

Feedback received from stakeholders reflected in the final text

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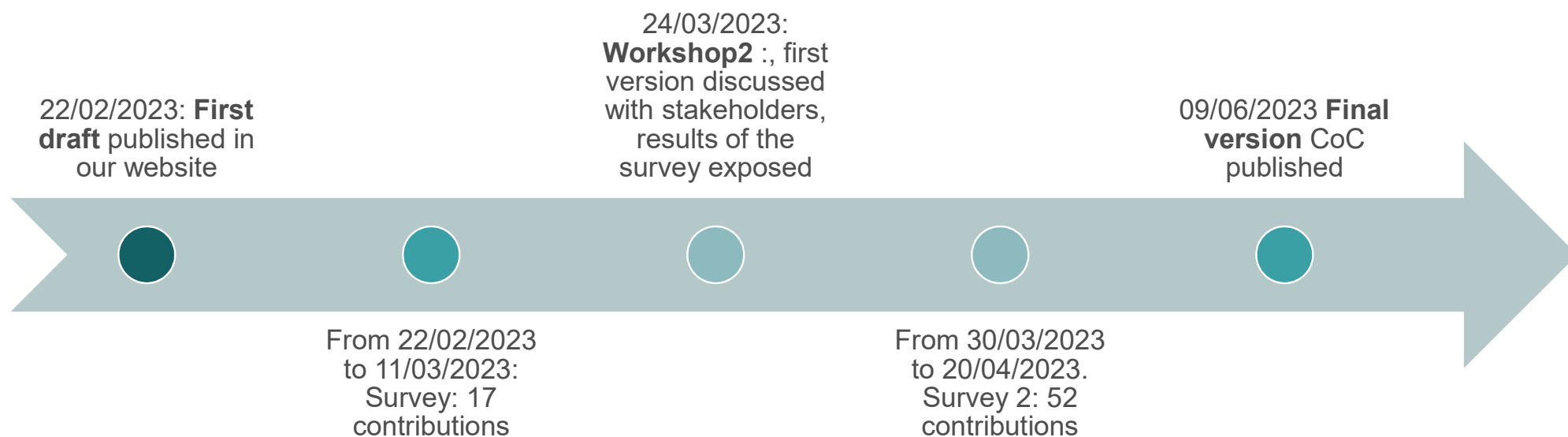
Content

1. Previous steps
2. Second Survey
3. Final text published

21 June 2023

1. Previous steps

Evolution of the “Code of Conduct on energy management related interoperability of Energy Smart Appliances”



2. Second survey

52 contributions

Entity	Number
White goods manufacturer (or professional associations)	34
HVAC manufacturer (or professional associations)	8
Research Group	3
Other manufacturer (excluding White Goods and HVAC) (or prof. association)	2
Energy Service Provider i.e. Energy Service Provider, Energy Company, Market Energy Company, Power System, DSO.	1
Existing customer - user i.e. Customer, consumer, user, flexibility owner.	1
Regulator/ Member State/ Expert of member State's public administration/ Market surveillance authority	1
Non-manufacturer professional association	1

Second Survey

Some questions

Definition about Energy Smart Appliance

Commitment a):

- How many devices ?
- Deadline?

Link to EPREL database:

- Type of connections
- Protocol

Additional comments

3. Final text published

Both version are available on the website

• First Draft

Development steps Timetable **Related Links & Documents** Registration

1. Report of issues 2 to 4: ["Energy Smart Appliances Interoperability - Analysis on Data Exchange from State-of-the-Art Use Cases"](#)
2. Issue 5: [Presentation from the 'Workshop on Interoperability of Energy Smart Appliances' 8th of November 2022 exposing the results of the survey launched to collect the contributions from the stakeholders.](#)
3. **"First draft of the European Code of Conduct for Interoperability of Energy Smart Appliances" (Presented in the Second Workshop on 24 March 2023)**
4. [Presentation from the 'Second workshop on Interoperability of Energy Smart Appliances' 24th of March 2023 exposing the results of the survey launched to collect the contributions from the stakeholders for the First Draft of the Code of Conduct.](#)
5. [New Draft of Code of Conduct on Energy management related Interoperability of Energy Smart Appliances](#)

Last update: 9 June 2023 | [Top](#)

• Final Draft

- registration link: <https://web.jrc.ec.europa.eu/tem/jrc/screen/meeting/13240/registration-form>
- Venue: [Rue de la Loi 130, 1040 Etterbeek](#) (Room B), Brussels, Belgium.

