# Standards in the Digital Single Market: setting priorities and ensuring delivery

Fields marked with \* are mandatory.

#### **General information on respondents**

\* Do you wish your contribution to be published?

Please indicate clearly if you do not wish your contribution to be published.

YES

NO

Submissions that are sent anonymously will neither be published nor taken into account.

The Commission may contact you in case a clarification regarding your submission is needed. If you do not wish to be contacted, please state this clearly in your reply.

I wish to be contacted:

YES

NO

\* I'm responding as:

- An individual in my personal capacity
- The representative of an organisation/company/institution

\* What is your name?

Marta

#### \* What is your surname?

Capelo

\star Pl	ease	enter	your	email	address:
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capelo@etno.eu

Please enter your telephone number:

\* Please enter the name of your institution/organisation/business:

ETNO - European Telecommunications Networks Operators' Association

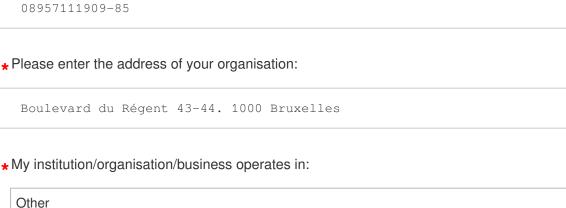
\* Is your organisation registered in the Transparency Register of the European Commission and the European Parliament?

Yes No

\* Please indicate your organisation's registration number in the Transparency Register.

08957111909-85

\* My institution/organisation/business operates in:



\* Please specify:

ETNO represents companies operating in EU and non EU European countries.

\* What is the primary place of establishment of the entity you represent?

Belgium

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Please indicate your main field of business activity and the field of activity related to the consultation's topic (if not identical to the overall business activity).

ETNO is the leading telecom association in Brussels, with around 41 members and observers all across Europe and beyond, representing 600.000 employees and the 60% of EU investment in fixed and mobile networks.

\* Please select the description that applies to your organisation.

Industrial Association, Forum & Consortium

Is your organisation active in ICT standardisation?

- Yes
- 🔘 No

\* Please indicate the Standard Setting Organisations in which you are active:

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ETNO Member companies are active in various European and international SDOs , covering all range of activities in telecommunications networks and services: 3GPP, BBF, ETSI, FSAN, GSMA, IEEE, IETF, ISOC, ITU, NGMN, OneM2M, OMA, , W3C, UMTS, etc.
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And if possible:

- The approximate number of person-months devoted to standardisation related activities.

P/M

%

- The percentage this means to the total of your resources.

#### Questions

#### II.1 Questions on general framework and problem statement

It is of particular interest to understand if the standards currently under development effectively match interoperability and successfully creating a Digital Single Market. In addition, it is especially interesting to identify those actions in standards development that could act as a solution for wider industry and public needs, not limited to the specific technologies that have been standardized.

### *Please indicate whether you agree to the following statements and explain your answer briefly.*

Q1.1 - Do you share the Commission's analysis in Part 2 of this document?

- YES
- PARTLY
- NO
- NO OPINION

#### + Please explain:

The Digital Single market Strategy ("DSM") is a unique opportunity for a policy promoting interoperability in standards applicable in the EU. Policy making in this area should ensure better protection of customers as well as support the openness of the industrial market, therefore, the impact of standards should be promoted beyond the EU.

However, top-down prioritization of resources within standardization bodies may be ineffective, create unintended inefficiencies and counter-productive. Unintended consequences may be occur if stakeholders do not add or reallocate resources based on top-down priorities, and/or if they are incapable of providing sufficient push-back due to collective action problems. This is a real risk that should not be underestimated. In general, we believe better results will come if resources are added to build and strengthen the ability of stakeholders to more actively engage.

Q1.2 - ICT is assuming a greater role in sectors of the economy which were not previously significant users of ICT. How do you see *the role of ICT standards* for the economy, in particular beyond the ICT sector?

- Very Important
- Important
- Modest importance
- Not important
- No opinion

\* Your comment, indicating a specific sector:

The role of ICT standards for the economy is important to ensure inter-operable equipment and solutions needed for widespread deployment.

