

Memo

Memo on a common form of NAPs and data provision at EU level (tasks 1, 2, 3 and 7 as stated in the Grant Agreement)

| Project Acronym | IDACS |
|------------------------|---|
| Project Full Name | ID and Data Collection for Sustainable Fuels in Europe |
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| Activity | 2.2 Provision of static and dynamic data through the National Access Points of the Member States in requested format DATEX II |
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1. Introduction

To reach the main objective of the IDACS project, which is the provision of data for alternative fuels through the National Access Points (NAPs) in DATEX II format, a functioning NAP per Member State needs to be in place. As the obligation to have a NAP containing information about recharging and refuelling points is based on the existing ITS directive from 2010, the EC takes the presence of a NAP in each Member State as a starting point. Consequently, setting up NAPs is not officially part of this project. Nonetheless, in the Grant Agreement collaborative actions have been defined to support Member States in setting-up a NAP in such a way that data collection on the national level and transfer of data on the EU level can take place in the most optimal way.

To support data collection for alternative fuels the Grant Agreement states that the participating Member States will collectively conduct the following tasks:

- Task 1: Determine a common form of NAP at the national level
- Task 2: Determine the organisation of data provision on the EU level
- Task 3: Examine the possibilities to realise multi-country / EC wide databases
- Task 7: Formulate an approach for third party access to data

In this Memo these tasks are described in further detail. As third party access to data is an integral part of the overall approach of the IDACS project, this has been integrated in the description of the other tasks.

Objective

This memo does not represent a formal deliverable within the IDACS project. It is nevertheless closely related to other deliverables of the IDACS project. In deliverable 2.1.0 *Guideline document For Data Collection and National Access Points*, options for the set-up of a NAP are given and also the possibilities for a European access point are examined. In addition, Deliverable 2.3.1 *Sustainability and continuity of the data collection beyond the Program Support Action* outlines scenarios for a future data provision at European level.

This memo represents the view of the Consortium on the required form and organisation of NAPs and data provision on the EU level. It should be considered as a basis for follow-up discussions with the European Commission.

2. Methodology

As of 2019, several calls have been held with the Member States about various subjects related to data collection and data provision at the NAP. During these calls, also the topics from this memo were continuously touched upon, such as setting up a NAP and a possible data provision at European level. These topics have been discussed from the beginning of the project and are also described in deliverable 2.1.0 *Guideline document For Data Collection and National Access Points*. To collect more input, various questionnaires were sent out for additional data and views of the member states on these topic. Finally, there was a call to discuss the specific points of this Memo.

3. Determining a common form of NAP at the national level

As stated in the Grant Agreement one of the tasks of the Consortium is to determine a common form of NAP on the national level. "The Consortium will study what the exact form of the NAPs will be. We will search for commonality across the different Member States, but also different solutions per country are thinkable. The most logical approach would be to have one NAP per country through, or in which the data of the infrastructure is collected. This may be a system for all alternative fuels; however, it is also possible that the different fuels will have different systems, approachable via one NAP."

As defined by the EU Directive 2010/40/EU, the National Access Points can take various forms, such as a database, data warehouse, data marketplace, repository, register, web portal or similar depending on the type of data concerned and provide discovery services, making it easier to fuse, crunch or analyse the requested data sets.

The Consortium defines the NAPs as a solution for:

- facilitating access to,
- easy exchange of;
- re-use of,

transport-related data, in order to support the provision of EU-wide interoperable travel and traffic services to end-users. The set-up and organisation of NAPs needs to be focused on optimising benefits for operators, service providers and ultimately consumers in all Member States.

Initial situation

At the start of the project, a baseline measurement was done for all Member States. It appeared that in many Member States there was some form of data collection at the national level taking place. However, these data for the different fuels tracks were not always available via the NAPs. It also turned out that there were different architectures of NAPs, such as a database, data warehouse, data marketplace, repository and register.

In the case of a register, this meant that the NAP does not contain the data itself or the services that are made available for re-use, but only the metadata describing them. One can find links to the underlying services and the sets of data that can be accessed. Subsequently, there were also major differences in these services or data sets: they could be (central) systems where data for all alternative fuels was stored, but these could also be different systems per fuel type.

