy, and heat pumps. Moreover, sustainable energy storage solutions, smart infrastructure technologies and energy conversion technologies, including electrolysers, are an important part of a clean energy ecosystem. 111,000 firms (99.4% of SMEs) 1 % of EU value-added (EUR 122 billion) 1.2 million people employed	In the electricity sector alone, more than 50 000 SMEs are active in the production of renewable electricity. The renewable heating and cooling sector is very diverse with many SMEs, and distinct supply chains for different biomass options, solar heating, geothermal heating, and heat pumps. The sector has a high turnover/job compared to other sectors (800k/job), and every million of investments in renewables and flexibility creates 25 jobs.	CEN-CLC: Energy and Utilities ISO: Energy IEC: Renewables ETSI: Connecting Things SBS: Energy and Utilities (no real coverage of renewables)

[8] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351
[9] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

#9 Health		
Industrial Ecosystem[10]	SME dimension and data	ESOs or SBS sectors
Manufacturing of pharmaceuticals and their key inputs, medical devices and equipment and personal protective equipment; Healthcare services (medical and residential care); Health tech and related services. The biggest part of this ecosystem's contribution to the EU added value is generated by health services provided through health workers and health care facilities. 493,000 firms (99.7% of SMEs) 9.5% of EU value-added 24.8 million direct employment	The industrial structure of the Health ecosystem is diffused, with some big players and a significant number of SMEs. Potential synergies between those two groups are not fully tapped and thus the upscaling of SMEs is seriously hindered. The demand side, which consists mainly of public buyers of the supplies or services, is highly fragmented. **This fragmentation in the demand side makes it very difficult for SMEs to access business opportunities.**	CEN-CLC: Health + Occupational Health and Safety ETSI: Connecting things / eHealth + Medical devices SBS: Healthcare and health and safety (no coverage of medical devices)

#10 Mobility - Transport - Automotive		
Industrial Ecosystem[11]	SME dimension and data	ESOs or SBS sectors
The Mobility - Transport - Automotive Ecosystem covers automotive, rail and waterborne. It is characterised by a long and complex supply chain and dominated by a few players that became global players. 1.8 million firms (99.7% of SMEs) 7.5% of EU value-added (EUR 906 billion) 14.6 million people employed (at least 16 million including indirect jobs)	SMEs are directly engaged in production (and are often key suppliers to many larger manufacturers as they offer unique expertise and technical know-how at the level of components and sub-assemblies) and retail. Rail: Around 16 % of companies in the segment of the manufacture of locomotives and rolling stock and around 20% of companies in the segment of signalling and train control equipment are SMEs.	CEN-CLC: Transport and packaging ETSI: • automotive Intelligent Transport Systems (ITS) • Rail Communications (RT) • Maritime SBS: Transport and packaging (Subsectors of transport services and logistics or water transport are not covered)

[10] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

[11] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

#11 Proximity, Social Economy and Civil Security		
Industrial Ecosystem[12]	SME dimension and data	ESOs or SBS sectors
The 'social economy' encompasses a variety of businesses, organisations and legal forms, including non-profit associations, cooperatives, mutual societies, foundations and social enterprises. 3.1 million firms (99.9% of SMEs) 6.54% of EU value-added (EUR 791 billion) 22.9 million people employed	99.9% of the Proximity & Social Economy companies are SMEs with significant part micro-enterprises and start-ups.	CEN-CLC: No direct coverage of this industrial ecosystem SBS: No direct coverage of this industrial ecosystem No direct standardisation activities (apart from management systems)

#12 Retail		
Industrial Ecosystem[13]	SME dimension and data	ESOs or SBS sectors
Retail, relevant wholesale, online platforms. E-commerce represents 10-15% of total retail sales (much less for grocery retail). The largest are mainly grocery chains, cosmetics, textiles and furniture sellers. The most important e-commerce players come from outside the EU. 5.5 million firms (99.9% of SMEs) 11.5% of EU value-added (EUR 1,385 billion) 29.8 million people employed	99.9% of the 5.5 million companies are SMEs. In 2019 only 20.5% of EU companies (<10 employees, not only retailers) sold online. Fewer than one in twenty SMEs sell goods online to buyers in other EU countries (4%), which compares to 11% of large enterprises (all companies, beyond retail). The ability of SMEs to develop internal digital infrastructures that can capitalise on the benefits of digitalisation is limited by a lack of financial resources and/or skills. Greater uptake of online platforms is therefore especially important for SMEs. Data protection, sharing and analytics deserve attention	CEN-CLC: • No direct coverage of this industrial ecosystem • Indirect: Management System standards + Digital Society SBS: • No direct coverage of this industrial ecosystem • Indirect: Digital society No direct standardisation activities (apart from management systems) Indirect standardisation include data protection, privacy and cybersecurity.

[12] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

[13] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

#13 Textile		
Industrial Ecosystem[14]	SME dimension and data	ESOs or SBS sectors
The textile ecosystem includes: • transformation of natural (e.g., cotton, flax, wool), man-made and artificial (synthetic polyester and viscose) fibres into yarns and fabrics, production of yarns, • home textiles, • industrial filters, • technical textiles, • carpets and clothing, • production of footwear and leather. The ecosystem is particularly competitive in high-end clothing and technical textile for automotive applications, medical textile, agro-textile and protective clothing. 267,000 firms (99.5% of SMEs) 0,70% of EU value-added (EUR 85 billion) 4 million people employed	Small and medium-sized enterprises are at the core of the industry representing 99.5% of the companies. Women represent more than 70% of all employees in the sector. Companies with less than 50 employees account for more than 90% of the workforce and produce almost 60% of the value-added. The ecosystem is considered vulnerable given the high share of SMEs.	CEN-CLC: Consumer products / Textile and fashion SBS: Textile

#14 Tourism		
Industrial Ecosystem[15]	SME dimension and data	ESOs or SBS sectors
In the EU, services providers at the destination level (hospitality, attractions) are, in their majority, small local owners. Part of them are franchisees of a few multinational companies providing branding, marketing, management and selling services. 3.2 million firms (99.8% of SMEs) 7% of EU value-added (EUR 850 billion) 20.3 million people employed	SMEs represent 99.9% of the ecosystem's companies. They generate 63.66% of its value-added and employ 83.63% of its workers. The proportion of micro and small companies is particularly high in hospitality (hotels, bars, restaurants), with many owners operating independently or under franchises from large groups. It is also true but to a lesser extent for travel agencies and coaches.	CEN-CLC: Services (partial coverage) Transport (partial coverage) SBS: Services (Tourism covered as well as Sharing Economy) Transport

[14] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

[15] https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

3.2. Conclusions

The conclusions of the desk research on the recovery industrial ecosystems are:

- **SMEs are mostly present upstream** (materials and components) **and downstream** (retail sales and associated services such as maintenance, repair, etc) in most of the ecosystems and the sector value chains in Europe. In some sectors, SMEs are also heavily present and active midstream. Nevertheless, **the SMEs presence downstream is in general the most relevant**: transport, retail, services associated with products (installation, maintenance, repair, etc).
- SBS does not cover the following ecosystems <u>with a relevant standardisation footprint</u> and with relevance for SMEs:
    - Air and Space + Defence and Security (only PPE is followed by SBS)
    - Agro-food
    - Electronics
    - Chemical sector
    - Renewable energy
    - Health (Medical Devices)
    - Mobility (Transport services and Logistics)
- Other ecosystems that may be considered for future standardisation proposals, if appropriate, are:
    - Proximity, Social Economy and Civil Society, where SMEs are mushrooming
    - Retail trade (in particular, digitisation of retail trade and quality aspects of retail trade)
    - Tourism, where standardisation takes place at the national or international level.

