

D11.01 20230608 Meeting Minutes: Webinar on EV PoC

Project:	SEMIC	Meeting Date/Time:	08/06/2023 10:00 - 11:00
Meeting Coordinator:	Claudio Baldassare	Issue Date:	08/06/2023

Meeting Agenda
<ol style="list-style-type: none">1. Objective and Context2. Use Cases3. Demo4. Q&A

Meeting Slides
LINK

Participants	
Name	Initials
Alessandra Barbieri	AB
Alessandro Tansini	AT
Alex Tourski	AT
Andreea Pasare	AP
Anna Borduzha	AB
Arne Van Der Stuyft	AVDS
August Bourgeus	AB
Beatriz Esteves	BE

Benny Liund	BL
Biagio Ciuffo	BC
Charles-Andrew Vande Catsyne	CVC
Charline Alexandre	CA
Christos Berberidis	CB
Claudio Baldassarre	CB
Costas Simatos	CS
Bernard Claes	BC
Adam Arnd	AA
Michael Kjeldgaard	MK
Danica Saponja	DS
Denis Avrilionis	DA
Denis Dechandon	DD
Despoina Sarafeidou	DS
Dimi Hertoghs	DH
Dimitrios Gkatzoflias	DG
Dimitrios Komnos	DK
Meelis Säask	MS
Marina Aguado	MA
Ana Rosa	AR
Egli Michailidou	EM
Egor Yakovlev	EY
Emidio Stani	ES
Emiel Dhondt	ED
Emmanuel Jamin	EJ
Erin Vainsalu	EV
Evangelos Bitsanis	EB

Fabian Santi	FS
Fabrice Gouzi	FG
Florian Barthelemy	FB
George Christou	GC
Georgios Fontaras	GF
Gereon Mewes	GM
Giampaolo Sellitto	GS
Giovanna Scaglione	GS
Gustav Robrahn	GR
Hans de Raad	HdR
Huw Diprose	HD
Inge Borghmans	IB
Italo Mairo	IM
Ivan Kure	IK
Jakob N	JN
Jan Lindquist	JL
Javier Orozco-Messana	JO
Joachim Fugleberg	JF
Joeri Robbrecht	JR
Juliet M	JM
Kamen	K
Laurens Vandercruysse	LV
Lauro Vanderborght	LV
Ling OU YANG	LOY
Mario Schraepen	MS
Norman Calleja	NC
Madiha Shahzad	MS

Marcello Grita	MG
Mario Bravo	MB
Martial Honsberger	MH
Martin Rabanser	MR
Max De Wilde	MDW
Max Leonard	ML
Meindert Osinga	MO
Michiel Hamblok	MH
Miguel Alvarez	MA
Miha Jesenko	MJ
Mihai Paunescu	MP
Pascal Derycke	PD
Paul Knowles	PK
Paul Theyskens	PT
Peter Bruhn Andersen	PBA
Peter Hopfgartner	PH
Peter Winstanley	PW
Philippe Duchesne	PD
Pierre-Antoine Champin	PC
Regis	R
Robert Czarny	RC
Rodolfo Da Silva	RDS
Sabina Popit	SP
Sebastian Sklarß	SS
Segun Alayande	SA
Seth Van Hooland	SVH
Stamatis Ezovalis	SE

Stephane Gierts	SG
Stijn Debie	SD
Stijn Broekaert	SB
Stina Avvo	SA
Thashmee Karunaratne	TK
Theofilos Papasternos	TP
Tomi Kytölä	TK
Ulrika Domellöf Mattsson	UDM
Veerle Beyaert	VB
Victoria Kalogirou	VK
Viivi Lähteenoja	VL
Willem van Gemert	WvG
William Geismar	WG
William Verbeeck	WV
Wouter Janssens	WJ
Youssef Bendaoued	YB
Bart Beulens	BB
Igor Trickovic Rifelj	ITR
Maria Rosaria Coduti	MRC

