Minutes of Workshop – 08/11/22, Brussels (hybrid mode)

"Laying down the Foundations for a European Code of Conduct (CoC) for Energy Smart Appliances (ESA) Interoperability"

Host

European Commission (DG ENER & JRC)

List of registered organisations

- Afecor
- APPLiA
- AREA (European association of refrigeration, air conditioning and heat pump [RACHP] contractors)
- BEAMA
- BELIMO Automation AG
- BRIDGE (members registered)
- Brussels Consulting
- BSH Home Appliances GmbH
- Bticino
- Bundesministerium für Wirtschaft und Klimaschutz
- CAREL Industries SpA
- CEIS S.L.
- Daikin Europe NV
- Danish Energy Agency
- Dcbel France
- Eaton
- ECOS (Environmental Coalition on Standards)
- Electrolux
- Electronic Devices and Networks Annex (EDNA) - IEA 4E (members registered)
- Enel SpA
- EU Public Affairs & Comms Dept.
- European Building Automation and Controls Association (eu.bac)
- European Heat Pump Association
- European Heating Industry
- European Ventilation Industry Association (EVIA)
- Federal Institute for Materials Resarch and Testing (BAM)
- Federal Ministry for Economic Affairs and Climate Action
- Federation of the German Heating Industry
- Fraunhofer IZM
- German environment agency
- GFI (Association for the support of electrical installation e.V.)
- GROUPE ATLANTIC
- Honda Motor Ltd
- IHP (Leibniz Institute for innovative microelectronics)
- Immergas S.p.A.
- InterConnect Project (members registered)
- LG Electronics
- Mark Childs
- Midea Europe GmbH
- Ministère de la Transition Energétique (FR)
- Moldovan Office for Science and Technology
- NIBE
- Norwegian Water Resources and Energy Directorate
- Panasonic Europe
- Rijksdienst voor Ondernemend Nederland
- SmartEn (members registered)
- SolarPower Europe
- Studio Legale Cafiero Pezzali Associati
- Talotekninen teollisuus ja kauppa ry (Talteka)
- TNO
- Trialog
- Vaillant Group GmbH
- Viegand Maagøe

Q/A from first session

1.1 Technical presentation (Technical Report ESA)

Q.1. BSH Home Appliances GmbH (representing also INTERCONNECT PROJECT)

Looking at the time of measurement, the time restrictions, or the time requirements in the Use Cases (UCs), has an impact on the solutions that we can examine. For instance, in a breakdown of the grid, one has seconds to react, but in terms of flexibility, one has more time to find the proper solution. Within Interconnect project, we work with cloud solutions and we know that this type of solution requires some time to react. Obviously, if the solution is implemented in the devices it can be faster. *What is it needed?*

A.1. EXTERNAL EXPERT – JRC

The scope of the project it is not to set requirements for ESA, this is up to the manufacturer. The goal of the project is to make a CoC. The manufacturers are brought together and they can agree on the way that ESA will communicate between each other. This is not an imposition; it is a way of finding an agreement on basic principles of data exchanged. We will not identify specific requirements to specific ESA, which will have to reply in a certain number of milliseconds. This responsibility falls on the manufacturers who will decide how to design their appliances. The main idea, it is not to set a requirement, but to set a way on how ESA can work together so we can make an interoperable ecosystem. Perhaps, the ESA working in a cloud will be more responsive, but this is a technical requirement that will not be present in the CoC.

Q.2a. DCBEL FRANCE (representing also SMARTEN)

1. We see that the projects looks at the SAREF ontology as the main reference, while the grid operator works with the CIM ontology, and the M490 mandate goes more towards the CIM–based TeraExchange. *Do you plan to look onto CIM ontologies in the future?*
2. We also see the coming flexibility code coming and being discussed, with some taxonomy of services being described among TSOs, DSOs and aggregators. *Do you have in mind to associates these UCs to the flexibility needs from the grid operator?* This would simplify the definition of interoperability for certain UCs

A.2a. EXTERNAL EXPERT – JRC

1. Yes, we are looking also at CIM, but not in a specific project. Conversely, we have been working closely with the Interconnect Project, and that is why we have included just SAREF for this project. We have considered CIM in lab activities, collaborating with Eric Lambert. We will see if it is possible to include also CIM in a later stage of this project.
2. Regarding the flexibility. This is more related to look at a level of smart meter, but in this project, we are looking behind the smart meter.