Discussion

In the beginning of the project the Consortium discussed the desired form of a NAP. At that moment in time, not all Member States had an opinion about the desired form. The Member States were in different implementation phases of setting up or maintaining a NAP. Some did not yet have a NAP or were just transitioning to a new NAP, while others had a NAP operational. Because of these different situations, it turned out to be a challenge to come up with one desired common architecture for the NAP.

A theoretical advantage of having a common form of a NAP is that it can harmonize the way of data collection in and between countries. This will theoretically facilitate data collection and provision at European level. It will also facilitate the eventual formation of an EU NAP. However, the question is whether the architecture of the NAP plays such a major role in this and whether

other agreements are not more important in this regard. Such as common agreements about the use of the same protocols, the data categories and the use and access to data

A disadvantage is that countries would no longer have the freedom to make their own choice as to how they would like to organize the data collection at national level. Behind the choice of an architecture there may be fundamental choices about whether or not the government should intervene in this domain. In the current situation, some Member States saw no reason for the government to intervene by setting up a public database: the information provision to drivers is sufficient and they opted for a register. While other Member States had already set-up a database or were clearly in favour of setting-up a database because the information provision was not sufficient. But even in the situation where countries wanted to set up a public database, there could be a preference for a NAP as a register. The NAP would then not contain the data itself, but one can find a link to the underlying public database.

Later in the project, the preference for a common form of the NAP was discussed in more detail. It emerged that a majority of the member states do not have a preference that the NAP itself should become a public database. A large majority indicated that they would not be willing to turn their NAP into a public database. The reason is that this would not be necessary because third parties could make direct (API) connections to the data source (e.g. a public database).

Conclusion

In conclusion, the Consortium decided that no common form of the NAPs could be established. The choice of architecture of the NAP should be left to the countries and not necessarily harmonized across Europe. As the Grant Agreement also indicates, there are different solutions per country that are conceivable. The final approach is to have one NAP per country through, or in which the data of the infrastructure is collected. This will be a place where the data of all alternative fuels will be accessible (to the extent that this applies to the situation of a country, for example whether there are hydrogen filling stations or not). Due to the different architectures that the national NAPs can have, it is possible that the different fuels will have different data systems, approachable via one NAP. It is also possible that there is one database in which all data of all fuels is available.

4. Determining the organisation of data provision on the EU level

As stated in the Grant Agreement, the Consortium will define how the provision of data from the NAP to the EU level will be organized. There are two main options that were be examined:

| Option 1: | An EU register that has links to all individual NAPs that contain the data |
|-----------|--|
| Option 2: | A common EU repository where static data is stored and dynamic data is |
| | retrieved from the NAPs |

Initial situation

At the start of the project there was no European NAP. There was therefore no central point for data provision. There are, however, overviews of all NAPs in the EU, as can be found via: <u>EU EIP NAPs (andnet.ro)</u>. This can be seen as the most minimal implementation of an EU NAP: a register with links to all NAPs.

Discussion

The possible options for the European NAP have been explored right from the start of the

IDACS project. In Deliverable 2.1.0 *Guideline document Data Collection NAP*, several possibilities are presented in the chapter '4.4 Possible setup of NAP'. The Consortium discussed what form the EU NAP should take and what the possible future role of a EU NAP could be. The options were also discussed with the Member States as well as industry parties during the workshop week of IDACS. There was also a separate call about the common form of a NAP and setting up a NAP at European level.

The following has been discussed with regard to the two options from the Grant Agreement.

Option 1: a register

The second option stated in the Grant Agreement is a European register. As stated in the Grant Agreement, such a register "can contain a main link with a tree view of links to all separate NAPs. This way organisations and third party companies can use this link to collect the data from all refuelling stations in the NAPs. It ensures that both static and dynamic data are most accurate and no double data is stored."

A register has the benefit that the data is always retrieved via the NAP to the source and no copied data is stored. This option does have a disadvantage that this only connects the user to the NAPs: no data is stored in a European NAP and only a link is made to the parties that have the data. This seems less user-friendly for a third party that wants to have the data. There is no single access point for all the data, which makes it harder to get an overall overview. One has to link to the party that offers the data and then connect with that party (and possibly enter into an agreement) to get the data. This can be one party per country, but theoretically it can also be the case that this has to be done for several parties per country.

