Smart Meter Data Delivery Partner – ESC21197 Expression of Interest - Call for Competition

Publication date: **20th September 2021**

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Contents

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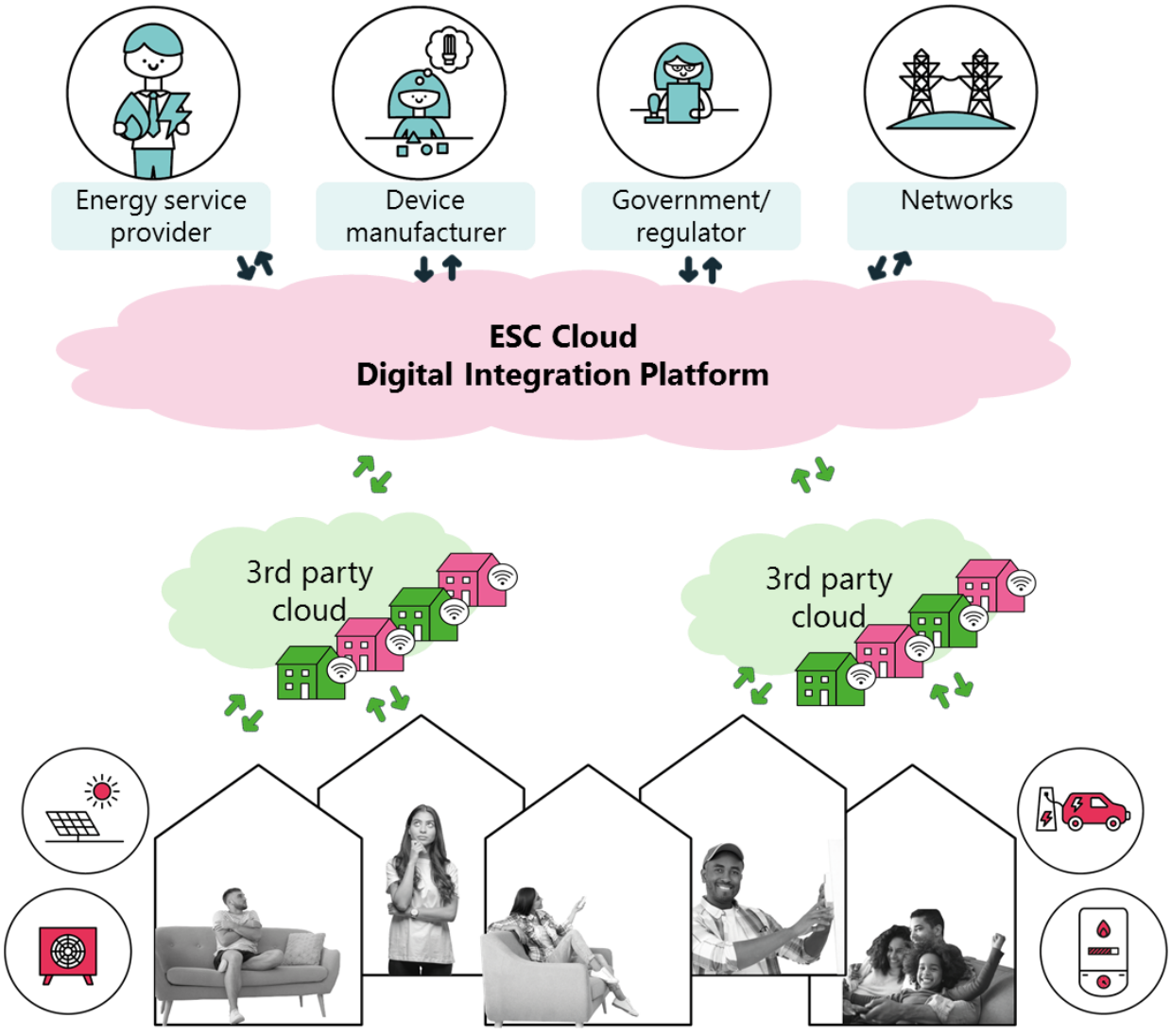
1. Guidance on responding to this event

Context and Purpose of the Pre-Market Engagement; Energy Systems Catapult (ESC) is seeking to appoint a suitable qualified and capable Supplier as ESC Delivery Partner to supply Smart Meter Data for the Living Lab.