Q.2b. (Follow–up comment) DCBEL FRANCE (representing also SMARTEN)

Several exchanges between ACER and the stakeholders regard sub–meter and on how to take their data. I would say that it is directly connected with what you are trying to accomplish in this project. The ESA are sub–meters that can provide data into the aggregator network.

A.2b. EXTERNAL EXPERT – JRC

We are working with the Smart Grid Task Force and the Expert Group (EG) 1, together with DG ENER and DG CONNECT. The new EG1 has been launched with a bit of delay because they were waiting for the flexibility work (that you mention) from ACER to see how to proceed. Everything is interconnected; hence, we will also try to reflect it in this project in a later state.

Q.3a. TNO

Was there some data exchanged used for the presented UCs that you could not map into SAREF or SAREF4ENER?

A.3a. JRC

No, we were able to describe all UCs with what was provided in the SAREF ontology.

A3b. EXTERNAL EXPERT – JRC

In any case, it is good this kind of meeting and interactions to find new UCs that have not been covered yet. They could also represent a win–win situation for all parties.

Q4. (follow–up comment) TNO

To Ioulia, that was the indirect question; if there were to be gaps, they could still be covered.

Concerning CIM, we know it is important but we have always look more into the premises side than in the grid side. Some time ago, we tried to work with CIM, which is also an information modelling (or an ontology), but we realized that a formal official OWL representation is missing. Therefore, every user has to make their own version of it, which complicates its employment due to its (CIM) size. I should say that this is the main barrier that I see between the two ontologies. Anyway, we should definitely try to marge both CIM and SAREF in the future.

Q4b. (follow–up comment). DCBEL FRANCE (representing also SMARTEN)

SAREF has been very useful, indeed, it allows to connect at a certain level objects and attributes in their own environment. I agree that the two (CIM and SAREF) are complementary. I agree that CIM is very complicated for an aggregator and the behind–the–meter assets. What it is interesting is the work of EG1 on the DSF, where they try to extract a piece of CIM and make a better definition of some of this objects to allow a better fit for demand–side flexibility purposes. SMARTEN has been supporting CIM to be used, but we have encourage TSOs and DSOs to standardize data exchange out of CIM to simplify its interface. We think that this standardisation could be also beneficial for all behind–the–meter assets on UCs. In the UC that you defined, it is interesting how you define the way of aggregation "implicit" and "explicit".

Q.5. Due to the technical issues there is no record of the organisation who presented the question.

Is this CoC supposed to be a supplement to the standardisation work happening between/among the different brands and technologies or a guideline for such standardisation efforts? In other words, *what is the relationship between the CoC and the ongoing standardisation work?*

A.5. DG ENER

We are not drafting any standardisation request or requesting any standard, the CoC aims to make ESA interoperable across several/different manufacturers. No standard will be drafted, because

there are many standards already present, we just need to sit together and decide what can be used and what is needed. With this meeting, we are actually trying to get some input about this issue.

Q.6. IHP (representing also BRIDGE – Home Appliance Interoperability Group)

Regarding what BSH mentioned, on how deep we want to go in the UCs specification. From the perspective of the manufactures, it is important to know what features the devices request and what sort of technical requirements, that they need to fulfil they task, are necessary. For instance, thinking about regulating the power consumption of a device, and depending on the UC, you have to react within some given time. Let us say we take into consideration a UC that described grid resilience, we would be taking about response times in the order of milliseconds. Otherwise, it could take second or even minutes.

How deep do we want to go in the UC specifications? It has been mentioned that the technical requirements will not be defined. However, I think it is crucial to define these requirements depending on… what the devices provide, what are their interfaces, what are their features, and/or what needs are these devices covering.