4. New Legislative Framework/New Approach Legislation and standardisation requests

The desk research covered all New Legislative Framework (NLF) and New Approach (NA) Directives and Regulations, standardisation requests (whether linked with NLF/NA pieces of legislation or not) and associated standardisation work programmes.

4.1. Active Work items per standardisation request

The following table provides an analysis of the number of active and not published work items (WIs) per standardisation request (SR):

SR Reference	SR name	WIs active & not published
M/031	Personal Protective Equipment	23
M/071	Pressure equipment	98
M/117	CPD: Resistance to fire	16
M/124	CPD: Road constr. products	5
M/125	CPD: Aggregates	10
M/366	Dangerous substances	19
M/396	Machinery	190
M/416	Pyrotechnic articles	15
M/441	Utility meters	10
M/483	Rail System	74
M/495	Ecodesign	15
M/496	Space Industry (phase 3)	66
M/511	Mandate to LVD	299
M/515	Eurocodes	32
M/534	Ecodesign Water Heaters	14
M/535	Ecodesign Space Heaters	18
M/536	Radio equipment	28
M/542	Recreational craft	19
M/549	Lifts	11
M/552	EMC	93
M/562	Explosives for civil use	55
M/564	Fertilizers	58
M/565	Medical Devices Regulation	24
M/571	PPE	20
M/BC/CEN/89/6	Gas appliances	35
M/BC/CEN/92/46	ATEX	26

SR Reference	SR name	WIs active & not published
M/TDG	referencing in the RID-ADR	13
TOTAL WIs		1286

4.2. Work programmes associated with Standardisation Requests

4.2.1 CEN and CENELEC work items associated with standardisation requests

Noting that not all standardisation requests are active, the research focussed on CEN and CENELEC work items that evolved since January 2019. As a result of this analysis:

- 28 main standardisation requests (SRs) were identified, and
- 2388 CEN and CENELEC (1630 were non-published and active) WIs were highlighted

In addition, we analysed those standardisation requests with the reference M/5XX as they are the most recent ones. This analysis can give us an approximate number of work items that could be followed, provided they all were relevant for SMEs.

As a result of this analysis:

- 73 SRs were also analysed, and
- 1596 WIs were highlighted, of which 757 active and non-published were identified.

4.2.2 ETSI work items associated with Standardisation requests

ETSI has 4019 WIs that were modified during the last year, of which:

- 797 WIs are currently in the drafting stage
- 155 WIs are mandated
- 106 WIs are aimed to be harmonised

4.3. Conclusions

Currently, SBS follows approximately 500 Work items. The results of this analysis show that SBS should receive more than double the current funding to be able to follow all the work items that are developed under the most populated standardisation requests.

If SBS had to follow all WIs under standardisation requests, associated with EU legislation, this would imply following from 760 to 860 work items as a priority.

The above figures have been reviewed and confirmed in light of the different criteria to be explained in other sections of this final report.

5. Top standards referred to in public procurement

This section provides an overview of standards used in the framework of public procurement. The most popular standards referred to in public procurement files are:

- EN ISO 9001 – Quality management systems (1,8% of total procurements)
- EN ISO 14001 – Environmental management systems (0,5% of total tenders)
- EN ISO 22000 – Food safety management systems (0,04% of total procurements)
- ISO 14043 – Environmental management – Life cycle assessment (0,016% of total procurements)
- EN ISO 50001 – Energy management systems (0,015% of total procurements)
- EN 10204 – Metallic products – Types of inspection (0,013% of total procurements)
- ISO 15189 – Quality and competence in medical laboratories (0,006%)
- ISO 7779 – Acoustics – Measurement of airborne noise emitted by information technology and telecommunications equipment (0,005%)
- ISO 9296 – Acoustics – Declared noise emission values of information technology and telecommunications equipment (0,005%)

ISO/IEC 27001 – Information technology – Security techniques – Information security management systems is also mentioned in public procurement, but much less than the above standards.

From this analysis, we can conclude that the most popular standards in public procurement are management system standards and that these are international standards. Only one standard is a pure European standard and used in the metal sector.

6. Economic relevance of sectors for SMEs

6.1. General data

According to Eurostat:

- SMEs account for 99.8% of all enterprises (>21 million Micro and SMEs) in the EU 27.
- They produce 53% of the total value-added produced in the EU27 and 65% of the total employment in the Non-Financial Business Sectors.
- In 2019, EU-27 SMEs contributed slightly more than proportionately to value-added growth in the Non-Financial Business Services (58%) compared to their actual share of NFB Sectors value-added (53%).

6.2. Services sector

More than 50% of SMEs are active in services, of which

- more than 18% are professional, scientific and technical services for which standardisation has an important footprint.

- More than 6% are active in administrative and support services.
- More than 25% of SMEs are active in trade (including retail).

Services and trade account for more than 66% of added value and 67% of total employees for the SMEs.

Currently, management systems standards are widely used in the service sector. In addition, a few professional service and personal/consumer service standards are also applied.

6.3. Manufacturing sectors

8,5% of SMEs are active in the manufacturing sector, representing almost 20% of the added value created by SMEs and of the number of jobs created by SMEs.