Full meeting minutes

Welcome	<p>Seth Van Hooland welcomed the participants to the webinar on Enabling theTwin Digital and Green Transition via personal IoT data with a focus on the Case of Electric Vehicles.</p> <p>Joeri Robbrecht, from DG Environment (DG ENV), introduced the context of the project. Within DG ENV, there exists the need to access data to inform future policies and evaluate the impact of past policies. In this context, there is an interest to collect data on</p>
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	<p>the usage of electric vehicles, both for the tracking of resource lifecycles and the smart layout of charging grids. This PoC would allow the collection of data directly from users instead of only using data collected by public agencies.</p>
Objectives and context	<p>Claudio Baldassarre presented the PoC, that originated from two main questions:</p> <ol style="list-style-type: none">1. Is it possible to improve future grid charging infrastructure by embedding data streams sourced in EV batteries?2. Is it possible to expand the lifespan of an EV battery and facilitate its repurposing by embedding charging data sourced in the vehicles? <p>The vehicle data considered during this PoC was personal data. In order to protect individual data when sharing among identified actors, a technology is needed which would:</p> <ul style="list-style-type: none">• be legally compliant;• be decentralised, interoperable and open;• allow data sharing for societal benefit. <p>Solid was chosen as the technology on which to build the PoC since it can comply with these main requirements.</p> <p>Since legal compliance is a prerequisite for DG ENV, the PoC looked at the most relevant European laws in the context of this PoC:</p> <ul style="list-style-type: none">• the data governance act• the data act• GDPR• the battery act <p>Based on the legal context, five roles were identified:</p> <ol style="list-style-type: none">1. Data holder2. Data intermediary3. Data subject4. Data Service provider5. Data recipient <p>In order to exchange data between these roles, interoperability was required. Therefore, a data model combining existing standards was developed. The model was based on Catena-X, Smart Data Models, Automotive Ontology (W3C), schema.org and the SEMIC Core Vocabularies.</p>

	<p>This model supports the harmonisation of data exchanges from a semantic point of view, building on existing data sources and their models.</p> <p>Thanks to these elements, different use cases can be supported.</p>
<p>Use cases for the Electric Vehicle proof-of-concept</p>	<p>Use case 1 - Charging grid infrastructure - leveraging the principle of data altruism:</p> <p><i>To improve the charging grid infrastructure, a Service Provider (data receiver) would require access to data collected by Nathalie's (data subject) car stored by a car manufacturer (data holder). For this, it would like to know where Nathalie charged her car, at which frequency and which type of charging station she used.</i></p> <p>Use case 2 - Battery lifespan prediction and extension - incentive based direct reward:</p> <p><i>To optimise the EV battery lifespan and facilitate its repurposing, a Service Provider (data receiver) would require access to data collected by Nathalie's (data subject) car stored by a car manufacturer (data holder), via the manufacturers car app (intermediary). For this, it would like to know trends in the number of charging cycles, battery age and battery performance.</i></p> <p>Use case 1 flow:</p> <ol style="list-style-type: none"> 1. A Service Provider requests access to Nathalie (a Data Subject) through a separate channel. 2. Natalie clicks the link and agrees to share her data for the requested purposes. 3. The Service Provider can view and export data collected by Nathalie's car. <p>Use case 2 flow:</p> <ol style="list-style-type: none"> 1. Nathalie receives an in app request to share her data in order to receive a free maintenance service. 2. Natalie agrees to share her data for the requested purposes and receives her free service. 3. The Service Provider can access the shared data through the solid protocol.
<p>Demo of the EV PoC</p>	<p>Wouter Janssens demonstrated the app developed as part of the PoC.</p>

	<p>When the user opens the application, they are prompted to login. Currently the authentication system is kept generic since many institutions can use their own authentication service.</p> <p>In order to register their vehicle in the App, the user will receive a write access request to the user's solid pod by the car manufacturer. After granting access, the manufacturer can write the data on that vehicle to the user's solid pod.</p> <p>Once a car has been added, a user can view the data through a graphical user interface or as raw data. They can also grant access to Service providers and they can revoke that access at any time.</p> <p>The Service provider can now view the data but can not share it if they have not explicitly received permission to do so.</p>
<p>Q&A</p>	<p>Jan Lindquist: The use cases are very important and the demo was impressive. What I am missing is a clear "consent" with the purpose of using the data. There are standards that can be used to set a minimum set of information that needs to be presented prior to granting access.</p> <p>Wouter Janssens: Indeed the demo app could be enhanced with existing consent standards. Currently, due to the PoC nature, this has not been integrated. If we were to add consent, it would happen in step authorising access to a Service provider step.</p> <p>Alex Tourski: By using linked data, data should be at the source. If BMW changes their data then the users data will not be updated. Why is a copy of BMW data used? Would a possible approach be to link a pod to the car instead of the user? Now it seems to be a copy of the data, are we taking the right direction to move toward a linked data world?</p> <p>Seth Van Hooland: Thank you for your comment. It is something to consider. The PoC currently only explored one approach.</p> <p>Wouter Janssens: This type of demo can be developed on multiple architectures. In this case, a hub and spoke architecture was chosen. This architecture makes the user a central hub between all data (service) providers. The user will grant read and/or write access and data will be stored in the user's pod and shared from there to data service providers. There is no direct exchange of user data between the various data (service) providers.</p> <p>Mario Bravo: (reply to Alex Tourski) this demo is good to show that a car owner can own the data. Indeed the car manufacturer still maintains control of some original data. Manufacturers will not want to completely share all data and transfer the full ownership of the</p>