A.6. DG ENER

It is important to decide about the functional requirements to create the ESA interoperability. We need to define the functional requirements, e.g., how much flexibility a device can offer, how they can react, etc. These are also important; in the end, interoperability is not only defined by a communication protocol. It is indeed a good point, and perhaps you can help us, together with the manufacturers, to see how deep we should/can go into this point. We need to explore what or how we can define this response time or whether it is worth it to go this deep. Again, we need to get the input/insight on this point from you, the experts on the topic. In the end, the goal is to have a testing method to check if the devices are interoperable.

Q.6b. IHP (representing also BRIDGE – Home Appliance Interoperability Group)

I agree we will eventually need to look deep into this subject, but the question is how deep you would like to look into this matter right now. If we fly over the topic, we could be missing details that are important. For instance, in terms of ESA labelling features that a certain device provides, it could be good to define for what purpose a device is needed. This would not be the same if the device relates to resilience or if intended for some other purpose. Defining this differentiation from the beginning would help us to avoid having to come back to this point in a later state.
We agree on not including technical details, but… How deep should we go?

A.6b. DG ENER

It is indeed important, and it will probably be more important in the future. I agree that by doing it now, it would simplify things in the future. Nevertheless, the goal of the CoC is to gain some traction and to attract signatories to have a market convergence to what we are proposing: making devices to work together. This level may hamper the goal of the project if we start going into a level of specification that goes too deep. For the moment, we are not aiming to relate any labelling or classes of ESA. Maybe, it could be something that we tackle in a future step. We will need to discuss this point, since it may prevent people involved with ESA to adhere to the CoC. Let us dive into the topic in the afternoon.

A.6c. DG ENER

We need to agree on the scoping of the CoC for interoperability of ESA: What needs to be addressed at the current level? In addition, what could be left for later phases? Otherwise, we risk jeopardising both the current project and future actions. Therefore, we need to discuss about what should and can be included in this CoC and study the pros and cons of what it is included or not. Anyway, I agree with you, we need to see the whole picture: Where are we going? What does it need to be part of the CoC? Do we need a sort of indicator that label what are the purposes of the ESA? Time horizons? What should be left out of the CoC? I think it is good to have some details or to have an orientation for future initiatives/projects. In summary, it would be useful to define what we should include in this first step and should be included in a second step.

1.2 Technical presentation (ESA Survey)

Q.7. European Heating Industry

Regarding the number of participants and the number of categories of the survey.
What do you do if a participant represents several stakeholders? For instance, an association of ESA or associations of consumers. On the latter, you mention that there is not enough representation. However, perhaps an organisation representing many European consumers is presence.
How do you consider this? If you consider it.

A.7a. JRC

We have discussed a lot about this topic. We realize that we are sometimes getting a unique answer from an organisation, and that this is not accounted as many (or several) contributions, but as a unique contribution. That is why we asked to all organisation to request their members to submit their reply. More information brings on more and better outcomes.

A.7b. DG ENER

It is a good suggestion to study the qualitative part of the contribution, beside the quantitative side, to take a proper account of all contributions.

Q.8. IHP (representing also BRIDGE – Home Appliance Interoperability Group)

When it comes to the end–users contributions, it will be tough. We did a social study in another European project ("eBalance"), from 2013 to 2017. The study was performed for three countries: The Netherlands, Portugal, and Poland. We also asked about ESA, but not interoperability. Mostly the users stated that the motivation for using ESA is to save money. At the present moment, if we ask them directly, or their representative, they will still reply something similar.

We are currently preparing a survey in the Action 5 of data management working group in BRIDGE, which is why I would like to come back to you in the future. We are focusing on European projects, not other groups; we can also collaborate on what the projects are doing in this regard.

A.8. DG ENER

Today, even more than ever, the user will want to save money, given the energy prices. Since the beginning, we have seen this problem: people do not offer flexibility because there are few ESA available (owned) and they are reluctant on buying ESA because there are not enough problems of grid congestions, where flexibility would be truly necessary. By creating this CoC we are trying to

generate some dialogue on the need to start introducing more ESA into the equation (market). Such action will contribute to take us out of this vicious circle in which we find ourselves.

