



MFF (Market Facilitation Forum)& BAS (Administrator Energy Data Exchange Framework)



The Energy Data Exchange Framework (EDEF) as foundation for unlocking energy data in the Dutch market



The goal of the Agreement System" to unlock the full potential of energy data

WHY



Energy data use cases within the (Dutch) energy market

WHAT



The MFF & BAS as enablers to facilitate the Dutch energy market and new players

Towards a fully integrated, interconnected and digitized EU energy market...

Green Deal



...FOR DEEP
INTEGRATION OF
DISTRIBUTED ENERGY
SOURCES



...FOR THE REDUCTION OF SYSTEM COSTS FOR THE (NEW) ENERGY PROVISION



...FOR THE TRANSFORMATION TO ENERGY EFFICIENT BUILDINGS, ELECTRIFICATION OF TRANSPORT AND ENERGY EQUALITY



Grid companies should take on the integration of flexibility (storage, demand response, energy efficiency schemes...) as an alternative for grid expansion in their plans

Directive (EU) 2019/944

Reducing emissions for road transport (responsible in 2019 for 72% of transport emissions) is a crucial aspect of the "Fit for 55" package. This will require an accelerated rollout of charging infrastructure.

Fit For 55

With the so-called Renovation Wave as one of the spearheads of the Green Deal, the renovation of the building stock is considered an essential element towards carbon neutrality because of its positive impact on economic activity

Green Deal





A new regulatory framework has been put in place to achieve European goals on national level...

New E-Law article 4.15

Data Exchange Entity

- **Grid companies** have been given the **task of enabling data exchange**. To reach this purpose, they established a company called **"BAS"**.
- The grid companies have to **provide sufficient funding** to this company to enable it to properly conduct the prescribed tasks.

New E-Law articl4.25

Consultations and agreements

• **Grid companies** must enter into a dialogue with parties that have an interest related to the creation of energy processes. The "MFF" was created to enable the reaching of **joint market agreements** leading to effective, efficient, and reliable electronic data exchange.

New E-Law articl4.1

Data & processesn

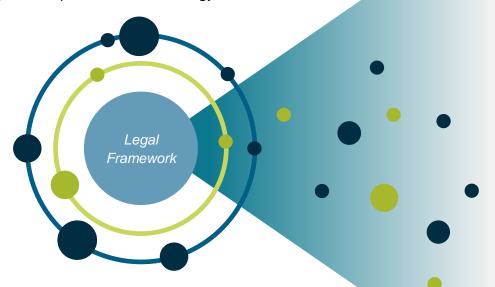
Data is used in processes to:

- Allow the energy system to function properly (purchase, delivery, switching, feeding...)
- **Grant access to and exchange the data** of connected party/customer/importer, to another party based on consent or obligation
- Enabling access to insights for the connected party/ customer/importer



... in both the existing system processes and emerging energy data sharing processes...

System processes are set up for the purpose of the functioning of the energy system (supply, switching, balancing...) and thus form the foundation for the general operation of the energy market.



Data sharing processes are additional processes that use (energy) data to develop new applications for the benefit of e.g. end-users, system and third parties... to e.g. realize cost/operational efficiencies and make the energy supply greener.

UNLOCKING NEW APPLICATION AREAS



NETWORK OPERATORS (NATIONAL / REGIONAL / CLOSED SYSTEMS)



METER SERVICE PROVIDERS



SUPPLIERS / BALANCE RESPONSIBLE PARTIES



PRICE COMPARISON COMPANIES



HOUSING COOPERATIVES



MUNICIPALITY ASSOCIATION



E-MOBILITY PROVIDERS



ORIGINAL EQUIPMENT MANUFACTURERS



OTHERS



The new data governance bridges distinguished barriers to realize the ambitions ...

MISSING TRANSPARENT REGULATORY FRAMEWORK



- · Market facilitation task insufficiently anchored in law
- Market facilitation not regulated separately (no incentives for quality and transparency)
- Inconsistent legislation and regulations

CURRENT SET-UP OF THE ENERGY MARKET FACILITATION



- Customer has insufficient insight into its data and its use by third parties
- New parties are insufficiently facilitated
- Regulatory changes too long/complex
- Slow and not transparent decision-making about process and IT changes
- Parties do not always get access to necessary data and/or the quality is inadequate
- Lack of performance requirements of network operators and other parties
- Insufficient agreements on quality and timeliness of processes and data

FUNCTIONING OF THE CURRENT RESPONSIBLE ENTITY



- Not all market roles (especially "new roles") can participate in current governance
- Memberships have disproportionate representation of the various roles
- Veto rights and lack of dispute resolution prevent effective decision making



...with the goal of facilitating all parties independently, efficiently and transparently....



Centricity of the connected entity

The connected entity gives individual consent to all 'eligible parties' (without a legal task) who want to use its data



Collective

Grid operators are jointly responsible for optimal and independent market facilitation (policy and implementation)



Current roles and tasks

Regulatory tasks of the grid operators and the roles of the various market parties are respected, and codes and sector agreements are adhered to



Decisive

Sector governance provides fast and effective decision-making processes for both rules and regulations and for process and IT related changes



Independent

The market facilitation operates objectively, transparently and in light of the public interest



Support base

Decisions must be adequately supported by all relevant parties, taking into account the roles, responsibilities and tasks of the parties



Accessibility

Parties are given access to data based on the same conditions. This can be based on customer consent or legal duty or another basis for processing personal data



Cost-effective/efficient

The cost-effective system ensures optimal linking of files so that data is stored only once at the source, is retrievable 24x7, and builds on existing elements



Future-proof

In the future, the market should be facilitated to the fullest extend, both physically and digitally



Quality and service standards

Sufficient guarantees for quality of data and processes; wishes of market parties must be adequately followed up at a socially acceptable level of cost

...in unlocking new energy applications for the realization of climate targets

NON-EXHAUSTIVE



HOUSING COOPERATIVES



E-MOBILITY PROVIDERS ooo Others

Loans for green renovations

Offering of loans for green renovations where the consumption data of the home can be accessed to calculate and validate optimization potential.