Conclusion option 1

The consortium is not in favour of such a set-up because it has too little added value. With the current architecture of some NAPs the option of an EU NAP as a register can be implemented. Moreover, a similar registry is actually already available:: <u>EU EIP NAPs (andnet.ro)</u>. In this way, the EU NAP functions as a kind of 'phone book' for third parties. This could be made even more specific for only data on Electric Charging Points, Hydrogen and Other Fuels, but the consortium is not in favour of such a setup.

Option 2: a common repository

A common EU repository where static data is stored and dynamic data is retrieved from the NAPs. This option requires a direct link to the source of the data: the data will be retrieved real time via a link to the concerning NAP. An advantage of this form could be that data consumers can access European data in one central location. However, this requires national NAPs that can connect directly to this repository.

As described above, the Consortium has not opted for one common set up for the NAP at the national level. Since there will be Member States that will have a register, a common repository seems impossible. If a country has a register, there does not have to be a direct link to the real time data. The NAP would then not contain the data itself, but one can find a link to the underlying public database. However, direct connections could be made with these underlying databases. In this way, a repository can be set up in which static data is stored, and where dynamic data can then be retrieved from these databases (which do not necessarily have to be on the NAP itself).

However, this option has not been elaborated further because the Consortium does not prefer such a setup. With this set-up, the question is whether the potential benefits of a European NAP (see above) will be achieved.

Conclusion option 2

A common repository requires NAPs that can connect directly to this repository. Most of the Most NAPs cannot do this. However, connections could be made with the underlying databases of the NAPs. In order to do this, however, preconditions are needed regarding data quality and access to data. In addition, there should be a legal framework that obliges operators to share the data. Both conditions are not present.

Moreover, setting up such an EU repository will require substantial organizational and financial resources. As a result, option 1 cannot be realized within the frameworks and choices made within IDACS and is not preferred by the member states.

European Database

In line with option 2, the Consortium also considered the idea of setting up an overarching European database with static and dynamic data. The member states are divided on the added value of this set-up, but a majority is in favour of setting up a European database. When asked about the potential added value of an overarching NAP at European level, several reasons are given:

- Possibly easy access to data at European level (especially for smaller businesses)
- Centralization of data: Single entry point
- Uniform quality
- Harmonized data format

As with any other form of data provision on EU level, this is only possible if agreements on the above points are also made and adhered to at European level.

Cost, Funding and fees

In case there will have to be data provision at EU level, this will also have financial consequences. A register, portal or database will have to be set up. A majority of the consortium indicates that this can be financed from the EC or European funds. It is also suggested that it can be financed partly by the EC and partly by countries, whereby the contribution then depending on the number of cars (= the amount of data). Finally, it is also suggested that part of the costs can be financed by the data users because they have to pay a fee for the data.

With regard to the cost of data, a majority of member states of countries are not fully convinced that all (real-time) data should always be available to third parties at no cost. Some member states do agree and indicating that all real-time data should be available for free. And all countries agree on the basic idea that the data should be made publicly available so that services can be built for the end user. However, many countries believe that a reasonable compensation should be possible for certain data. Mainly because data quality checks, data storage and data management involve costs. There are concerns that to share data of commercial interest free of charge may be counterproductive, especially if it involves an initial investment by the private actor. Also "at no cost" entails the risk that the data will be of lower quality and not used.

Overall conclusion

Regardless of what form a NAP on European level should take, there is the discussion about the added value of such an 'EU NAP'. Some industry parties indicated that setting up a database requires significant investments and it must therefore clearly add value compared to the current market situation. It should therefore be clear for future development to which extent an EU NAP as a database is of added value in the current market, because parties can obtain data via roaming platforms, data aggregators and NAPs. Furthermore, it was also discussed that an issue for a NAP on EU level could be the different definitions of public charging points or the different conditions for data quality or accessibility. It requires future discussions about: public accessibility, harmonization of quality definitions and different types of NAP users.