Q.9. IHP (representing also BRIDGE – Home Appliance Interoperability Group)

Regarding incentives and end–users. A good incentive would be to introduce solutions that end–users could apply in their own homes. Then they would not be participating in some large project, but eventually these active users could be combined into larger deployments that could contribute to solve the problem. There are some people very interested in this point, but they do not want to be part of something large. In particular, they are afraid of losing control of their data. For instance, what do they watch on TV? When? How? In the end, what is their usage of any other ESA? There are many articles available to the public that describe this sort of invasive situations, which scare people even more. However, if they know that they can start small, they might be willing to join a larger network/project eventually.

Q.10. Danish Energy Agency

Looking at adherence to CoCs. The CoC for energy efficiency in data centres presents a collection of best practises and has been updated recently. However, its adherence is rather low.
How will JRC, DG ENER, or DG COMM ensure that this low adherence does not happen in this CoC?

A.10a. DG ENER

This is mainly what we are trying to do today. It is true that not all CoCs might work and each one is circumstantially different, but we are trying to get as much support as possible by including everyone from the start. We want to have everyone on the table and we want to create something that can be endorsed, as much as possible. Unfortunately, we do not know the magic formula that will make this CoC work, but we are trying our best to prevent this rejection from happening. The proof is that we are here today, and we will be here in a second workshop to discuss the draft of the document itself.

A.10b. JRC

Just emphasizing that this is what we are trying to do. We hope that by including you from the beginning, it will make this CoC work.

Q.11. Dcbel France (representing also SMARTEN)

1. On the number of standards here presented. We have been shown a lot of them, and some are not even standards. I understand that we do not want to mandate standards because of the impact on innovation.
   Should not we consider reducing or advising on certain standards ecosystems to facilitate certain ecosystem to emerge? Rather than leave the entire subject open.
2. Recently very big vendors (Google, Amazon, Samsung and a few others) launched the Matter protocol. It is surprising that it has not come up as any of the standards here.
   Was it refereed as ZigBee standards?

A.11a. DG ENER

ZigBee was there, indeed. We also provided the option "other" in the survey for anyone to complement the information related to standards. Perhaps, we did not include Matter as a proposal or a question, but that did not prevent anyone to include it there. We are only displaying the replies that have been reported in the survey.

Replying to the previous question. That is correct we will not create any new standards. There are many solutions, standards and protocols already available. In addition, there was a specific question to check if stakeholders are willing to work with SAREF. We saw that the combination of both positive and maybe–adopted–in–future answers reached close to the 75%, hence we could extract that the majority of stakeholders are willing to work with this ontology. This is only one possibility, and in the afternoon session, we can discuss in depth on which would be the best approach. We can also discuss on how feasible this is, or how feasible other solutions are. SAREF started as a European project, it standardized NetSEED, and it is used in another European project, InterConnnect Project, which is a demonstrator. If we want to be interoperable, we will need to take some decision at a certain point.

A.11b. JRC

Clarification. The protocols and the methodologies were open questions left open to all participant, allowing them to write whatever their wanted. We are aware about these new approaches, but they were not mentioned in the answers.

Q.12. (Follow–up comment) BSH Home Appliances GmbH (representing also INTERCONNECT PROJECT)

Nowadays, I am involved in the Matter discussion and I know that they ruled out all energy topics from the version 1.0. They are eager to use the same data structure than the respective standards or regulations that are coming up. They are starting to discuss about these data structures and which ones to use. They are considering to use SPINE for IoT and similar for SAREF, coming out from the InterConnect project. They are also discussing with EEBUS about the Liaison, but that is difficult as far as I know. Therefore, they are eager to interwork and use the same data models and data structures. If we do it right, we may end up working together with them.

A.12. DG ENER

It is very important. If the timing is right, we might need to seize the opportunity. As you mentioned, at the current moment, energy is out of the picture so I guess this only applies to smart appliances and not ESA, which are the ones here taken into consideration.