Sectors for which SMEs represent almost or more than 50% of the total added value in manufacturing are:

- Textiles (almost 75% of the value generated by SMEs)
- Wood, cork and related products (almost 75%)
- Fabricated metal products (almost 75%)
- Furniture (above 70%)
- Wearing apparel (above 60%)
- Leather (above 60%)
- Rubber and plastic products (above 50%)
- Food products (almost 50%)

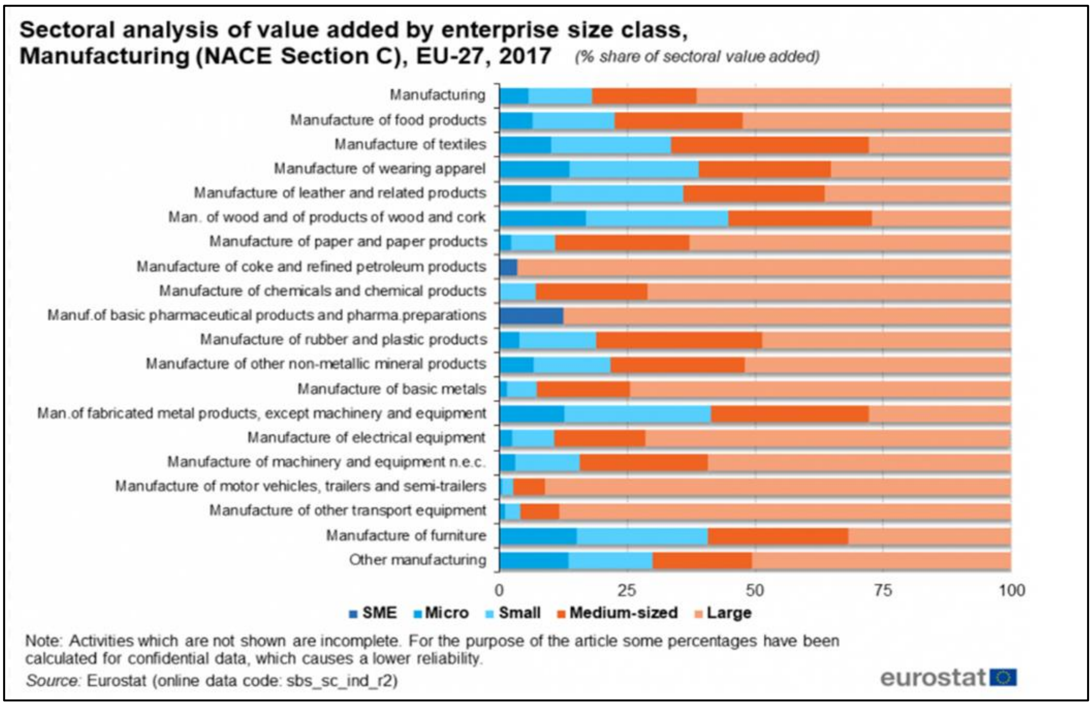

Figure – Sector analysis of added value by company size (source Eurostat)

6.4. SMEs in the construction sector

- Almost 15% of SMEs are active in the construction sector
- They produce more than 11% of the added value
- More than 12% of jobs are created by SMEs

6.5. Overall data regarding number of companies, added value and employment per sector

EU 28 (2018 estimations)						
	Number of SMEs by sectors		Value added of SMEs by sectors (in Mio Euro)		Number of persons employed in SMEs by sectors	
	No	%	Mio Euros	%	No	%
Non-financial business economy	25.032.008,00	100,00%	4.357.046	100,00%	97 738 950	100,00%
Mining & quarrying	18.938,00	0,10%	17.731	0,40%	179.109	0,20%
Manufacturing	2.132.687,00	8,50%	821.902	18,90%	17.888.818	18,30%
Electricity, gas	106.479,00	0,40%	60.060	1,40%	338.028	0,30%
Water supply, sewerage, waste management	80.017,00	0,30%	51.130	1,20%	850.832	0,90%
Construction	3.664.383,00	14,60%	498.514	11,40%	11.890.423	12,20%
Distributive trades	6.467.652,00	25,80%	962 711	22,10%	23.904.302	24,50%
Transportation & storage	1.276.442,00	5,10%	274.327	6,30%	6.198.049	6,30%
Accommodation & food services	2.073.133,00	8,30%	213.580	4,90%	10.361.891	10,60%
Information & communication	1.285.352,00	5,10%	281.264	6,50%	4.387.088	4,50%
Real estate	1.487.525,00	5,90%	252.094	5,80%	2.637.367	2,70%
Professional, scientific & technical activities	4.742.678,00	18,90%	599.192	13,80%	11.104.458	11,40%
Administrative & support services	1.696.722,00	6,80%	324.541	7,40%	7.998.585	8,20%
Manufacturing	2.132.687,00	8,50%	821.902	18,90%	17.888.818	18,30%
Construction	3.664.383,00	14,60%	498.514	11,40%	11.890.423	12,20%
Trade	6.467.652,00	25,80%	962.711	22,10%	23.904.302	24,50%
Services	12.561.852,00	50,20%	1.944.997	44,60%	42.687.438	43,70%
	24.826.574,00	99,2%				

Table – Economic indicators in the non-financial sector (2018 estimates)

7. Priority sectors

For the purposes of this study, 26 business sectors and their correspondence with the NACE Code and the Common Procurement Vocabulary were considered. These sectors are traceable with the CEN, CENELEC, ETSI, ISO and IEC sectors.

Sector	C1 Policies	C2 SMEs and economy	C3 Importance for SBS	C4 Recovery, Green & Digital	C5 European Focus
001 AGROFOOD	74	100	24	58	100
002 ENERGY	81	42	24	49	50
003 MININGMETALS	81	55	37	33	100
004 MATERIALS	37	43	62	33	50
005 CHEMICALS	87	74	24	83	100
006 MECHMACH	100	74	75	57	100
007 CONSTRUCTION	87	75	62	100	100
008 ELECTROTECH	100	61	24	66	100
009 MEDIHEALTH	87	61	50	75	100
010 DIGITAL	100	24	75	100	100
011 TRANSPORT	100	74	37	100	50
012 DEFSECURITY	81	37	75	66	100
013 MUSISPORTARTSEQUIP	81	43	24	24	100
014 TEXTFASHION	87	61	75	100	50
015 TOYGAMEAMUSEMENT	68	56	24	49	100
016 FURNITUREHOUSEHOLD	100	56	75	49	50
017 REPAIRMAINTINST	37	37	37	24	100
018 TOURHORECA	24	75	37	58	25
019 RETAILTRADE	37	37	24	66	0
020 FININSURANCE	37	55	37	49	25
021 PUBLICADMIN	24	18	24	49	0
022 BUSINESSTECHNICAL	87	87	75	32	50
023 EDUCTRAINING	37	24	24	40	50
024 ENVICLEAN	87	36	37	57	50
025 RECRECULTSPORSERV	55	37	24	24	0
026 OTHERCOMMPERSSERV	37	55	62	40	100

Table – Score of the different sectors under the different criteria

The table below provides a total score considering the different values calculated above but each column with a different weighting:

- The first column contains the value providing 35% of the weight to Criterion 1 (Public Policies), 20% to Criterion 2 (Relevance for SMEs), 15% to Criterion 3 (Declared importance), 20% to Criterion 4 (Recovery, Green and Digital) and 10% to Criterion 5 (European focus);
- The second column provides a value with just the average value obtained for the five criteria.

As we can see, the priorities obtained with the two different scores are very similar, but the table is sorted using the first column as reference for the prioritisation.

