A man with many hats

A talk with Rudy Hemeleers, founder and director 51Biz, on Lab #17 EU-Gate eCMR/eFTI OneAPP Access Point[1]

FEDeRATED Living Lab #17 originates from Luxembourg, which explains a lot about the set-up of this Living Lab. Luxembourg is a tiny country, with some 650.000 inhabitants, but it also is a seat of EU-institutions. Its people's perspective easily shifts from a small-scale Luxembourg point-of-view to a big-scale European perspective, and vice versa. According to Rudy Hemeleers, the project manager of Living Lab #17, "whatever we do in Luxembourg, comes with an international approach, for it is standard for our companies to do business with companies abroad. We go for EU-oriented or global solutions." Therefore, when FEDeRATED started, Rudy saw it as his role "to connect global supply chains to the European data-sharing infrastructure by way of an EU-Gate".

Rudy used to work as a consultant for PWC, and as a CTO for Cargolux, which is Luxembourg's freight airliner. When he turned 51, he decided to start as an independent business consultant with his own firm, which is called 51Biz Luxembourg. He is an engineer and describes himself as "an architect who wants to design digital bridges between business-people, IT-people and government people".

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[1] *Interview by Minne Buwalda*

Interviewing Rudy can be confusing sometimes, because as a management consultant he switches easily between different perspectives. Besides FEDeRATED, there are other European and global initiatives and forums he participates in. Rudy is a connector who wants to cooperate whenever possible. As a consequence, when he uses the word 'we', it is often unclear whom he is talking about, because he wears many hats at the same time. Sometimes 'we' relates to a European expert group he participates in, for example DG MOVE; sometimes 'we' relates to Luxembourg business clients of his in a generic sense; sometimes 'we' relates to the FEDeRATED-collective, or to the group of companies which is preparing the FEDeRATED use case at the moment. Rudy identifies himself with all the hats he wears, and he loves his European 'top hat'.

Rudy typifies his Living Lab as "very small" in the context of FEDeRATED. Hereby he refers to the limited use case that is being worked out at present. At the same time, his project is very large in scope, for Rudy wants to build a one-app-gateway for the EU, with a focus on eCMR and eFTI. Rudy: "e-CMR and eFTI are about using transport documents in a digital format when communicating with trusted business partners and authorities in the EU. We aim at building this European gateway whereby companies like air carriers, road transporters, forwarders and so on, can share with one digital connection the information from their systems with all EU-governmental authorities."

The focus on European eFTI-legislation, in combination with the business reality of CRM, results in the need to adjust his 'EU-Gate' to the evolving EU-legislation concerning eFTI. Rudy aims at "annual releases of the e-CMR/eFTI access point and OneAPP for authorities". Timewise this means that his EU-Gate Living Lab #17 initiative extends well beyond the current FEDeRATED set-up. Rudy thinks long term, towards 21 August 2025 when the eFTI regulation becomes fully applicable

The Helsinki-Valencia use case

Yet, this interview is mainly about the small use case that is being worked out right now, because making FEDeRATED Living Lab #17 tangible is what is at stake at present. The use case is about the road transport of 'personal belongings' in two stages: first from Helsinki in Finland to Luxembourg, and then by another carrier to Valencia in Spain. The transport is arranged by a forwarder from Luxembourg which operates within a global SME consortium (EuroMovers) and has a local partner company in Finland. Rudy: "For planning and customer service purposes this forwarder must integrate and synchronize its data with counterpart companies and transport service providers like air-cargo and trucking companies. And with customs, of course." He continues: "Living Lab #17 wants to create a European common access point, an EU-Gate, in such a way that all actors can easily change data about the transport, i.e. ETA's. In line with the architecture set up of FEDeRATED, all parties keep the information updated within their own system and share datasets and 'events' with trusted and mandated parties."

The first stretch of the route these personal belongings take, is from Helsinki to Luxembourg, passing through the Baltic states, Poland, and Germany. The transport is executed by a truck that is operated

on behalf of Cargolux, the air freight carrier from Luxembourg. When shipped in Helsinki, the goods get labeled with e-seals from Vediafi —the Finnish company responsible for Living Labs #1, #2 and #3– so they can be tracked and traced all the way to Valencia. Once arrived in Luxembourg, the goods are inspected by airport-related authorities and loaded on another truck, operated by a removal company –part of the Euromovers Group–, which drives the goods with other customer shipments originating from Luxembourg to Barcelona and Valencia in Spain.