Deadlines for registration:

- On-site: Monday 12 June 2023 (11:59).
- Online: Sunday 18 June 2023 (23:59).

New Draft of Code of Conduct on Energy management related Interoperability of Energy Smart Appliances

Please, find the document in this [link](#)

Result of the Workshop 24 th March

Please, find here the presentation at the Workshop:

- [Result of the survey launched with the contribution from the stakeholders.](#)

Structure

	First Draft	Final Draft
Chapter	5	5
Annexes	5	5
Pages	15	35

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Energy Smart Appliances (V.1.0)

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5
6

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Introduction

Definition of Energy Smart Appliance included

Explanation about the structure

The role of other actors

9 1. Introduction

10 The energy supply in the EU is increasingly characterized by a decentralized supply landscape in
11 which local (PV systems), regional (neighbourhoods, communities, DSOs) as well as supraregional
12 supply elements must interlock. In addition, more and more shares of energy generation are being
13 replaced by renewable sources that are dependent on wind and weather. The energy system must
14 be able to deal with this variable supply, amongst others by intelligently exploiting demand side
15 flexibility.

16 “Energy Smart Appliances (ESA) are products that provide energy flexibility being capable of
17 automatically (by means of machine to machine communication) optimising their consumption
18 patterns (e.g. time or profile) in response to external stimuli, based on user consent.”

19 Expectations are that Energy Smart Appliances (ESA) will contribute considerably to demand

27 The chapters of this document include:

- 28 • the scope of this first version of the Code of conduct, which starts with HVAC and white
- 29 goods, and a selection of uses cases;
- 30 • the list of commitments for signatories;
- 31 • the monitoring;
- 32 • the management of future version of this Code of Conduct, and;
- 33 • annexes that provide details on how to comply with this version, explanations, and
- 34 additional informative material.

35 As energy flexibility cannot be exploited with standalone ESA, the other relevant actors (like energy
36 management system providers, service providers, network operators, electric vehicle –EV–
37 chargers, photovoltaic –PV– inverters, batteries, equipment and components, etc.) are invited to
38 acknowledge and actively observe the development of this Code of Conduct with the goal to
39 ensure the overall flexibility of the energy system.

Scope and Aim

Chapter 2. Scope

- No references to EN 50631-1

Chapter 3. Aim

- New paragraph incorporated related to Demand flexibility (*)

53 **3. Aim**

54 The aim of this Code of Conduct is to increase the number of interoperable ESA that are placed on
55 the EU market.

56 This helps to improve the environmental impact of energy use over the whole energy system by
57 increasing Demand Side Flexibility.

(*) It has been further improved. To be displayed next section 1.2 (See Agenda WS3)

Commitment (1/2)

4. Commitment

Signatories of this Code of Conduct agree to make all reasonable efforts to:

- a) Ensure that one model of ESA placed on the Union market as of one year after signing the Code of Conduct have implemented the applicable use cases for the specific ESA according to Annex 1 and Annex 2.
- b) Ensure that most models of ESA placed on the Union market as of three years after signing the Code of Conduct have implemented the applicable use cases for the specific ESA according to Annex 1 and Annex 2. The exact up-take of number of models of ESA (“**most**”) will be further clarified in the next version of the CoC.
- c) Ensure the implementation of interoperability profiles based on standardised Open Application Programming Interface / Open Communication Protocol to enable the information exchange for the applicable use cases (see point a).