	Score initial Weighting	Score Average Criteria
CONSTRUCTION	84,8	84,8
MECHMACH	82,5	81,2
DIGITAL	81,1	79,8
TRANSPORT	80,4	72,2
TEXTILE & FASHION* (including PPE)	78,9	74,6
CHEMICALS	75,5	73,6
HEALTH** (including PPE)	75,2	74,6
ELECTROTECH	74,0	70,2
FURNITURE & HOUSEHOLD	72,25	66
AGROFOOD	71,1	71,2
BUSINESS TECHNICAL Services	70,5	66,2
DEFENCE & SECURITY	70,2	71,8
MINING & METALS	61,5	61,2
TOY, GAMES, AMUSEMENT	58,4	59,4
OTHER COMMUNITY PERSONAL SERV	51,25	58,8
ENVIRONMENTAL & CLEANING SERVICES	59,6	53,4
MUSIC, SPORTS, ARTS, EQUIPMENT	55,35	54,4
ENERGY	55,2	49,2
TOURISM & HORECA	43,05	43,8
MATERIALS	42,5	45
FINANCIAL AND SURANCE	41,8	40,6
REPAIR & MAINTINST	40,7	47
RETAIL TRADE	37,15	32,8
RECREATIONAL, CULTURE & SPORT SERVICES	35,05	28
EDUCTION & TRAINING	34,35	35
PUBLIC ADMINISTRATION SERVICES	25,4	23

Consequently, the following 15 priority sectors having a highest score on each of the dimensions have been selected:

1. Construction
2. Mechanical and machinery
3. Digital

4. Transport
5. Textile & Fashion
6. Chemicals
7. Transversal Topic Personal Protective Equipment (several sectors, including textile, health and health and safety, Defence and Security)
8. Electrotechnical
9. Furniture and Household Appliances
10. Agro, food and forestry
11. Business Services (Professional Services)
12. Defence and Security (most elements covered by textile and PPE)
13. Mining and Metals (most elements covered by construction sector)
14. Toys, Games and Amusement attractions
15. Personal services

Note: For the purpose of this study, those sectors in grey above will not be considered as standalone sectors, as most of their elements are covered by other sectors.

8. Priority topics

In addition to the priority sectors, several strategic topics have also been identified. Topics refer to cross-cutting issues covered by technical bodies or work items.

The following priority topics have been selected considering the information and replies obtained through:

- Interviews with SBS members
- Questionnaire for SBS members
- Questionnaire for SBS experts
- Questionnaire for SMEs
- Interviews with EC officers
- Analysis of World Economic Forum Strategic Issues

The points indicated in the table below, as well as the order of importance, are based on a maximum score of 20 points in the answers given in the questionnaire. The interviews and the analysis of the World Economic Forum Strategic Issues helped to confirm the importance of such priority topics:

Top 40 Strategic Topic for SMEs	TOTAL Points	Order of importance
Digital: Digital Transformation	20	1
Construction safety and performance: Building Information Modelling (BIM)	18	2
Digital: Artificial Intelligence	18	3
Digital: Cybersecurity	18	4
Citizens safety and living: Smart Houses and domotics	17	5
Environment and Circular Economy: Ecodesign and Resource Efficiency	17	6
Environment and Circular Economy: Waste	17	7
Citizens safety and living: Products safety	16	8
Construction safety and performance: Sustainable Building	16	9
Digital: IoT and M2M	16	10
Environment and Circular Economy: Circular economy	16	11
Environment and Circular Economy: Emissions (noise, gas, CO_2, etc)	16	12
Energy: Renewable Energy	15	13
Environment and Circular Economy: Recyclability/Recoverability	15	14
Staff Health, Safety and Development: Personal Protective Equipment	15	15
Advanced Manufacturing and robotics: Additive Manufacturing	14	16
Citizens safety and living: Smart and Sustainable Cities	14	17
Staff Health, Safety and Development: Skills and Competencies	14	18
Conformity Assessment & Accreditation: Testing methods	13	19
Environment and Circular Economy: Right to repair	13	20
Advanced Manufacturing and robotics: Robotics	13	21
Citizens safety and living: Intelligent Transport Systems	13	22
Digital: ICT Skills	13	23
Environment and Circular Economy: Restriction of Hazardous Substances	13	24
Construction safety and performance: Construction products safety	12	25
Citizens safety and living: eMobility	12	26

Top 40 Strategic Topic for SMEs	TOTAL Points	Order of importance
Citizens safety and living: Mobility and Transport	12	27
Digital: 5G and other wireless technologies	12	28
Digital: Cloud Computing	12	29
Digital: Smart textiles and clothes	12	30
Product-specific topics: Risk Assessment and Risk Management	12	31
Protection against COVID-19: Anti-COVID Protocols	12	32
Business Continuity and Resilience: Business Continuity	11	33
Citizens safety and living: Accessibility	11	34
Digital: Blockchain	11	35
Construction safety and performance: Fire Safety	10	36
Digital: eGovernment	10	37
Digital: Electronic Invoicing	10	38
Governance and stakeholders: Corporate Social Responsibility	10	39
Conformity Assessment & Accreditation: Accreditation criteria for conformity assessment bodies	9	40

9. Conclusions of the Triple Contrast Approach phase

The Triple Contrast Approach consisted of a confirmation phase, considering input from different sources (interviews, questionnaires and data), in order to confirm the results obtained in previous phases.

The following data and input were considered as a consequence of interviews with different types of stakeholders to confirm the obtained data, as well as during the triple contrast approach phase:

- I – European Commission:
  - EC Communications on the New Industrial Strategy[16]
  - EC Staff Working Paper on Recovery Industrial Ecosystems[17] (see Section Recovery Industrial Ecosystems), providing a detailed outlook of SMEs in priority ecosystems and sectors,
  - EC SME Report 2020/2021, which contains overall statistics of impact of SMEs in the economy, but also refers to challenges faced by SMEs regarding digitisation
  - References to SMEs in the EC Sustainable products initiative
  - Interviews and references to SMEs in strategic documents
- II – Direct input from SMEs:
  - Conclusions obtained from a questionnaire replied by 1000 SMEs and 72 industry associations, in the context of the EU Project on Functions and Effects of Standards
- III – References to SMEs in standardisation related documents:
  - References to SMEs in the input provided to the Roadmap for an EC Strategy on European Standardisation
  - References to SMEs in ISO, IEC, CEN and CENELEC TC Business Plans
  - References to SMEs in CEN, CENELEC, ISO and IEC Work Items

9.1. EC SME Report 2020/2021 and Digital Transformation of SMEs

A big part of the EC SME Report 2020/2021 focuses on the digital transformation of SMEs. According to the report, among the most important reasons for SMEs adopting digital technologies are connectivity, online presence, digitalisation and automation of business processes, and use of cloud-based services, collaborations and communication.