Asking Rudy what kind of data are going to be exchanged in this case, he mentions "transport and customs datasets" like "e-CMR, e-AWB and shipment datasets". To this he adds "data on related milestone 'events' that are provided by the carriers and the e-seal operator." In this use case, Living Lab #17 selected 9 generic 'events' to share: goods receipt by carrier; loading of truck; departure truck; border-crossing; arrival truck; unloading truck; goods ready for inspection; goods released from inspection; goods receipt by consignee.

Asking him what parties are sharing which data, Rudy says: "Carrier Cargolux is sharing their data on the selected air-cargo events with the forwarder, and in parallel e-seal provider Vedia provides the tracking data. The forwarder uses the information to plan the departure of the truck from Luxembourg to Valencia."

Then Rudy moves up a level in the data-architecture and says: "The data from the Helsinki-side of this use case –so from the carrier, the local handling agent and Vedia– will be provided in OneRecord compatible semantics. While the information coming from Luxembourg and Spain, is provided in WCO- and UN/CEFACT semantics."

Configuring different semantics

When I ask how FEDeRATED fits into all of this, Rudy says: "The objective of an overall EU-federated architecture is not to replace but integrate the existing semantics of the different transport modes –for example IATA semantics, customs-semantics and UN/CEFACT semantics. The objective is to use the FEDeRATED approach to make these different semantics interoperable."

He goes on explaining: "In this Living Lab we want to use the same technical interfaces as with Luxembourg customs. It is important to build with existing technology solutions and use global standards. That is why we focus of OneRecord and UN/CEFACT at present and use our projected EU-Gateway to create interoperability with emerging semantics introduced by the European Commission through the eFTI regulation and the FEDeRATED consortium."

"This has to do with the maturity of the different technical solutions available at present. I think the IATA 'Internet of Logistics API'- approach is really on the agenda of logistics companies right now, while FEDeRATED semantic endpoints need some time to emerge over the next 3 to 5 years." To this he adds: "Concerning digital solutions, businesses continue to be ahead of governments. When I ask my clients, they would say: we do not need another data model or ontology, we just need to know when the goods will be arriving and inform our customers with reliable information in case there

is a delay or another problem with their shipments."

In the new *FEDeRATED Architecture-document* for his Living Lab #17, which he just finished, Rudy writes: "Living Lab #17 tests the semantic integration of UN/CEFACT JSON-LD vocabulary and the IATA OneRecord-ontology in the context of eCMR/eFTI road controls." Asking him how far this testing is right now, he says: "We have configured 70 datasets in total, with consignments, invoices, shipments, and events that are presented by API as semantic endpoints. Such a semantic endpoint is where the data are presented in an RDF-format –a so-called triple format, or semantic graph format– using the semantics of IATA, UN/CEFACT or GS1. So, these data are available now and can be read by the other FEDeRATED Living Labs. But the translation, the mapping into a FEDeRATED-ontology format still must be finetuned and completed in the FEDeRATED-environment." To which he adds: "And that will take some time and significant EU funding resources to realize."
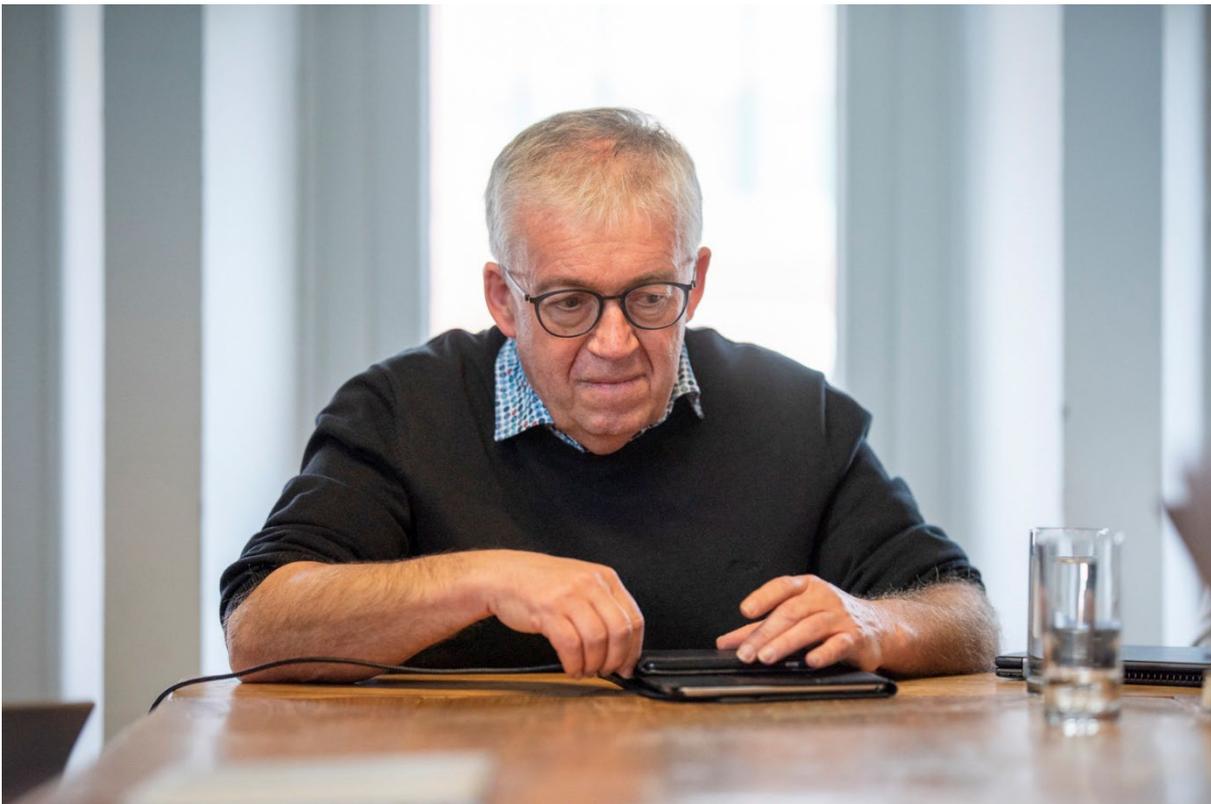
The addition of a transport from the Ukraine