Q1.3 - Do you agree that setting priorities for ICT standards at EU level, accompanied by clear time-tables, could help standard-setting organisations in better organising their work and support the Digital Single Market?

YES

PARTLY

ON (

NO OPINION

\* Please explain why:

ICT is a complex environment. Priority should be given to standards that are able to limit the fragmentation of the solutions and are able to combine vertical markets together. Priority should not in any case be accompanied by heavy regulatory impositions.

Therefore, it is useful to set priorities, but time tables should be handled by participants in the standardization processes.

Q1.4. - What other steps should be considered to ensure that any such prioritisation would enjoy broad support of key stakeholders?

Q1.5 - What would be the most effective instrument at EU level to ensure that any such prioritisation is taken up by relevant standard-setting organisations? (please select and rank up to 3 instruments)

	1	2	3
A Commission Communication	۲	۲	۲
A Commission Recommendation	۲	0	۲
Standardization requests issued to EU standard-setting organisations and included in the Annual Union Work Programme for European standardisation	۲	0	
Regulation	0	0	0
Priorities stated in the Rolling Plan for ICT Standardisation	0	0	$\odot$
No opinion	$\odot$	۲	$\odot$
None of them	0	0	0

#### Your comment:

With regard to standardisation activities, regulation should be limited as much as possible. The objectives of EU action should include a political support of interoperability, fostering market driven developments, e.g., using the EU budget to expand funds available to research.

Q1.6 - What would be the impact of a priority ICT standards plan defined at the level of the EU on Europe's effort *to pursue leadership in global standard-setting*?

- POSITIVE
- NEUTRAL
- NEGATIVE
- NO OPINION

\* Please explain:

The result will be positive to promote leadership and European Standards Organisations, inasmuch as the EC gives concrete support for the promotion of large scale precisely focused projects that favour the European industry ecosystem development. The main EU standards organisations should maintain the EC aware and regularly updated on the standardisation needs and evolution.

However, it should be noted that the impact depends on the quality of the content of the plan and on the tools to realize ambitions. There is a risk that the leadership would not be sustainable if the intervention damages the bottom-up fabric of existing processes and pressures through inefficient way of work and solutions.

Q1.7 - What would be the impact of a priority ICT standards plan defined at the level of the EU on the ability of European companies *to capture new global market opportunities*?

- POSITIVE
- NEUTRAL
- NEGATIVE
- NO OPINION

#### \* Please explain:

EU should create the right regulatory framework from a vertical perspective, in view of the relevant services, i.e., automotive, health, smart cities, etc. ..), creating the right conditions to facilitate industrial relationships between verticals and ICT Companies promoting standardized technologies to enable the Digital ecosystem to develop.

In any event, the impact of such plan, will depend on the priorities chosen and the tools applied.

Q1.8 - Besides establishing a priority ICT standards plan, what other measures could the Commission (or other EU institutions) take to ensure that standardisation plays its role in achieving a Digital Single Market?

As a rule, the existing standardization approach of the EC should be maintained, taking into account the evolution of the overall ecosystem, in particular, when the technical solution requires interoperability.

The EU budget can be used to increase funds available to research and for the promotion of large scale precisely focused projects, as 5G, that favour the European industry ecosystem development. The GSM project is maybe the most significant example from the past. The answers provided in the second part of this questionnaire aim at identifying a few of the areas of standardization that could benefit from EC interest and concrete support, i.e. also at the financial level. Standardization activities are key and demanding in terms of efforts and travels, therefore ways of financing companies through specific projects (i.e., 5G), as it happened for GSM, have to be explored in order to maintain an EU industry leadership role.

Taking into account the measures suggested Part II.2 of the questionnaire, the EC should, as a general rule: Foster cooperation among standards development organisations \_ for ICT priorities; Support Research & Innovation projects to contribute to standardization; Ensure community building; Support creation of public-private partnerships - PPP; Increase strategic coordination of ICT standardisation at EU level; Accelerate the identification of ICT technical specifications most commonly used for their reference in public procurement. However, the EC should, as a general rule, avoid: Mandating European Standardisation Organisations for fast delivery of standards/technical specifications. Ensure consistent application of existing standards.

Q1.9 - How should standard-setting organisations best respond to the increasing speed of technological development and the integration of technologies in business processes across all industrial sectors?