While there are many options for testing domestic energy products in a laboratory environment there are few, if any, options of testing products in a controlled real-world environment. The gap between laboratory testing and market release is very wide and products fail as innovators have not fully appreciated how consumers will interact with them. Alternatively, some products will never even make it to testing as routes to market are blocked by legal conditions. ESC's Living Lab provides innovators and regulators a place to test products and services with real consumers in a controlled and managed environment. To really understand the performance of some products and services, access to accurate and reliable energy consumption data is key.

The Living Lab currently has a cloud-based mechanism for gathering data from third party devices installed in Participants homes by using APIs to collect data from the supplier's cloud. The intention is to extend this functionality to include data collected by Smart Meters and this is the purpose of this request for information on the feasibility of achieving this in an efficient manner using existing products or services and the cost, timescales and challenges that may be involved.



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This information will be used by the ESC to develop more detailed requirements for the system which will be used in our subsequent RFP.

1.1. Process Timelines

Activity	Date & Time
EOI Issued	20th September 2021
Clarification Questions window to the ESC by email only	As soon as EOI issued
Response deadline	**26th October 2021**

1.2. Communication with ESC

Clarification questions and your submission should be sent to the following ESC email account and please mark any and all communications "ESC21197 LL Smart Meter Data".

procurement@es.catapult.org.uk

All responses received will be treated in strict confidence and may be used to develop our understanding of the possible solutions and delivery approaches to inform the RFP process.

Please note that:

- Responses received after the cut-off date may not be accepted and or reviewed
- Any communication not via the above email will not be answered.
- Making contact with any ESC personnel by any means may lead to your company being disqualified from further participation in this event.

Clarification questions and their answers will be distributed to all interested parties unless deemed to be commercially sensitive by the Supplier and or ESC. If deemed commercially sensitive ESC will only respond to the organisation who raised the original question.

At this stage, ESC is unable to provide information regarding the content or dates of the RFP, to comply with procurement regulations.

1.3. Response

The response should be in one of the following formats, Microsoft Word, Excel or Adobe PDF

It should address the following points for the LL Smart Meter Data:

1. Technical Solution / Scope
    a. Are ESC's requirements achievable?
    b. Can ESC's requirements be met by existing solutions or will bespoke development be required?
    c. Is there an alternative approach that will provide access to Smart Meter data?
2. Delivery
    a. What is the outline timeline to deliver a solution?
    b. Would the respondent deliver the platform themselves or use a third party?
3. Costs
    a. What is the likely development cost for a solution?
    b. What is the likely operational / on-going cost of the solution?

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    c. How will support and maintenance be costed / provided?
4. Contact details for the individual who will receive the RFP

Your submission should not include the following:

- Sales, marketing or other promotional information
- Organisation structure
- Work Breakdown Structure
- Detailed project plans

1.4. Next Steps

ESC will review all responses to inform the further development of the requirements, conceptual design and delivery approach with the intent to develop and issue a Request for Proposal (RFP) to all Suppliers who have responded to the above questions and expressed their interest in participating in the RFP. The aim of the RFP is to enable ESC to find a suitable Delivery Partner to supply Smart Meter data for the Living Lab.

The timetable for the RFP will be issued in due course with the RFP documentation to all Suppliers who expressed their Interest in taking part and responded to this event and have answered the questions under 1.4 to an acceptable level. However, ESC reserves the right to invite additional Suppliers where responses were not of the standard we except and or there were insufficient responses to this event.

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2. Introduction

The ESC Living Lab consists of 500 (and growing) domestic homes of all types. Consumers (people that are not in the Living Lab) are able to join the Living Lab via an online, web-based portal. In this Portal, they are able to enter details about themselves, their homes and the equipment that they have in their homes. If they have smart devices such as smart heating or smart Electric Vehicle (EV) charging, then they are able to connect their Living Lab account to their smart device account which allows the Living Lab to collect that data that is provided by the smart devices. This data can then be used by Innovators and Researchers to understand how Participants are using energy and the impact that the introduction of new products and services is having.