In July 2022, UNECE and EU suggested that FEDeRATED would include a Ukrainian transport in its use cases. Since the combined use case of Living Labs #17 and #2 already covers Poland, it plans on adding an extra 'leg' to the Helsinki-Luxembourg-Valencia transport: a transport by road from Kiev to Poland, where the goods are reloaded on another truck, which continues the transport.

According to Rudy: "With stakeholders like Pionira (a Belgian e-CMR and e-Documents provider), Abona-ERP (the IT Division of Hegelmann, a large European trucking company) and others, we are looking at realizing a digital corridor integration between Ukraine and the European Union." Rudy

elaborates: "Our Ukrainian UNECE-colleagues asked us to apply the EU DTLF priorities, like eFTI; to simplify the border crossing road transports from Ukraine to the EU. To this he adds: "We try to involve the Ukrainians in the European way of working, which includes eFTI, publish and subscribe etc.""

Identity and Access

iSHARE is the solution for identification, authentication and authorization that is going to be implemented by Living Lab #17. It is also used by Living Lab #20, the Dutch BDI. Vedia, the Finnish company responsible for Living Labs #1, #2, and #3, is also considering the use of iShare. Rudy: "In the context of Living Lab #17 we are defining who can access what information at source, for example: which authority can retrieve what data by way of the publish and subscribe mechanism. In our Living Lab this is not done by way of blockchain technology, like the Dutch BDI, but in a similar way as the IATA-based "Internet of Logistics" API approach."

When I start asking about Findability, Rudy mentions that "this is part of the discussion of DG Move on how eFTI will be implemented." He continues: "In the short term we are using an API. In the medium term, by the end of 2023, we will also test using SPARQL, to query the transport and shipment data as a semantic endpoint. We are configuring that right now with all 23 FEDeRATED Living Labs."

Cooperation with other Living Labs

Rudy's Living Lab #17 is already closely tied to IATA Living Lab #11, because of its focus on the integration of road transport and air transport –a priority for Luxembourg. And according to Rudy, his Living Lab #17 has the potential to integrate with other Living Labs too, "because every platform often integrates transport orders like CMR and air waybills". He comes up with cooperation possibilities: "Since Pionira, one of the stakeholders in our Living Lab, is also operating in Spain, we could evaluate cooperating with SIMPLE, the Spanish Living Lab." He continues: "In addition with the integration with the Benelux, so the Dutch BDI-platform, which is foreseen in the beginning of 2023."

In the FEDeRATED-context, Rudy sometimes seems to speak out of turn, because he puts on his 'top hat' all the time: the hat of the overarching EU. But at the same time, it looks as if he knows what he is talking about.