## A - Regarding the *adaptation of existing standards to new developments:*

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Standard-setting organisations should develop current standards if economically reasonable.
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## B - Regarding the *introduction of new standards for new technologies/products*.

Standard-setting organisations should develop and agree on plans for standards to meet new challenges.

Q1.10 - How do you see the involvement of European ICT Standardization experts in international standardisation organisations (ITU, ISO, IEC) and global standard setting organizations (i.e. IEEE, IETF, OASIS, W3C, ECMA international)?

- A The SCOPE (or LEVEL?) of involvement.
  - Is appropriate
  - Should be increased
  - Should be decreased
  - No opinion

#### Please explain:

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European collaborative research projects can provide more input as a group of partners.
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- B The QUALITY of involvement.
  - Is appropriate
  - Should be improved
  - No opinion

Please explain:

## II.2 Questions on priority domains for standardisation in the Digital Single Market

In this section, the Commission invites survey participants to express opinions and ideas on setting priorities for ICT standardisation.

The Commission has identified 10 domains set out below, as well as a set of sub-domains within each domain. Please note that domains and subdomains are interrelated and that overlaps are possible and desirable in particular with respect to synergies between different sectors. Some domains are horizontal and may benefit a large number of sectorial applications; some other domains are more sectorial and were identified as areas where ICT standardisation would bring important benefits.

First check whether the list of domains is complete and relevant. If the list is considered incomplete, please complement it with additional domains that you consider priority.

Q2.1 - Please identify and rank the domains (up to 5) and subsequently subdomains (up to 3 per domain) within each domain that you consider a priority. If specific domains or subdomains are missing please add them.

	1	2	3	4	5
Domain 1: 5G communications	۲	0	0	0	
Domain 2: Cloud computing	$\odot$	0	0	0	
Domain 3: Cybersecurity	$\odot$	0	۲	0	0
Domain 4: Data driven services and applications	$\odot$	$\bigcirc$	$\bigcirc$	$\bigcirc$	0
Domain 5: Digitisation of European Industry	$\odot$	$\odot$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Domain 6: eHealth and aging	$\odot$	0	0	0	0
Domain 7: Intelligent Transport Systems (ITS)	$\odot$	0	0	0	0
Domain 8: Internet of Things	$\odot$	۲	0	0	
Domain 9: Smart Cities	۲	0	0	0	
Domain 10: Smart and Efficient Energy Use	۲	0	0	0	
Others	0	۲	0	0	

at most 5 answered row(s)

#### Subdomains of Domain 1: 5G communications

at most 3 answered row(s)

	1	2	3
Architecture definition	۲	۲	۲
Channel model characterisation for innovative usages (e.g. V2V)	۲	۲	۲
Converged control plane (fixed mobile)	۲	۲	۲
Evolved Packet Core (EPC)	۲	۲	۲
Multi domain SDN interoperability	۲	۲	۲
Multi tenancy and multi technology C-RAN	۲	۲	۲
Network slicing	۲	۲	۲
New radio access technologies and waveforms, including backhaul/front haul integration	0	۲	0
Resource identification	۲	۲	۲
SDN Northbound interface	۲	۲	۲
Others	۲	0	

#### Domain 3: Cybersecurity

at most 3 answered row(s)

	1	2	3
Cyber security design requirements	۲	0	$\bigcirc$
Process standard for incident reporting	0	0	$\bigcirc$
Process standard for cyber risk management	0	۲	$\bigcirc$
Process standard for vulnerability disclosure	0	0	۲
Technical standards for encryption	0	0	$\bigcirc$
Technical standards for public key infrastructure	0	0	0
Technical standard for security and privacy by design	0	$\bigcirc$	$\bigcirc$
Others	$\bigcirc$	0	$\bigcirc$

#### Domain 8: Internet of Things

at most 3 answered row(s)

	1	2	3
Advanced Manufacturing / M2M	۲	۲	۲
Building and Home automation	۲	۲	۲
Energy / Environment monitoring	۲	۲	$\odot$
Medical and health care systems	۲	۲	۲
Reference architectures and related standardised interfaces	۲	۲	۲
Smart cities and communities	۲	۲	$\odot$
Smart living environment for ageing well	۲	۲	۲
Smart farming and food security	۲	۲	۲
Transportation (including ITS, C2C, C2I, automated driving)	۲	۲	۲
Wearables	۲	۲	۲
Others		۲	$\bigcirc$

Please answer to Q2.2 to Q2.6 for each of the domains selected. In your answer please specify if applicable the subdomains that you have selected.