As the Living Lab is primarily focused at energy related products and services, it is essential that energy (electricity and gas) consumption data is recorded. Historically ESC has achieved this by the installation of additional devices to either measure current or detect signals directly from the meter, but this is not satisfactory for a number of reasons:

1. The solution requires the purchasing and maintenance of additional hardware.
2. The hardware requires installation in the home. Some Participants may wish to do it, others may not in which case an installer has to be sourced, trained and paid for.
3. Experience has shown that installation to achieve reliable operation is extremely difficult.
4. Even if a successful installation can be achieved, reliable data collection is far from guaranteed
5. Installation is not possible in all situations.

From these issues it is clear that the current approach does not provide what is needed which is:

1. Reliable and accurate collection of electricity and gas meter data.
2. The minimum disruption for the Participant to enable collection of their meter data by the LL.

To address the issues outlined above, the Living Lab has decided that the baseline energy consumption data from homes will be provided via DCC enrolled smart meters.

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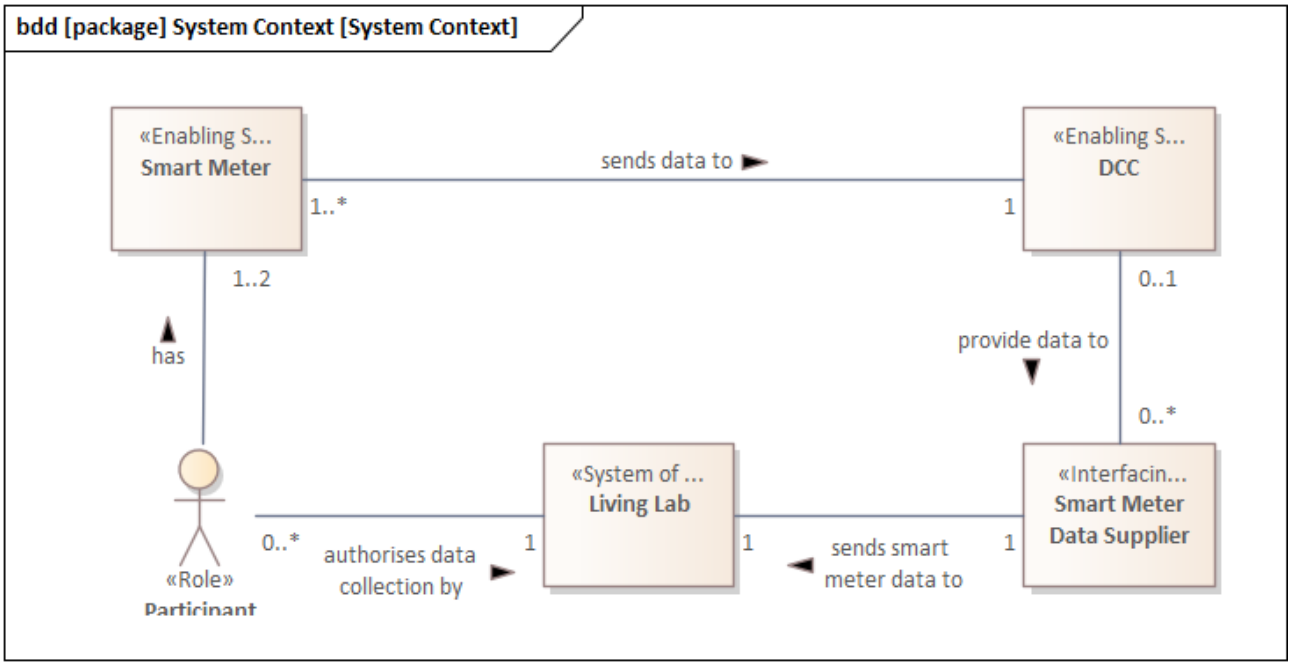
3. Requirements

3.1. System Context

The context of the system is described in the following diagram.