Q/A.13. JRC – About a comment from chat

Following a comment on Z–Wave included in the chat. It has been suggested that this option is not included here. I just want to mention that we tried to put all the information together from what was provided in all responses to the survey, so maybe it was not given as an answer. It does not mean that it is not out there. The list is not exhaustive and there might be other protocols used; we just included what was provided to us in the particular Survey.

A. 13 DG ENER

We will study what was provided in the survey in detail, in case we missed something, and we will include everything that was provided in the survey's final report. In any case, we are looking forward to receive your comments on this workshop and on the project (CoC) itself today. If we missed something, or something was not included in the survey, please let us know.

Second and third session

2.1. Presentation of questions to guide discussion

SLIDO RESULTS for the 6 polls launched.

1. What is the main issue related to the interoperability of the ESAs (in one word)? (24 answers)
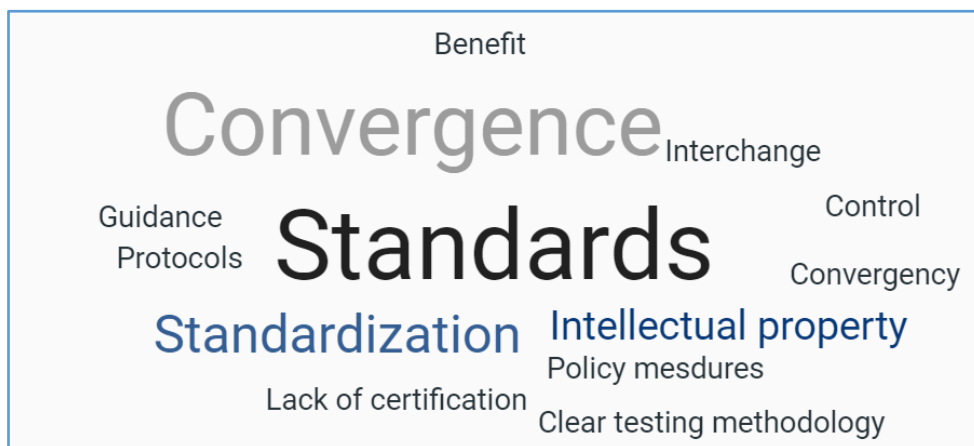
2. Provide your suggestions to improve the sample as there are few consumers and many unrepresented Member States (13 answers)

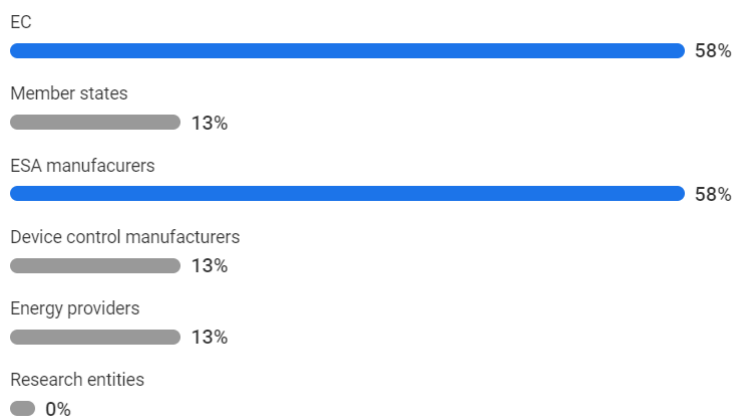| Organisation	Suggestion
NVE	Since you missed one of the main "de–facto" standard protocols by smart house producers, have you contacted them? e.g. Fibaro, Futurehome, Atom Homey, Telldus. Include also z–wave.
TNO	Create some questions that are more consumer oriented (the ones included in the survey were technical and targeting manufacturers). Concerning consumers. Leverage EU projects that are implementing smart appliances solutions in real pilots sites to distribute your survey.
Honeywell	Provide clarity on scope, e.g. residential vs commercial.
Vaillant	Encouraging Member States to introduce incentive schemes considering ESAs
JRC	Perform an even more thorough research in the internet.
CAREL Industries SpA	State and declare the convenience of using ESA. Highlight that smart appliances help achieve green targets.
BELIMO Automation AG	Competition with attractive prices.
BSH	Introduce a "Glossary" and explain your wording/meaning.
BSH	Identify a few key question and send to member states representatives.
Electrolux	Organize answers per country of the participants.
European Heat Pump Association	More communication in the social media like LinkedIn or Tweeter.
External expert – JRC	Contact directly consumers' association