★Q2.2 - For the *Domain 1: 5G communications* and the subdomains which you have selected, please explain briefly how the criteria indicated in Box I apply to them. We copy the criteria for your convenience.

- Link to DSM objectives and other EU policies
- Competitiveness of the European industry
- Clear and achievable targets
- Evidence of market relevance and stakeholders needs
- Domains where standard setting has direct benefits for consumers

5G directly supports two of the DSM pillars: better online access to digital goods and services, and digital as a driver for growth. There are extensive 5G research and industry activities around the world; these are now starting to feed into standardisation, and Europe needs to focus on this to ensure the competitiveness of EU industry with the rest of the world.

Requirements for 5G are being set by various organisations such as ITU-R and NGMN, and these are driven by industry stakeholders. The standards will be developed to meet these requirements, some of which will bring direct benefit for consumers by delivering enhanced mobile broadband with consistent user-experience across service areas and enabling new innovative services through, for example, reduced latency and increased network flexibility.

Q2.3 - The Priority ICT standards plan should lead to the production of technical specifications, standards or architectures where there is a need/gap, but could also propose any other type of standardisation action such as landscape analysis, gap finding, roadmaps or, ecosystem building that could contribute to ensure that standardisation plays its role in achieving a Digital Single Market. Please explain if a standardisation need/gap exists in the *Domain 1: 5G communications* and sub-domains which you have selected. Please also indicate within which time-frame such need could be addressed. Please limit to a maximum of five needs/gaps per domain or sub-domain:

5G standardisation should be take place in existing organisations (3GPP, ETSI) taking into account inputs from organisations like GSMA, NGMN.

# Q2.4 - Among those below, which action could be a priority in the *Domain 1:5G communications* and sub-domains which you have selected.? Please rank the list below and explain your choice.

	1	2	3	4	5	6	7	8	9
<ul> <li>Mandating European</li> <li>Standardisation Organisations</li> <li>(ESOs) for fast delivery of standards/technical specifications.</li> </ul>	٢	۲	0	0	۲	0	0	0	0
<ul> <li>Foster cooperation among standards development organisations for ICT priorities</li> </ul>	۲	0	0	0	0	0	0	0	0
<ul> <li>Support Research &amp; Innovation projects to contribute to standardisation</li> </ul>		۲	0	0	0	0	0	0	0
Community Building	۲	۲	۲	۲	$\bigcirc$	۲	$\bigcirc$	۲	۲
<ul> <li>Support creation of public-private partnerships - PPP</li> </ul>	0	0	0	۲	0	0	0	0	0
<ul> <li>Increase strategic coordination of ICT standardisation at EU level.</li> </ul>	0	0	۲	0	0	0	0	0	0
Ensure consistent application of existing standards	0	0	0	0	0	0	۲	0	0
Accelerate the identification of ICT technical specifications most commonly used for their reference in public procurement	0	0	0	0	0	0	0	۲	0
• Other	۲	۲	0	0	$\bigcirc$	$\bigcirc$	0	0	۲
No opinion	۲	۲	$\odot$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

#### ✤ Please explain:

Please refer to Question 1.8 in Part II.1

Q2.5 - Please indicate any other standardisation initiatives which would help achieving the Digital Single Market in the *Domain 1: 5G communications* and sub-domains which you have selected., and who in the standardisation landscape would be best placed to lead on these initiatives:

5G standardisation ecosystem will rapidly be very large and involve numerous standards development organisations, NGOs, trade associations and others: it is important to avoid duplication and fragmentation of the work.

Q2.6 - Would your organisation be prepared to invest resources in standard-setting to achieve the priority standards within the proposed time-frames?

Please answer this question only if you are responding as the representative of an

organisation/company/institution.