The scope of the smart meter data access is data that can be provided by the Data Communications Company (DCC) who oversee the smart meter network. This means that the Living Lab is only interested in data from SMETS 2 or enrolled SMETS 1 meters. All other meters are outside of scope.

The Living Lab Participant has 1 or 2 Smart Meters installed in their home that sends data to the DCC. This data is then provided by the DCC to third parties who are approved by the DCC to receive this data. The third party - Smart Meter Data Supplier - then provides the data to the Living Lab.

The Living Lab has decided that working with a supplier is preferred over arranging direct DCC access.

3.2. Connect a Smart Meter

The requirements for collection of smart meter data can best be described in the following diagram:

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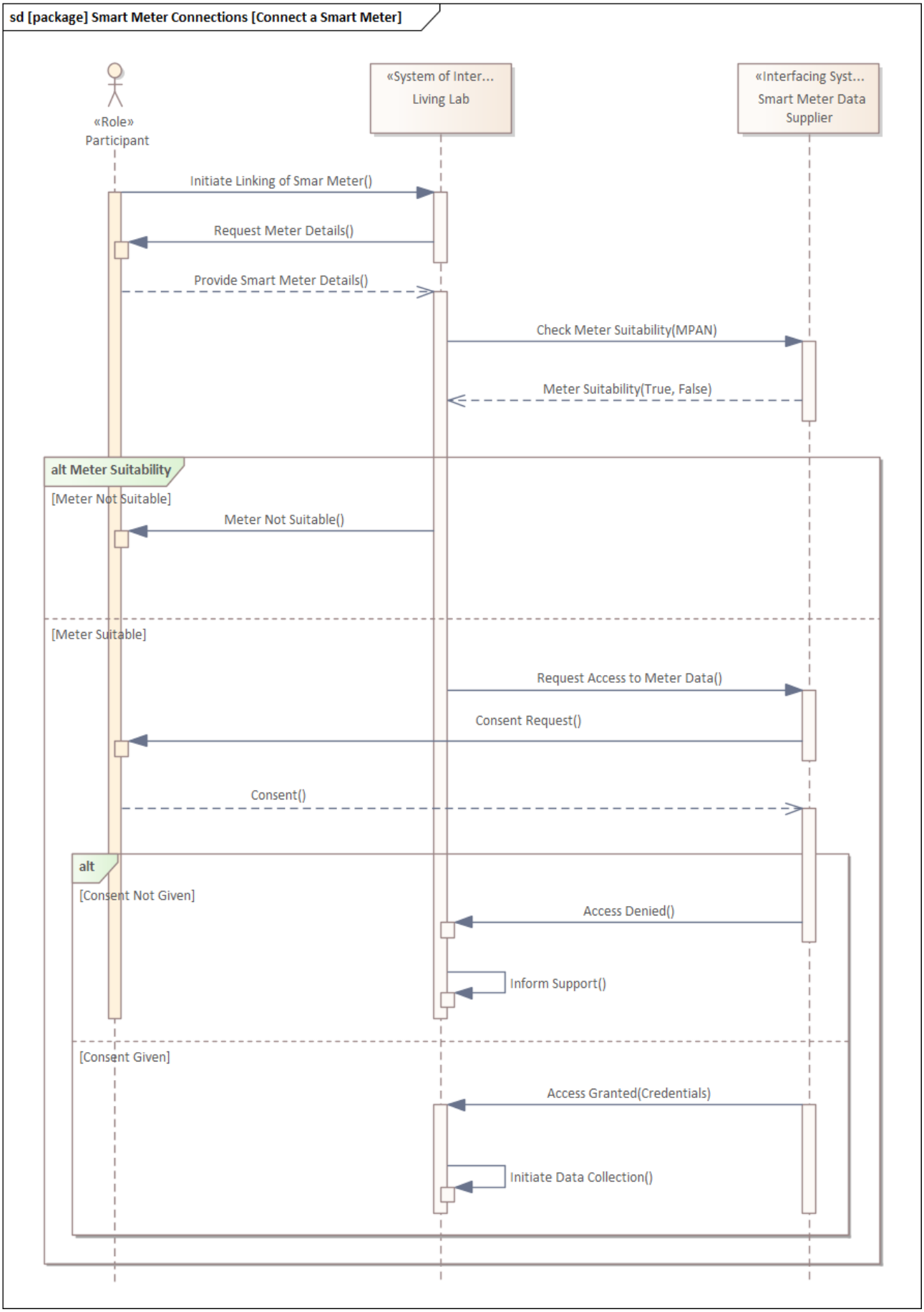