[16]Commission Communication – Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery – COM/2021/350 final. See: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52021DC0350

[17]https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:52021SC0351

In terms of connectivity and online presence, when fixed and/or mobile broadband is used as the key enabler, the most common use cases are:

- online communication and collaboration;
- e-commerce;
- internet-based solutions for automating and digitising interactions with customers;
- data acquisition and processing;
- contactless payments;
- and adoption of QR codes for direct ordering.

Apart from financial issues associated with the investment required for the digital transformation of SMEs, lack of knowledge, skills and capacity, particularly with regard to business development; insufficient marketing and strategic management skills; and lack of time are fundamental challenges.

This information leads to the conclusion that SBS could promote standardisation activities to increase the knowledge and skills of SMEs management and staff in the digital area.

9.2 Questionnaire addressed to SMEs

The conclusions presented below originate from a questionnaire addressed to SMEs that was carried out in 2021 and that included answers from 1,000 SMEs and 72 business associations which was launched and answered in the context of the EU funded project "Functions and Effects of Standards".

Use of standards

- 64% of surveyed SMEs responded that they use both European standards supporting and not supporting the application of European legislation
- A minority of SMEs 28% only use European standards supporting the application of European legislation

Participation in standardisation processes

- 70% of SMEs declared to participate in the standardisation process at the European level, either directly (46%) or through business associations (23%);
- 38% of SMEs directly participate in international standardisation and 18% do so through business associations;
- 85% of SMEs participate in national standardisation directly (74%) or through national industry associations (12%)

The majority of SMEs (70%) perceive benefits of participating in standardisation:

- 39% of SMEs confirm they perceive benefits from participating in standardisation processes (very large extent and large extent)

- 31% perceive benefits to a moderate extent
- 30% to a small extent, not at all or they do not know
- SMEs downstream seem to benefit most of the application of European and international standards

The above figures confirm the important role of SBS and other industry associations in representing SMEs' interests, even if SMEs are still considered to be underrepresented when asking industry associations.

Motivation for SMEs to use standards

SMEs mainly use standards to:

- comply with regulations and affixing the CE marking
- Improve product and service quality
- Improve consumer protection and safety (linked also with reputation)

The answers provided by SMEs confirm that Criteria 1 (Regulations and Public policies) and 4 are relevant for the prioritisation (link with 14 Industrial Recovery Ecosystems).

9.3 References to SMEs in Work Items and in TC Business Plans

As mentioned before, another part of the Triple Contrast Approach consisted in analysing references to SMEs in TC Business Plans and in Work Items.

The analysis of the TC Business Plans did not provide much information, rather than finding generic references to SMEs when referring to stakeholders and interested parties.

Nevertheless, from the analysis of the titles and scopes of Work Items, the following drafts and standards were identified:

- ISO 44004 – Collaborative business relationship management — Guidelines for large organizations seeking collaboration with micro, small and medium-sized enterprises (MSMEs)
- prCWA (CEN/WS111) Guidelines for Micro-SMEs' GDPR Compliance
- prCEN/TR 17439 rev – Guidance on how to implement EN ISO 19650-1, -2, -3 and -5 in Europe [BIM]

10. Final conclusions

Conclusion 1

The Technical Committees that are currently covered by SBS are found to be relevant for SMEs, as they are part of the priority sectors resulting from the analysis.

Nevertheless, the current coverage is insufficient as:

- several sectors of high relevance for SMEs are not covered, and

- several TCs inside current SBS sectors are not covered.

See Conclusions 3, 4 and 5, for those additional sectors and TCs that could be considered by SBS. See Recommendation 1 (under section 11) on extended coverage of sectors and topics.

Conclusion 2

As a result of the Initial analysis, Validation Workshop and Triple Contrast Approach phases, the relevance of the prioritisation criteria has been confirmed.

Conclusion 3

The following sectors have scored the highest according to the priority criteria and have been confirmed during the Triple Contrast Approach phase:

1. Construction (and some materials from mining and metals used as construction products)
2. Mechanical and machinery
3. Digital
4. Transport
5. Textile & Fashion
6. Chemicals
7. Transversal Sector Occupational Health and Safety (PPE from several sectors, including textile, health and health and safety, Defence and Security)
8. Electrotechnical
9. Furniture and Household Appliances
10. Agro, food and forestry
11. Business Services (Professional Services)
12. Toys, Games and Amusement attractions
13. Personal services

In red colour are those sectors not covered or with partial coverage by SBS.

Conclusion 4

The following topics have been considered as top priority topics. Some of them have also been confirmed during the Triple Contrast Approach phase.

1. Digital Transformation
2. Building Information Modelling (BIM)
3. Artificial Intelligence
4. Cybersecurity
5. Smart Houses and domotics
6. Ecodesign and Resource Efficiency
7. Waste
8. Products safety
9. Sustainable Building
10. IoT and M2M

11. Circular economy and circularity
12. Emissions (noise, gas, CO2, etc)
13. Renewable Energy
14. Recyclability/Recoverability
15. Personal Protective Equipment
16. Additive Manufacturing
17. Smart and Sustainable Cities
18. Skills and Competencies
19. Testing methods
20. Right to repair

Other priority topics for the digital sector (and applicable to other sectors) with a significant potential impact on SMEs include:

- Blockchain
- Software engineering

Conclusion 5

The following areas are not sufficiently covered by SBS current standardisation activities having importance for SMEs:

<u>Horizontal Technical Committees not covered by SBS</u>

- ISO/TC 176 – Quality management and quality assurance
- ISO/TC 207 – Environmental management
- ISO/TC 301 – Energy management and energy savings
- CEN-CLC/TC 1 – Conformity Assessment + ISO CASCO – Conformity Assessment Criteria
- ISO/TC 283 – Occupational health and safety management
- ISO/TC 232 Education and Learning services
- ISO/TC 286 Collaborative business relationship management
- ISO/PC 308 Chain of Custody
  Note: Information Security Management Systems standards to be considered under Digital sector.

<u>Construction Sector</u>

- CEN/TC 154 Aggregates

<u>Transport Sector</u>

- Air and space (Industrial recovery ecosystem and high concentration of SMEs downstream)
  - TC ASD-STAN – Aerospace
  - CEN/CENELEC/JTC 5 – Space
  - CLC/TC 107X – Process management for avionics

- CEN/TC 320 Transport - Logistics and services (Industrial recovery ecosystem and high concentration of SMEs downstream)

Chemical Sector

The Chemical sector is mainly composed by big multinational chemical companies, but SMEs are present upstream and downstream. In addition, most farms are micro and medium companies.