- YES
- YES, provided some conditions are met
- NO
- No opinion

\* Please explain your choice and specify conditions:

5G is of strategic importance to ETNO members, as network operators and providers of communication services to both consumers and companies. Therefore, ETNO members intend to contribute to the 5G standardisation activities.

\*Q2.2 - For the *Domain 3: Cybersecurity* and the subdomains which you have selected, please explain briefly how the criteria indicated in Box I apply to them. *We copy the criteria for your convenience*:

- Link to DSM objectives and other EU policies
- Competitiveness of the European industry
- Clear and achievable targets
- Evidence of market relevance and stakeholders needs
- Domains where standard setting has direct benefits for consumers

Cyber security design requirements, as well as security and privacy by design (essential prerequisites) are essential pillars of the DSM objectives and policies. They will have a direct effect for consumers and direct benefits for consumers privacy: ICTs products and services are made more robust against cyber threats and will decrease likelihood of identities thefts or compromise, banking information, and other personal data. These will be the key elements to create trust and stimulate the take-up of digital services by European citizens, thereby fostering the development of the market.

Establishing a process standard for cyber risk management will make possible harmonised approaches for cyber risk quantification, and cyber risk provisioning within public and private organisations.

Q2.3 - The Priority ICT standards plan should lead to the production of technical specifications, standards or architectures where there is a need/gap, but could also propose any other type of standardisation action such as landscape analysis, gap finding, roadmaps or, ecosystem building that could contribute to ensure that standardisation plays its role in achieving a Digital Single Market. Please explain if a standardisation need/gap exists in the *Domain 3: Cybersecurity* and the subdomains which you have selected. Please also indicate within which time-frame such need could be addressed. Please limit to a maximum of five needs/gaps per domain or sub-domain:

Standardisation activities related to cybersecurity involve many standards development organisations: it is important to avoid duplication and fragmentation of the work. ETSI TC Cyber may be a good place to coordinate an assessment and review of participating organisations and their roles.

	1	2	3	4	5	6	7	8	9
Mandating European     Standardisation Organisations     (ESOs) for fast delivery of     standards/technical     specifications.	0	۲	0	0	0	0	0	0	0
<ul> <li>Foster cooperation among standards development organisations for ICT priorities</li> </ul>	0	0	0	۲	0	0	0	0	0
<ul> <li>Support Research &amp; Innovation projects to contribute to standardisation</li> </ul>	0		۲		0	0	0		0
Community Building	۲	۲	۲	۲	$\bigcirc$	$\bigcirc$	$\bigcirc$	۲	$\bigcirc$
<ul> <li>Support creation of public-private partnerships - PPP</li> </ul>	0	۲	0	0	0	0	0	0	0
<ul> <li>Increase strategic coordination of ICT standardisation at EU level.</li> </ul>	۲	0	0	0	0	0	0	0	۲
Ensure consistent application of existing standards	0	0	0	0	۲	0	0	0	0
Accelerate the identification of ICT technical specifications most commonly used for their reference in public procurement	0	٢	0	0	0	۲	0	0	0
• Other	۲	۲	۲	۲	0	$\bigcirc$	0	۲	0
No opinion	۲	۲	$\odot$	۲	$\bigcirc$	$\bigcirc$	$\bigcirc$	۲	$\bigcirc$

Q2.4 - Among those below, which action could be a priority in the *Domain 3: Cybersecurity* an d the subdomains which you have selected? Please rank the list below and explain your choice.

★ Please explain:

Please refer to Question 1.8 in Part II.1

Q2.5 - Please indicate any other standardisation initiatives which would help achieving the Digital Single Market in the *Domain 3: Cybersecurity* and the subdomains which you have selected, and who in the standardisation landscape would be best placed to lead on these initiatives:

Q2.6 - Would your organisation be prepared to invest resources in standard-setting to achieve the priority standards within the proposed time-frames?

Please answer this question only if you are responding as the representative of an

organisation/company/institution.

- YES
- YES, provided some conditions are met
- ON (
- No opinion

\* Please explain your choice and specify conditions:

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ETNO members contribute to the development of security standards in various international organisations.
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★Q2.2 - For the *Domain 8: Internet of Things* and the subdomains which you have selected, please explain briefly how the criteria indicated in Box I apply to them. *We copy the criteria for your convenience*:

- Link to DSM objectives and other EU policies
- Competitiveness of the European industry
- Clear and achievable targets
- Evidence of market relevance and stakeholders needs
- Domains where standard setting has direct benefits for consumers

Common interfaces facilitate DSM and economy of scale.