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The Participant requests linking of their smart meter to the Living Lab. All Participant interactions with the Living Lab are through a web-based Portal and all Living Lab interactions with the Smart Meter Data supplier are programmatic.

The Living Lab then asks the Participant to provide details of their smart meter. This information will be defined by the Smart Meter Data Supplier and is whatever information is required for them to determine if the Participants smart meter data is available from the DCC.

If the meter is not suitable, then the Living Lab informs the Participant and the journey stops there.

If the meter is suitable, then the Living Lab initiates collection of permission from the Participant to share the data. It is envisaged that this will be redirection from the Living Lab to a web page or similar hosted by the Smart Meter Data Supplier. The Smart Meter Data Supplier then interacts directly with the Participant to obtain any consent and permissions that are required before data can be shared. When the process is completed, the Participant should be returned to the Living Lab.

If permission to share the data is not provided, then the Smart Meter Data provider should inform the Living Lab who may then inform Living Lab support who may follow up with the Participant.

If permission is provided, then the Living Lab will commence collection of the data at 30-minute intervals. The data to be included should include:

- Gas consumption
- Electricity consumption
- Electricity production
- Tariff data

The Smart Meter Data Supplier is responsible for gaining, storing and maintaining consent from the Participant for the Smart Meter Data Supplier to access and store the DCC data. The Smart Meter Data Supplier will also be responsible for storing and maintaining consent from the Participant for the DCC data to be shared by the Smart Meter Data Supplier with the Living Lab.

3.3. Disconnect a Smart Meter via the Living Lab

The Participant is able to request removal of consent for the Living Lab to collect smart meter data from the Living Lab. In this scenario, the request to remove consent is sent on to the Smart Meter Data Supplier by the Living Lab which also then stops collection of the data. The Smart Meter Data supplier removes the credentials provided to the Living Lab to collect smart meter data for this Participant and then sends an acknowledgement to the Living Lab to confirm that consent has been withdrawn.