3. How can SAREF improve? (19 answers)

Reducing customization
32%

Including other aspects
5%

Identifying gaps
47%

Others
16%
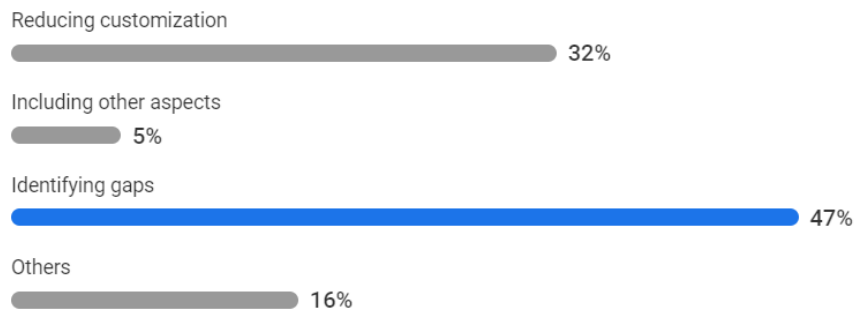
Discussion

- <u>TNO.</u> Sharing successful stories, to show how it is done in real life. The people can check and decide if that is (good/useful) for them or not.
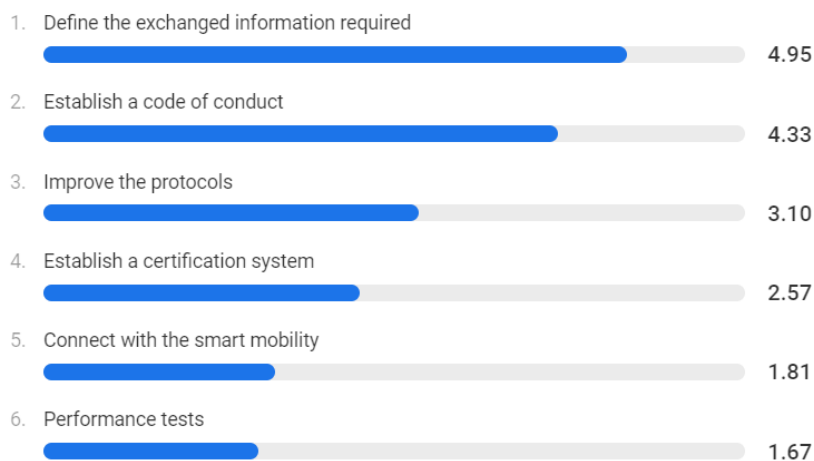
- <u>Trialog.</u> Making SAREF more practical.

4. Who should lead the progress in interoperability? (24 answers)

EC
58%

Member states
13%

ESA manufacurers
58%

Device control manufacturers
13%

Energy providers
13%

Research entities
0%

Discussion

<u>Trialog</u>. An alternative answer could be "*an association/alliance of EU stakeholders such as manufacturers, research entities ...*"