- CEN/TC 223 'Soil improvers and growing media' [also affecting agrofood]
- CEN/TC 260 'Fertilizers and liming materials' [also affecting agrofood]
- CEN/TC 276 'Surface active agents'
- CEN/TC 352 'Nanotechnologies'
- CEN/TC 411 'Bio-based products'
- CEN/TC 455 'Plant Biostimulants' [also affecting agrofood]

Agrofood sector

- ISO/TC 34 Food products (in particular ISO 22000 standard)
- CEN/TC 275 Food analysis - Horizontal methods
- CEN/TC 327 Animal feeding stuffs - Methods of sampling and analysis
- CEN/TC 338 Cereal and cereal products
- CEN/TC 454 Algae and algae products
- CEN/TC 466 Circularity and recyclability of fishing gear and aquaculture equipment

Toys, games and attractions

- CEN/TC 52 Safety of toys
- CEN/TC 136 Sports, playground and other recreational equipment

Conclusion 6

The retail sector has an important penetration of SMEs: 99.9% of the 5.5 million companies in the retail sector are SMEs.

Retail trade is currently a hot topic if we consider the sustainability of the local economy and communities, as they are losing market compared with big eCommerce platforms.

The retail sector has not been subject of European or International standardisation. A few examples of national standards are found, such as in the case of UNE Spanish standards on retail trade[18].

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[18] UNE 175001 series standards on Quality of service for small retail businesses:

- UNE 175001-1:2013 Quality of service for small business. Part 1: General requirements.

Currently, the biggest challenges for SMEs in the retail sector are a) not having the same tools as bigger retailers and b) the negative effect of big eCommerce platforms, SBS could consider:

- Proposing to develop ENs or ISO standards on eSkills and eCommerce for SMEs
- Developing a CWA to enable collaboration between SMEs and quality criteria for developing an eCommerce portal and developing or subcontracting a home delivery service. This could be the foundation of an EN or ISO/IEC standard on the topic
- Proposing to develop standards on retail trade quality and services

Conclusion 7

Tourism has an important footprint for SMEs, in particular for the HORECA sector. Standards for restaurants and catering at European level, based on existing national standards and developing a HACCP system could be an interesting area, provided appropriate partnerships are achieved with European federations or national associations.

Conclusion 8

As one of the results of the study, it has been concluded that some horizontal standardisation activities may produce '*collateral damage*' and undesired effects for SMEs in certain sectors if not properly followed-up.

As conclusion, SBS should dedicate resources to following up relevant horizontal standardisation activities in fields such as:

- Management system standards
- Accessibility
- Circular Economy
- Data-driven economy
- Skills, competences and qualification of personnel
- Privacy

11. Final recommendations

The following recommendations are provided for SBS management and governing bodies, as a result of the study and the conclusions.

- UNE 175001-2:2016 Part 2: Requirements for fishmongers.
- UNE 175001-3:2005 Part 3: Requirements for optician retail shops.
- UNE 175001-4:2005 Part 4: Requirements for butchers' and delicatessens.
- UNE 175001-5:2016 Part 5: Requirements for florists.
- UNE 175001-6:2015 Part 6: Requirements for petrol service stations.

Recommendation 1

SBS is highly encouraged to extend the coverage to the sectors indicated in Conclusion 3, to the topics indicated in Conclusion 4 and TCs indicated in Conclusion 5 (see Section 10).

Recommendation 2

Considering those WIs associated with standardisation requests and the additional top priority sectors, topics and TCs, the estimated number of work items to be followed is between 700 and 800.

In order to be able to follow all the above-mentioned work items SBS should seek additional financing and support from the European Commission to increase the level of participation in standardisation, in particular, to increase the number of work items to be followed between 200 and 300 additional work items per year.

Recommendation 3

SBS is invited to explore and assess the feasibility of developing standards or other deliverables for:

- Guidance to acquire or develop basic eSkills enabling SMEs to deploy:
  - online communication and collaboration;
  - collaborative e-commerce resources and delivery with other SMEs;
  - data-driven economy
  - internet-based solutions for automating and digitalising customer interactions and related processes;
  - adoption of QR codes for direct ordering.
- Quality and performance criteria for retail trade service, enabling SMEs to improve customer satisfaction and retention.

Annex – Overview of selected work items per priority sector

Considering the 5+1 Criteria in addition to the transversal topics, several work items (WIs) have been selected (see the table below). The number of Technical Committees (TCs) indicate those considering the strategic work items.

It is difficult to match the exact number of Work Items of the transversal sector alone as some work items belong partially to healthcare and to health and safety as the same time.

Priority Sector	**Selected WIs**	**Total TCs**
Mechanical and machinery (CEN, ISO, IEC, CLC)	301	41
Mechanical and machinery (ETSI)	10	1
Construction, Civil Engineering and Real State	289	51
Digital, telecomm and electronics (ETSI)	90	17
Digital, telecomm and electronics (CEN, ISO, IEC, CLC)	50	13
Chemicals	114	7
Transport equipment and services	78	14
Textile, fashion and accessories (including materials)	51	8
Transversal Sector Occupational Health and Safety (but including some work items of Medical Devices)	30	8
Electrotechnical	14	4
Furniture, household equipment and furnishing	19	2
Agro, food, forestry and related products and services	3	1
Business services (including legal, technical, R&D, consultancy, marketing, etc)	1	1
Total general (CEN-CLC-ISO-IEC + ETSI)	**950 + 100**	**150 + 18**

Details of the technical bodies and work items are provided below.

Priority Construction Sector TCs

TC	TC Name	Priority WIs	WI average score	Current SBS
CEN/TC 442	Building Information Modelling (BIM)	2	100,00	CEN/TC 442
CEN/TC 350	Sustainability of construction works	7	100,00	CEN/TC 350
CEN/TC 51	Cement and building limes	1	98,00	
CEN/TC 351	Construction Products - Assessment of release of dangerous substances	19	96,32	CEN/TC 351
CEN/TC 166	Chimneys	2	93,23	
CEN/TC 459/SC 4	Concrete reinforcing and prestressing steels	1	93,23	
CEN/TC 38	Durability of wood and wood-based products	3	93,23	CEN/TC 38
CEN/TC 340	Anti-seismic devices	1	93,23	
CEN/TC 303	Floor screeds and screed materials	1	93,23	
CEN/TC 247	Building Automation, Controls and Building Management	4	93,23	
CEN/TC 208	Elastomeric seals for joints in pipework and pipelines	2	93,23	
CEN/TC 163	Sanitary appliances	1	93,23	
CEN/TC 154	Aggregates	10	93,23	
CEN/TC 129	Glass in building	3	93,23	CEN/TC 129
CEN/TC 128	Roof covering products for discontinuous laying and products for wall cladding	10	93,23	
CEN/TC 127	Fire safety in buildings	16	93,23	CEN/TC 127
CEN/TC 112	Wood-based panels	2	93,23	
CEN/CLC/JTC 11	Accessibility in the built environment	2	93,23	
CEN/TC 229	Precast concrete products	1	93,23	
CEN/TC 250	Structural Eurocodes	38	92,11	CEN/TC 250
CEN/TC 88	Thermal insulating materials and products	22	90,53	CEN/TC 88
CEN/TC 254	Flexible sheets for waterproofing	3	90,4	
CEN/TC 459/SC 3	Structural steels other than reinforcements	3	90,4	
CEN/TC 33	Doors, windows, shutters, building hardware and curtain walling	9	89,46	CEN/TC 33
CEN/TC 156	Ventilation for buildings	8	88,99	
CEN/TC 124	Timber structures	2	88,99	CEN/TC 124