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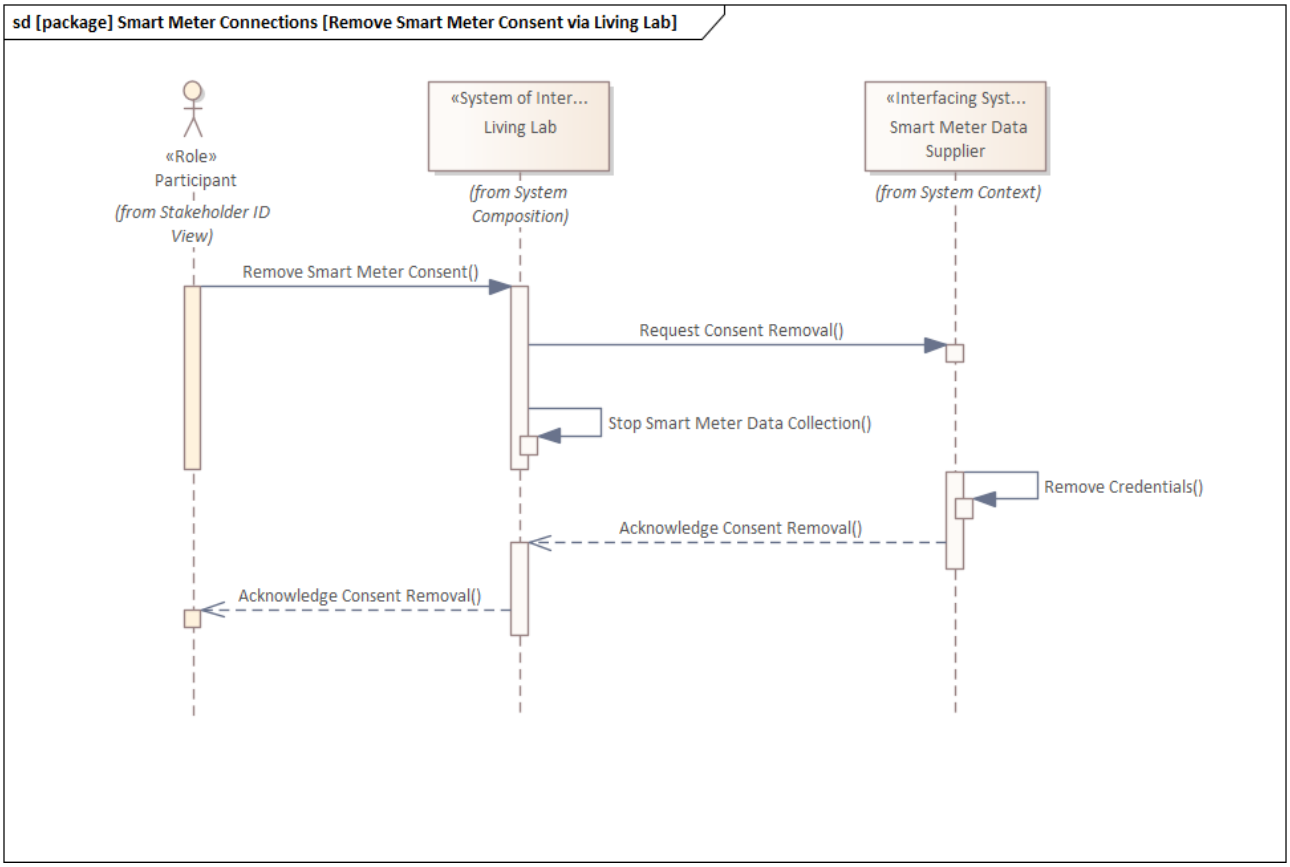

3.4. Disconnect a Smart Meter via the Smart Meter Data Supplier

The Participant is able to request removal of consent for the Living Lab to collect smart meter data from the Smart Meter Data Supplier. In this scenario, the Participant sends a request to remove consent directly to the to the Smart Meter Data Supplier. The Smart Meter Data supplier informs the Living Lab of the request and removes the credentials provided to the Living Lab to collect smart meter data for this Participant. The Living Lab stops collection of the data.