Within the PSA IDACS no explicit clear preference has been expressed for the formation of an EU NAP, and what architecture it should have. In principle, most member states are positive about a form of centralization of data collection in the EU if this offers advantages for the data consumers.

There is agreement that there must clearly be added value for the users of the data. It should be a single entry point and provide easy access to uniform data of good quality. This is insufficiently reflected in the two set-up options from the Grant Agreement.

Whatever form it takes, there must first be harmonized agreements for data quality, data access, data formats and data use. This PSA IDACS project has made a first step in that direction, but for data provision at EU level it is necessary that this happens at European level.

For further developments for a EU NAP, an important role is also seen for the PSA NAPCORE project where more harmonization of the NAPs is sought. This PSA will look at the challenges concerning the long-term set up of the NAPs and the upcoming requirements, challenges or developments that NAPs will face.

5. Examination of the possibilities to realize multi-country / EC wide databases

As stated in the Grant Agreement the Consortium should examine the possibilities to realize multi-country / EC wide databases to create synergies and to avoid duplication and inefficiencies. According to the Grant Agreement, realizing multi-country / EC wide databases had to be considered - where feasible and desired by the participating Member States.

EC wide database

As explained above many Member States use different architectures for their NAP. Some Member States set up their own database, while other Member States use a register with links that link to (private) parties that can make data available via a database. The lack of an unambiguous form of the NAPs automatically means that setting up an EC wide database was not possible within the scope and resources of the IDACS project.

However, equipped with the necessary funding, an EC- database would be possible and could bring potential advantages for third-party users. To set this up, the operator of an EC-database would have to set up interfaces to the data directly via all national NAPs, in cases where the national NAPs themselves are databases. If NAPs are set up as registers, then the information for the national database will have to be retrieved and an interface set up with it. In this way, an EC-database could ultimately be operated in real time. The advantage for all third-party providers would be that a consolidation would take place and they could then get the consolidated data for the entire EU area in real time with only one partner - the EC-database and only one interface. However, this solution will require a certain budget and a proper, permanent infrastructure. In addition, there will probably have to be a legislative framework (at European or national level) that ensures that all data at national level is supplied and is supplied in the right quality. Ultimately, one could investigate what the cost-benefit ratio of an EC wide database would be.

Multi Country database

The Member States in the Consortium have looked at possible multi-country databases. The main potential advantages for setting up multi-country databases could be better efficiency, user-friendliness and cost reduction.

Although Member States themselves have not developed multi-country databases, it is possible that different NAPs in their register may refer to the same (private) database. Already now, it can be seen that various Member States can use the same (private) database. For example, a private database such as Eco-Movement makes the data available to a large extent for the Netherlands and Belgium (Flanders region). However, we do not see any public or public/private databases that are used jointly by the participating Member States.

This was ultimately not set-up within the IDACS project: mostly because of the national processes that had already been partially deployed and the (legal) complexity that this entails. Now data collection is a national responsibility. When setting up a joint database from government authorities, clear agreements must be made about responsibilities and accountability. Organizing this adequately and for the long term at national level sometimes proves to be a challenge. None of the Member States has seen the setting up of a multi-country database as a viable option to be able to realize jointly within the lead time of IDACS. The appropriate legislation and regulations for this seem indispensable for Member States to be able to set this up.

As for hydrogen, it is more likely that a shared database is used. That is because there are roughly two initiatives that Member States can make use of:

- H2.LIVE
- Fuel Cell and Hydrogen Joint Undertaking (FCH-JU)

H2.LIVE is an application by the company H2 MOBILITY Deutschland GmbH & Co. KG (hereinafter: H2 MOBILITY) that covers all the required data categories and most of the HRS in Europe. It is available to any end consumer with a smartphone, tablet or via web-browser. The Fuel Cells and Hydrogen 2 Joint Undertaking (hereinafter: FCH-JU) has an 'HRS availability system' that has been procured by FCH-JU and has been being rolled out across Europe.

Because HRS operators are often still on the eve of the roll-out of hydrogen filling points, there is a natural moment to join (one of these) platforms. Nonetheless, data can also be shared individually per HRS operator and single links to the NAP can be established. However, individual connections to the NAP would entail less aggregation and could potentially make retrieving the data by users more cumbersome.