5. Next steps in order (21 answers)

1. Define the exchanged information required
4.95

2. Establish a code of conduct
4.33

3. Improve the protocols
3.10

4. Establish a certification system
2.57

5. Connect with the smart mobility
1.81

6. Performance tests
1.67

6. What do you expect of this Code of Conduct? (18 answers)

Organisation	Expectations
TNO	Link with smart readiness indicator (SRI). A step forward towards harmonization. Create awareness that something is going to happen concerning interoperability. Better to jump in the train now and shape the way forward.
Trialog	Minimal requirements to achieve interoperability: reference processes, exchanged information, recommended standards … Link with the energy data space might also be relevant.
BELIMO Automation AG	That the Industry has a common understanding within itself and together with the EU. That the Industry sets out together on a common part. The EU promotes and demands this.
NVE	Better understanding of the issues at hand, for consumers, manufacturers, service providers, TSOs and regulator. Also DSOs, one of the major beneficiaries of a smarter world.
APPLiA	Promotion of SAREF methodology and harmonisation of concepts and guidelines
Vaillant	Setting a framework which defines tools (standards, incentive schemes etc.) that make ESA and ways to commercialize them in the Member States
Honeywell	Clearly defined scope, outcomes, and guidance on approach for policy
Midea	Clear guidance as basis for new product developments
Electrolux	Guide the process towards a suitable regulation
BSH	Identification both of common ground and of barriers for convergence
CAREL Industries SpA	Minimum set of principles acceptable by majority of involved stakeholders. Voluntary adoption by majority of involved stakeholders in 5 years. Standardization in max 10 years.
EVIA	Clarity of requirements for manufacturers, clearly defined expectations for devices in both information required and way of information exchange.
GROUPE ATLANTIC	A first guideline
External Expert – JRC	Recommendation towards Standardization organizations
IHP (also BRIDGE)	Structure and guideline (set of ESA features, feature parameters, Interfaces, etc.)
BEAMA	Clarity of purpose for ESA
Rijksdienst voor Ondernemend Nederland	Prepare for EU regulation

Discussion:

DG ENER.
From those answers, we can detect:
- A real possibility of regulation.
- A general request for clarity in the exchanges messages and the necessity of guidelines.
- It is necessary to discuss about the Code of conduct text: scope, requirements…

2.2 & 3.1 Moderated discussion to establish building blocks of the CoC

<u>DG ENER.</u>
We can give stakeholders a period to provide their comments.
("Be aware that it has *already been set. It is until 9/12/22"*)

The idea is to have a draft with the inputs of the stakeholders and distribute it before the second workshop.

Introduction of the three topics mentioned in the morning session:
1. Time response. Should be defined (in ms) or not? Would it be a barrier?
2. Communication protocols/SAREF.
3. Minimum requirements for messages exchanged.

<u>Vaillant – Question.</u>
With this code of conduct, I think we are going to set a way on how ESA are going to work with each other. I understand that no specific requirements will be included.

1. Will it be a document, guideline that mentions specific standards, tools ... Will it only be European standards or national standards?

    a. By national he means, grid side, shift of use, flexibility matters, this is national matter. It makes the situation challenging.
    b. Until we have that, people will not be convinced.

2. Will the CoC be only for ESA or also for energy service providers?
   Incentives, economic profits, people are looking for that.

<u>DG ENER – Reply.</u>
Answer to question 2. The CoC target are ESA. The signatories will be the manufacturers. The more companies adhere, the more appealing it will promote in other levels. For instance, energy providers or national authorities.

Answer to question 1. SAREF pretends to be the European ontology, for insuring interoperability, at a European scale. The first step would be to have the ESA, the following one could be some requirements in other levels, e.g. for energy providers.

<u>Rijksdienst voor Ondernemend Nederland – Reply.</u>

- We should keep it simple.
- Good thing that the European Commission is focusing on ESA only now.
- If we would like to tackle both, I would wait for it long time (my retirement).
- If you want full box of everything, it will take too much time.
- Build from small, from few appliances, for some products, couple of things first.

<u>BEAMA – Online comment.</u>
Related to the time response:

- Forecasting, constraints.
- ESA point of view.
- The products should not be competing.

<u>IHP (representing also BRIDGE – Home Appliance Interoperability Group)</u>.

- Time response: How deep do we want to get in specifications?
- The start should be in UCs. What feature ESA have to provide to satisfy that UCs?
- Specify the quality of feature that device will have to provide.
- How fast will the device react?
- Important to ask stakeholders what will be the feature set, globally seen functionality of demand response in this area. Also, parameters.
  This could be defined by the user, they can provide the needs.
- We should not say that only one interface is valid, but it could be a recommendation to use that one – some open interface – to achieve IOP.
- After compliance with CoC, you get label on the device that can achieve IOP.

<u>DG ENER.</u>
Is it necessary to specify communication protocols / SAREF in the CoC?