data for security reasons.

Alex Tourski: Actually, Siemens is a manufacturer that wants to do this. Manufacturers could be interested in decoupling from all the different information systems by relinquishing some control over the data. We should be concerned that this architecture does not give the illusion of control to the user.

Pascal Derycke: Could a pod linked to a vehicle be another approach that would be more in line with a digital twin approach.

Jan Lindquist: We should consider the renting and leasing of cars. The car is owned by the company but a renter would still be interested in controlling the data during the rent period. For those use cases, a delegation system would be interesting.

Claudio Baldassarre: We would start from the legal framework to make these decisions to ensure that it is legally compliant. The technical implementation will start from the legal framework enforcing that the usage of the application is legally compliant. The question remains of course how the app has to evolve based on policy changes and integrating policies in the implementation could be interesting.

William Geismar: If an implementation is built properly on the legal framework then it would be very interesting to transfer the work to other contexts.

Alex Tourski: The current legislation is based on existing systems. If we use pods, there will be a paradigm shift to a point that current policies are not relevant and will change. In my view, legislation changes based on the technical landscape. Therefore the technical implementation should not be completely based on the current policies.

Stijn Debie: Currently private legal rights are a competency of the Member States. As such, the EU can only provide laws to protect data. To achieve a landscape as described by AT, further alignment would be required between national and EU legislations.

Meindert Osinga: The concept of data co-ownership as mentioned during the MyData Global conference could be interesting for those use cases such as renting a car. It was mainly mentioned in the context of medical data. In that context the patient has little choice on what software is used by the hospital. The consent on the data usage is implicit. Co-ownership would allow the developers to use the data to improve the software application. It would allow the patient to share the data in order to get a second opinion on their medical diagnosis.

	<p>Regis: Legally this is difficult since there is no legal basis for data “ownership”. One can own a database, on data itself an actor could only have “control”. In the example of medical data, the hospital legally has to keep the data for 30 years, they can provide control to the patient but not ownership.</p> <p>Florian Barthelemy: There is further work needed to see how European law (DGA, Data Act, GDPR) and private national law can align. This was also a point highlighted during the past months workshops on personal data spaces.</p> <p>Huw Diprose: I think whilst debates about ownership, legal frameworks and such seem really well founded. I would suggest that this demo is a really helpful step in a positive direction. I think the demo provides a firm base to deliver real user benefit through something achievable, whilst also allowing the landscape to evolve.</p> <p>Paul Theyskens: Car manufacturers should be further involved in the development of this project. It would be interesting to get their point of view. For this purpose, a regulatory sandbox, as the AI sandbox (living labs), could provide a safe way of collaborating with all stakeholders mitigating legal and security risks. This demo could therefore be expanded into such a sandbox.</p> <p>Claudio Baldassarre: That is indeed a good way forward.</p> <p>Joeri Robbrecht: Using regulatory sandboxes is interesting but we have to especially focus on the upcoming data act since it specifically focuses on IoT devices. It could allow for decoupling data from manufacturers and allow for change (transferring to other ecosystems) of data owners and potential reusers. For instance, multiple user pods could be linked to a car which would identify each user.</p> <p>Claudio Baldassarre: One reason for this PoC is that citizens have not had proper practical control of their data. And this approach could provide citizens with the benefit from their data being shared. This would allow individual data monetisation.</p>
<p>Wrap-up and next steps</p>	<p>Seth Van Hooland thanked the participants for attending and interacting in the webinar. The debate shows that there are many potential activities which need to be explored.</p> <p>Seth Van Hooland mentioned that the European Commission will need to explore under which DG this activity will continue.</p>