TC	TC Name	Priority WIs	WI average score	Current SBS
CEN/TC 203	Cast iron pipes, fittings and their joints	2	88,99	
CEN/TC 336	Bituminous binders	2	88,99	
CEN/TC 371	Energy Performance of Buildings project group	2	88,99	
CEN/TC 125	Masonry	2	88,99	
CEN/TC 228	Heating systems and water based cooling systems in buildings	7	88,87	
CEN/TC 217	Surfaces for sports areas	3	87,58	
CEN/TC 67	Ceramic tiles	7	87,17	
CEN/TC 104	Concrete and related products	7	85,96	
CEN/TC 155	Plastics piping systems and ducting systems	16	85,28	
CEN/TC 227	Road materials	4	84,75	
CEN/TC 341	Geotechnical Investigation and Testing	7	84,75	
CEN/TC 126	Acoustic properties of building elements and of buildings	3	84,75	CEN/TC 126
CEN/TC 315	Spectator facilities	3	84,75	
CEN/TC 53	Temporary works equipment	1	84,75	CEN/TC 53
CEN/TC 288	Execution of special geotechnical works	1	84,75	
CEN/TC 243	Cleanroom technology	4	84,75	
CEN/TC 346	Conservation of Cultural Heritage	1	84,75	
CEN/TC 218	Rubber and plastics hoses and hose assemblies	1	84,75	
CEN/TC 185	Fasteners	22	84,75	
CEN/TC 175	Round and sawn timber	3	84,75	CEN/TC 175
CEN/TC 134	Resilient, textile and laminate floor coverings	5	84,75	
CEN/SS F01	Technical drawings	2	84,75	
CEN/CLC/Guides	Group for CEN-CENELEC Guides	1	84,75	
CEN/TC 89	Thermal performance of buildings and building components	8	84,75	CEN/TC 89
CEN/TC 169	Light and lighting	2	84,75	

Priority mechanical and machinery TCs

TC	TC Name	Priority WIs	WI average score	Current SBS
CEN/TC 98	Lifting platforms	5	97,96	
CEN/TC 10	Lifts, escalators and moving walks	14	93,81	CEN/TC 10
CEN/TC 147	Cranes – Safety	10	92,52	
CEN/TC 438 + ISO/TC 261	Additive Manufacturing	4	92,34	CEN/TC 438
CEN/TC 54	Unfired pressure vessels	29	90,95	
CEN/TC 151	Construction equipment and building material machines – Safety	44	90,78	
CEN/TC 114	Safety of machinery	4	90,7	
CEN/TC 121	Welding and allied processes	17	90,7	CEN/TC 121
CEN/TC 142	Woodworking machines – Safety	9	90,7	
CEN/TC 143	Machine tools – Safety	3	90,7	
CEN/TC 144	Tractors and machinery for agriculture and forestry	26	90,7	
CEN/TC 145	Plastics and rubber machines	4	90,7	
CEN/TC 146	Packaging machines – Safety	6	90,7	
CEN/TC 148	Continuous handling equipment and systems – Safety	2	90,7	
CEN/TC 150	Industrial Trucks – Safety	9	90,7	
CEN/TC 153	Machinery intended for use with foodstuffs and feed	21	90,7	
CEN/TC 168	Chains, ropes, webbing, slings and accessories – Safety	3	90,7	
CEN/TC 182	Refrigerating systems, safety and environmental requirements	5	90,7	CEN/TC 182
CEN/TC 186	Industrial thermoprocessing – Safety	2	90,7	
CEN/TC 197	Pumps	2	90,7	
CEN/TC 198	Printing and paper machinery – Safety	7	90,7	

TC	TC Name	Priority WIs	WI average score	Current SBS
CEN/TC 202	Foundry machinery	2	90,7	
CEN/TC 210	GRP tanks and vessels	2	90,7	
CEN/TC 211	Acoustics	2	90,7	
CEN/TC 214	Textile machinery and accessories	1	90,7	
CEN/TC 23	Transportable gas cylinders	3	90,7	
CEN/TC 255	Hand-held, non-electric power tools - Safety	1	90,7	
CEN/TC 267	Industrial piping and pipelines	8	90,7	
CEN/TC 268	Cryogenic vessels and specific hydrogen technologies applications	3	90,7	
CEN/TC 269	Shell and water-tube boilers	8	90,7	
CEN/TC 270	Internal combustion engines	2	90,7	
CEN/TC 271	Surface treatment equipment - Safety	2	90,7	
CEN/TC 286	Liquefied petroleum gas equipment and accessories	12	90,7	
CEN/TC 322	Equipment for making and shaping of metals - Safety requirements	1	90,7	
CEN/TC 393	Equipment for storage tanks and for filling stations	5	90,7	
CEN/TC 399	Gas Turbines applications - Safety	1	90,7	
CEN/TC 69	Industrial valves	4	90,7	
CEN/TC 74	Flanges and their joints	4	90,7	
CLC/TC 2	Rotating machinery	6	90,7	
CLC/TC 26	Electric welding	6	90,7	
CLC/TC 44X	Safety of machinery: electrotechnical aspects	2	90,7	
SmartM2M	Smart M2M	10	98,94	

Priority digital sector TCs

TC	TC Name	Priority WIs	WI average score	Current SBS
CEN/CLC/ETSI/JWG eAcc	eAccessibility	1	99,86	
CEN/CLC/JTC 13	Cybersecurity and Data Protection	5	91,1	
CEN/CLC/JTC 13 has to be followed in parallel with ISO/IEC JTC 1/SC 27 Information security, cybersecurity and privacy protection				
ISO/TC 307	Blockchain and distributed ledger technologies	10	87	
CEN/TC 294	Communication systems for meters	2	89,16	
CLC/SR 33	Power capacitors and their applications	3	89,16	
CLC/TC 108X	Safety of electronic equipment within the fields of Audio/Video, Information Technology and Communication Technology	1	89,16	
CLC/TC 209	Cable networks for television signals, sound signals and interactive services	1	89,16	
CLC/TC 215	Electrotechnical aspects of telecommunication equipment	1	89,16	
CLC/TC 219	Mains communicating systems	8	89,16	
CLC/TC 46X	Communication cables	2	89,16	
CLC/TC 57	Power systems management and associated information exchange	11	90,46	
CLC/TC 65X	Industrial-process measurement, control and automation	10	89,16	
CLC/TC 76	Optical radiation safety and laser equipment	4	89,16	
ISO/IEC JTC 1/SC 7	Software and systems engineering		87,53	
ISO/IEC JTC 1/SC 42	Artificial intelligence	10	89,16	
IEC/TC 47	Semiconductor devices	1	87,53	
ARF	Augmented Reality Framework	2	90,78	
BRAN	Broadband Radio Access Networks	5	89,16	