<u>BSH.</u>
We do not have to define any time of response in the CoC. However, we need to define protocols from two aspects:

1. DATA MODEL. Data we have to exchange, e.g. data model coming from SAREF. There is a minimum number of exchanged messages, i.e. for emergency. We have to talk about some architecture.
2. SECURITY MODEL. Security topic, security architecture. We need to have one architecture that works and then translate the other ones into this one.
   Who is allowed to do what? This can be a basis.

The CoC needs to include an architecture.
We do not care about how communication are performed, it can be Matter, Thread ... However, the data model and security structure is needed. Again, how is allowed to do/ or access what, and how.

<u>DG ENER.</u>
Security was not included in the survey.

<u>TNO.</u>
SAREF includes security aspects.

<u>BSH – Questions & Comments.</u>
- What would be expected from Bosch in particular?
  If it was written.
- Technical level talking about time response, but not defining.
- For protocols, possibly group of protocols that will work could be sufficient.
- Realization practical, one architecture that works and one protocol that works.
- CoC should include at least one set of architecture, protocols, message exchanges, that should work. It could be helpful to define an architecture. Where SAREF does plays role? Where does some protocols play a role?
- Exclude definitions of time of response and specific protocols, all of them.
- Intellectual property (IP): Different scenarios, with different IOP solutions, work on that.

External expert – JRC – Reply.
The approach has been identifying some UCs, not a specific architecture, in order to be technologically neutral; some actors can be called differently in each country.
Related to this UCs, it could be interesting to propose some scenarios, for critics in the grid, forecasting, and define a minimum level of messages for each scenario.

BSH – Proposal.
Interested working on the architectures of new CoC for IOP of ESA with JRC–ENER and DG ENER. Also working in Interconnect project.

Vaillant – Question.
How can the UCs deal with the different country requirements? Some UCs can only be valid for a specific country.

External expert – JRC – Reply.
Interconnect is studying that, but it is not a goal for the CoC to be used in whole Europe.

Vaillant – Follow–up comment.
Some UCs are not possible in some countries.

External expert – JRC – Reply follow–up comment.
But it is related to market harmonisation, and it is a big issue to face.

JRC.
We should explore the idea of Laura Daniele to use the successful story, also for the UCs definition.

IHP (representing also BRIDGE – Home Appliance Interoperability Group).
- We are not able to include all intelligence that works in all countries, regulations, frameworks.
- To split the logic from the features.
- How can we access features? UCs are needed for that.

DG ENER.
Summarize at that moment:

- Time response is too much detail for a CoC.
- Non–specific protocol in the CoC.
- Messages and UCs should be included in the CoC.

Rijksdienst voor Ondernemend Nederland – Reply.
- Security structure have to be included as integral piece.

Daikin – Comment.
- Intellectual property should be included.
- Disclosure of information, functionalities.

External expert – JRC – Reply on Comment.
It is already included in the data space in SAREF.

DG ENER.
It is not necessary to go too deep inside the IP only to start the device later (are essential parts disclosed?)
In addition, related to security, of course the messages should be exchanged in a secure way.

IHP (representing also BRIDGE – Home Appliance Interoperability Group).
- They compared different architectures already, Cloud vs. Gateway. Gateway is more secure.

BSH.
- Access rights important but it is crucial the ownership of the data, you have to know at each time who can access it, where it is...

Rijksdienst voor Ondernemend Nederland.
- Security is not an individual decision, system hacking should be prevented. It has a higher system perspective.

BSH.
- Disclosing functionalities are up to each manufacturer, if they want or not, voluntary signature to CoC.
- We can discuss what solution is more secure, but we have to consider it from the architecture point of view. Security problems: can be integrity, availability, etc. Security needs to be mentioned so as whichever architecture is used, does not cause any problems.

DG ENER – Next steps.

- Send presentation to participants and update project's website.
- **Written comments from everyone, plus the things discussed at the first Workshop. (Contributions are welcomed until 9 December – appreciated before 1 December)**
- After that, we are starting to draft the CoC.
- Then we will give you enough time for you to check.
- Then we invite to you for next workshop with your comments, ideas, etc. (Foreseen second half of March – date TBD)
- Contact point: JRC-ENERGY-SMART-APPLIANCES@ec.europa.eu