Commitment a) has been divided in a) + b)

Previously commitment b), no further changes

Commitment (2/2)

Commitment d) , new references incorporated

70 d) Apply state of the art and open security mechanisms for the open communication protocol
71 used (see point b) to: (1) secure the communication, (2) support the installation,
72 administration and configuration (including the assignment of the system roles), (3) ensure
73 proper authorisation for accessing the ESA, and (4) provide the control over the usage of
74 private data, in accordance with the EU Cybersecurity Act¹ and EU Data Act².

No changes for commitments from e) to h)

Commitment i), clarified

85 i) Indicate the compliance with the Code of Conduct when registering new ESA models in the
86 EPREL database. If this compliance is achieved through a dongle attached to the appliance
87 then only the model that includes both appliance and dongle, when placed on the market,
88 can be considered compliant with the Code of Conduct.

Next chapter: Monitoring and updating without changes

Annexes

Annex 1.

- New classification. O-M- n/a

Annex 2.

- Notes incorporated (references to SAREF, protocol and prefixes)
- Table A2.2. New column with “Value” and simplification of the triples
- Tables incorporated for each UC. Saref pending

This is the section with the increasing of number of pages

Annex 3.

- Note incorporated
- Other examples are welcome

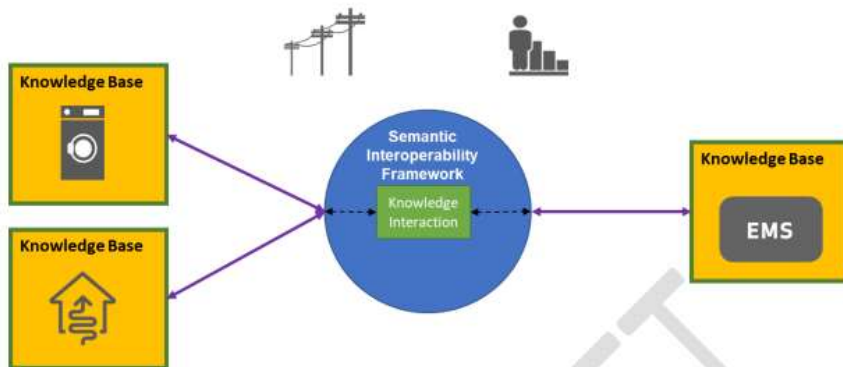
Annexes

Annex 4.

- Explanation about information layer added. Page 34
- Some figures added
- Reference to EMS

Annex 5.

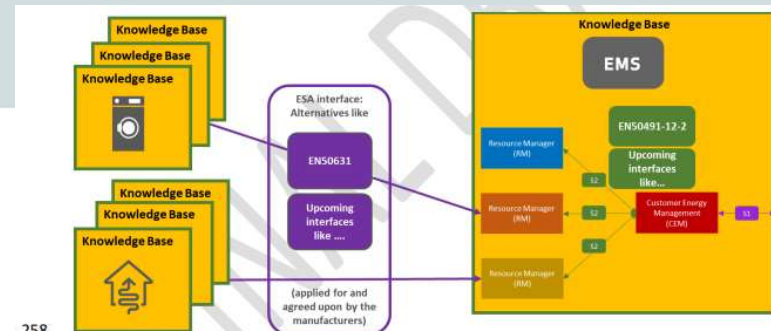
- No changes



252

253 Figure A4.2. Semantic Interoperability

254 The Code of Conduct does not address the “Communication Layer”, although it is essential for the
 255 exchange of information. There are already a large number of communication standards and
 256 interfaces, and the future will show further developments. These can be mapped at the
 257 “Information Layer” using the SAREF ontology framework.



258

259 Figure A4.2. ESA interface.

260 This allows manufacturer to implement standards (e.g. EN50631) to be fully compliant with this
 261 Code of Conduct.

262 The implementation of the capabilities of Energy Smart Appliances can be realized in one of the
 263 following ways:

264

a. Physically in the device;

265

b. Represented as digital twin in the manufacturer cloud;

266

c. Represented as digital twin in a dongle, attached to the physical device.

Thank you and keep in touch



The project



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