DECT	Digital Enhanced Cordless Telecommunications (DECT)	3	89,16	
ERM TG17	EMC and Radio Spectrum Matters	8	89,16	
ERM TG28	EMC and Radio Spectrum Matters	11	89,16	
ERM TG30	EMC and Radio Spectrum Matters	4	89,16	
ERM TG34	EMC and Radio Spectrum Matters	1	89,16	
ERM TG37	EMC and Radio Spectrum Matters	3	89,16	
ERM TGAERO	EMC and Radio Spectrum Matters	6	89,16	
ERM TGDMR	EMC and Radio Spectrum Matters	1	89,16	
ERM TGMARINE	EMC and Radio Spectrum Matters	4	89,16	
ERM TGSRR	EMC and Radio Spectrum Matters	4	89,16	
ERM TGUWB	EMC and Radio Spectrum Matters	16	89,16	
ERM WGEMC	EMC and Radio Spectrum Matters	5	89,16	
MSG	Mobile Standards Group	1	89,16	
MSG TFES	Mobile Standards Group	9	89,16	
SES HARM	SES	7	89,16	

Priority transport sector TCs

TC	TC Name	Priority WIs	WI average score	Curren SBS
ASD-STAN	Aerospace	4	88,39	
CEN/CLC/JTC 20	Hyperloop systems	1	86,78	
CEN/SS T01	Shipbuilding and maritime structures	5	88,39	
CEN/TC 226	Road equipment	9	87,85	
CEN/TC 242	Safety requirements for passenger transportation by rope	6	88,39	
CEN/TC 256	Railway applications	2	91,93	
CEN/TC 261	Packaging	2	88,39	
CEN/TC 278	Intelligent transport systems	20	87,46	CEN/TC 278

CEN/TC 301	Road vehicles	6	88,39	CEN/TC 301
CEN/TC 320	Transport – Logistics and services	1	86,78	
CEN/TC 326	Natural gas vehicles – Fuelling and operation	1	88,39	
CEN/TC 413	Insulated means of transport for temperature sensitive goods with or without cooling and/or heating device	1	88,39	
CLC/TC 69X	Electrical systems for electric road vehicles	10	88,39	
CLC/TC 9X	Electrical and electronic applications for railways	10	88,39	CLC/TC 9X

Priority textile sector TCs (including materials and PPE)

TC	TC Name	Priority WIs	WI average score	Current SBS
CEN/TC 122	Ergonomics	1	90,26	
CEN/TC 248	Textiles and textile products	11	93,39	CEN/TC 248
CEN/TC 161	Foot and leg protectors	4	90,26	
CEN/TC 162	Protective clothing including hand and arm protection and lifejackets	17	88,01	CEN/TC 162
CEN/TC 160	Protection against falls from height including working belts	2	86,79	
CEN/TC 79	Respiratory protective devices	3	86,79	CEN/TC 79
CEN/TC 85	Eye protective equipment	7	86,79	
CLC/TC 78	Equipment and tools for live working	6	86,79	

Priority chemical sector TCs

TC	TC Name	Priority WIs	WI average score	Current SBS
CEN/TC 212	Pyrotechnic articles	15	83,8	CEN/TC 212
CEN/TC 223	Soil improvers and growing media	10	83	

CEN/TC 249	Plastics	2	83,75	
CEN/TC 260	Fertilizers and liming materials	30	83	
CEN/TC 276	Surface active agents	1	83	
CEN/TC 321	Explosives for civil uses	55	83	
CEN/TC 347	Methods for analysis of allergens	1	83	

Transversal Sector Occupational Health and Safety (but including some work items of Medical Devices)

TC	TC Name	Priority WIs	WI average score	Current SBS
CEN/TC 161	Foot and leg protectors	4	90,26	
CEN/TC 162	Protective clothing including hand and arm protection and lifejackets	17	88,01	CEN/TC 162
CEN/TC 160	Protection against falls from height including working belts	2	86,79	
CEN/TC 79	Respiratory protective devices	3	86,79	CEN/TC 79
CEN/TC 85	Eye protective equipment	7	86,79	
CLC/TC 78	Equipment and tools for live working	6	86,79	
CEN/TC 251	Health informatics	12	90,93	
CEN/CLC/JTC 16	CEN/CENELEC Joint Technical Committee on Active Implantable Medical Devices	2	82,67	
CEN/CLC/JTC 3	Quality management and corresponding general aspects for medical devices	3	82,67	
CEN/TC 102	Sterilizers and associated equipment for processing of medical devices	3	82,67	
CEN/TC 204	Sterilization of medical devices	3	82,67	
CEN/TC 206	Biological and clinical evaluation of medical devices	4	82,67	
CEN/TC 237	Gas meters	2	82,67	

Priority electrotechnical sector TCs

TC	TC Name	Priority WIs	WI average score	Current SBS
CLC/TC 106X	Electromagnetic fields in the human environment	1	87,91	
CLC/TC 205	Home and Building Electronic Systems (HBES)	4	87,91	
CLC/TC 22X	Power electronics	2	87,03	
CLC/TC 64	Electrical installations and protection against electric shock	7	88,8	CLC/TC 64

Priority furniture, household and furnishings sector TCs

TC	TC Name	Priority WIs	WI average score	Current SBS
CEN/TC 207	Furniture	4	93,21	CEN/TC 207
CEN/TC 252	Child care articles	15	93,07	

Priority agro food sector TCs

TC	TC Name	Priority WIs	WI average score	Current SBS
CEN/TC 194	Utensils in contact with food	3	88,16	

Priority business services sector TCs

TC	TC Name	Priority WIs	WI average score	Current SBS
CEN/CLC/JTC 1	Criteria for conformity assessment bodies	1	98,7	

Cross-Sector Technical Committees

TC	TC Name	Priority WIs	WI average score	Current SBS
ISO/TC 176	Quality management and quality assurance			
ISO/TC 207	Environmental management			
ISO/TC 301	Energy management and energy savings			CEN/CLC/JTC 14
ISO/TC 283	Occupational health and safety management			
ISO/TC 232	Education and Learning services			
ISO/TC 324	Sharing Economy			ISO/TC 324
ISO/TC 286	Collaborative business relationship management			