Q2.3 - The Priority ICT standards plan should lead to the production of technical specifications, standards or architectures where there is a need/gap, but could also propose any other type of standardisation action such as landscape analysis, gap finding, roadmaps or, ecosystem building that could contribute to ensure that standardisation plays its role in achieving a Digital Single Market. Please explain if a standardisation need/gap exists in the *Domain 8: Internet of Things* and the subdomains which you have selected. Please also indicate within which time-frame such need could be addressed. Please limit to a maximum of five needs/gaps per domain or sub-domain:

Q2.4 - Among those below, which action could be a priority in the *Domain 8: Internet of Things* and the subdomains which you have selected? Please rank the list below and explain your choice.

	1	2	3	4	5	6	7	8	9
Mandating European     Standardisation Organisations     (ESOs) for fast delivery of     standards/technical     specifications.	0	۲	0	0	۲	۲	0	۲	0
<ul> <li>Foster cooperation among standards development organisations for ICT priorities</li> </ul>	۲	0	0	0	0	0	0	0	0
<ul> <li>Support Research &amp; Innovation projects to contribute to standardisation</li> </ul>			۲	0			0	0	0
Community Building	۲	۲	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Support creation of     public-private partnerships - PPP	0	0	0	0	۲	0	0	0	0
Increase strategic coordination of ICT standardisation at EU level.	0	0	0	0	0	۲	0	0	0
Ensure consistent application of existing standards	0	۲	0	0	0	0	0	0	0
Accelerate the identification of ICT technical specifications most commonly used for their reference in public procurement	0	٢	0	۲	0	0	0	0	0
• Other	۲	۲	0	0	$\bigcirc$	$\bigcirc$	0	0	$\bigcirc$
No opinion	۲	۲	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

#### ⋆ Please explain:

Please refer to Question 1.8 in Part II.1

Q2.5 - Please indicate any other standardisation initiatives which would help achieving the Digital Single Market in the *Domain 8: Internet of Things* and the subdomains which you have selected, and who in the standardisation landscape would be best placed to lead on these initiatives:

It is important to reinforce cooperation between the Standards Development Organisations active in the IoT domain, as a large number of proprietary solutions have emerged. Aim of such cooperation should be to develop interoperable concepts, architectures and protocols. To achieve this, a first step could be to produce a landscape analysis and gap identification, for example within AIOTI.

As to the relevant domains, it is important to note that the landscape is very fragmented, which is understandable considering that multiple vertical markets are involved. However, this could lead to undesirable silos.

To this regard, we highlight the importance of Smart Cities and Smart and Efficient Energy Use as subdomains of IoT

ICT standards within the area of smart cities are essential both when creating better and more effective solutions, and when ensuring European competitiveness in this emerging market. We consider smart city standards to be a pivotal element in both cross-cutting aspects such as economic development and civic engagement, as well as underlying key verticals such as ITS, smart grids and effective environmental management - a perspective which is complementing, but not overlapping with other potentially prioritized domains, such as IoT"

The domain of Smart and Efficient Energy Use is also directly linked to DSM objectives and other EU policies. As concerning standardisation issues, elaboration of Energy efficiency indicator, will allow to establish Clear and achievable targets. Heating/Cooling networks including heat supply from waste, as so for Smart grids, smart metering, will directly impact , competitiveness of the European industry Domains where standard setting has direct benefits for consumers.

Q2.6 - Would your organisation be prepared to invest resources in standard-setting to achieve the priority standards within the proposed time-frames?

Please answer this question only if you are responding as the representative of an

organisation/company/institution.

- YES
- YES, provided some conditions are met
- NO
- No opinion

#### \* Please explain your choice and specify conditions:

ETNO members are active in SDOs such as ETSI, OneM2M, W3C, IETF etc

#### II.3 Other Comments

#### Other comments:

#### **Background Documents**

analysis.pdf (/eusurvey/files/f2d6718c-7e07-4955-9505-c94113bbbe0f)

#### Contact

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