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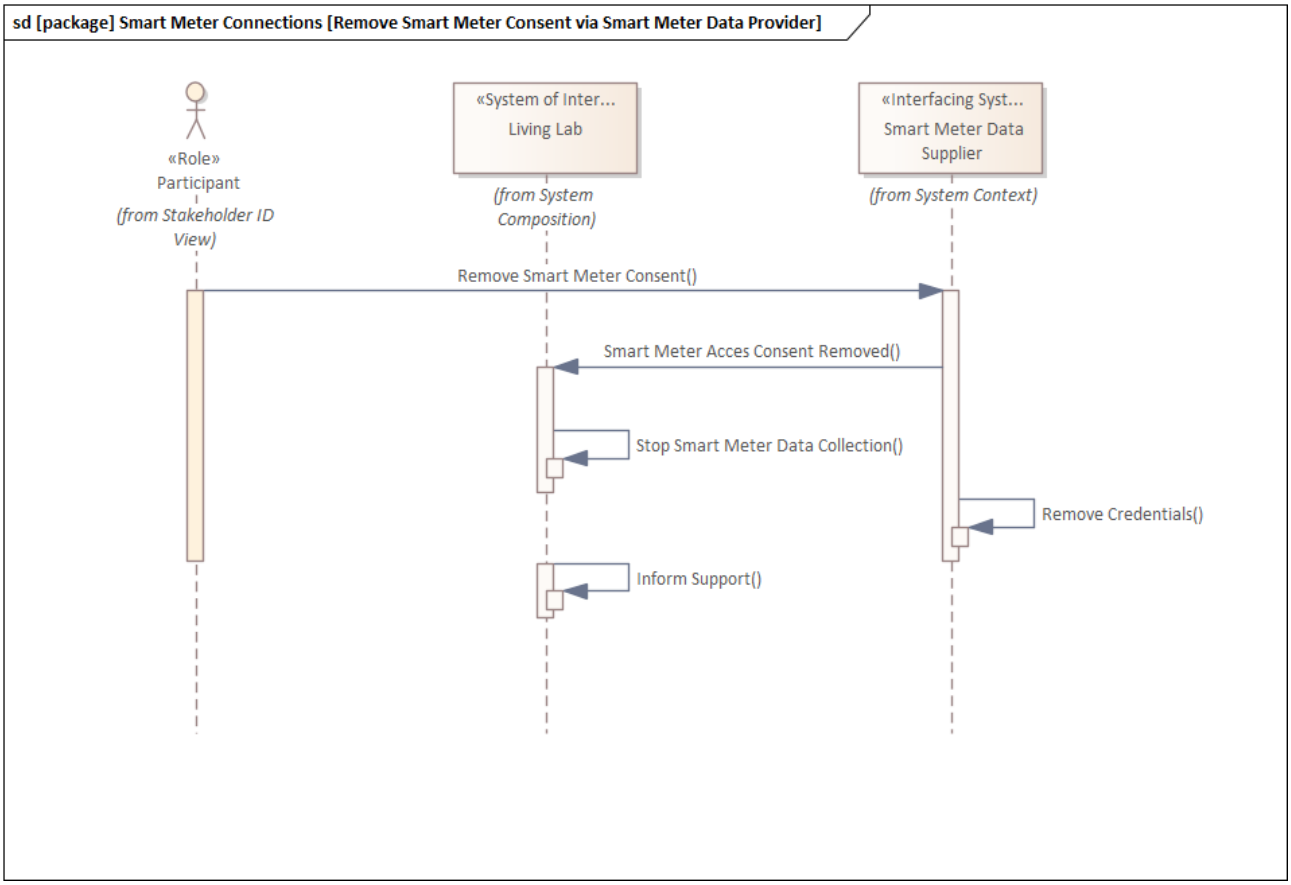

Both use cases for the disconnection of a smart meter only consider the removal of consent to share data with the Living Lab. The continued sharing of smart meter data with the Smart Meter Data Supplier is outside the scope of this document and is expected to be managed by the Smart Meter Data Supplier in compliance with appropriate legislation and standards.

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4. Delivery

4.1.1. Outline Timeline

The ESC desire that the ability to access smart meter data for Living Lab Participants is available no later than December 2021.

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5. Appendix 1

5.1. Acronyms

API	Application Programming Interface
EV	Electric Vehicle
Consumer	A member of the public that has not joined the Living Lab
Participant	A consumer that has joined the Living Lab
ESC	Energy Systems Catapult
DCC	Data Communications Company
SMETS	Smart Metering Equipment Technical Specification
LL	Living Lab

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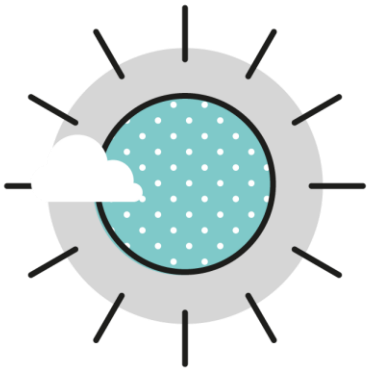
LIVING LAB

ENERGY SYSTEMS CATAPULT WAS SET UP TO ACCELERATE THE TRANSFORMATION OF THE UK'S ENERGY SYSTEM AND ENSURE UK BUSINESSES AND CONSUMERS CAPTURE THE OPPORTUNITIES OF CLEAN GROWTH



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