Data related to the energy connection for subsidy application

Automated retrieval of data related to the energy connection from grid operators by government agencies for processing subsidy applications.

Smart charging public EV

Linking e-fleet data (departure times, charging status...) and energy prices for arbitration opportunities and optimization of charging costs.

Residential demand response for local congestion

Identification of local congestion through the reading of voltages on the digital meters and offering demand response schedules to resolve congestion in a targeted manner.

Demand side management for housing cooperatives

Optimization of the building fleet in which energy consumption (electric boilers, heat pumps, charging points) can be controlled in an aggregated way to provide flexibility services and reduce peak consumption.

Remote energy audits based on actual usage data

Monitoring and analysing energy data from company buildings in order to perform energy audits and support companies in the transition to Net Zero of their facilities.

Specialized EV supplier

Offer integrated EV services for (battery) leasing, (predictive) maintenance and optimal charging (for both user and grid) at any location and based on insights into the user's charging profile.

Facilitation of energy communities

Unlock and optimize (virtual) energy communities through peer-to-peer trading of PV production, sharing of charging stations and local battery capacity



Non-exhaustive

EXAMPLE: smart charging e-mobility

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Unlocking new application areas

BALANCING PORTFOLIOS BY BRPs

The electricity market is a free market where the role of the Balance Responsible Party is to ensure balance of supply and demand. Financial incentives are in place to ensure that this is done as optimally as possible. Smart charging can be used for this balancing and the financial incentives from this market design ensure that market players can develop successful revenue models for smart charging.

OPTIONAL USE OF VARIABLE ENERGY PRICES

The price of electricity varies throughout the day. Smart charging can help make electric driving cheaper for consumers by charging EVs at the best possible price. Various market players such as Charge Point Operators (CPOs), car manufacturers and energy suppliers can develop new products and services around this.

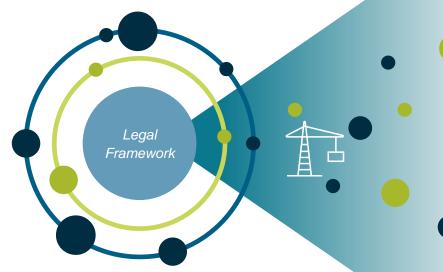
LESS CONGESTION ON THE LOW AND MEDIUM VOLTAGE GRID

Congestion occurs when there is more demand or supply of electricity at a certain location than the capacity of the network can handle. The network is then running up against its limits. Smart charging can have a dampening effect on this. If supply is high, EVs can charge at maximum capacity. If demand is high, EV charging can be shifted to less busy moments. If supply and demand are well matched, fewer grid upgrades will be needed.



EXAMPLE: building management

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Unlocking new application areas

Non-exhaustive

BALANCING PORTFOLIOS BY BRPS

Demand management of the large consumers in homes/commercial buildings such as heat pumps, air conditioning, thermostat/heating... can be bundled and used to support balancing activities. Through the financial incentives from the market design, interesting revenue models can be realized, and the end users can save on their energy bill.

360° VIEW OF THE CONDITIONS OF THE HOUSE FOR MAINTENANCE & RENOVATIONS* ▶



Integrating the Energy Data Exchange Framework for energy data and the "Digital Stelsel Gebouwde Omgeving" (Digital System for the Built Environment) will make it possible to gain insight into the use of domestic appliances (such as heat pumps, electric/gas boilers, etc.) based on the actual electricity & gas consumption and the voltage quality measured on the smart meters in the home. For example, too high a voltage (which can be the result of large amounts of injected PV energy) results in faster wear of electronic devices. This connection allows for predictive maintenance to be scheduled, thus minimizing defects and maintaining a high level of living comfort, making buildings and their installations last longer and waste less energy.

BUILDING EFFICIENCY ANALYSIS*

To achieve the CO2 reduction targets set in the Climate Agreement, buildings must become substantially more energy-efficient. To implement this improvement in energy efficiency as effectively as possible in practice, the availability of energy consumption and building data (with the consent of the connected party) is a prerequisite. In this way, these insights can be used to identify buildings with great renovation potential and to draw up value analyses (cost/benefit) for submission to the building owners.

*Source: Projecten Digitaal Stelsel Gebouwde Omgeving



The EDEF was created to make data exchange future-proof...

With the creation of EDEF we are realizing two important changes:



We add the new data sharing processes to the existing (sector agreements concerning) exchange of data for the market processes (switching, allocating, balancing, etc.). We will only look at how these can be adjusted, where this has an impact on the existing market processes. An important part of this is the proper and efficient way to obtain permission from the end user. We make the (use of) given consents transparent for the end user



We are creating an **open, transparent forum** in which all relevant stakeholders for the energy system- and data processes can **discuss and agree** on proposals for improvements in the **functioning of the energy market**.



Key aspects of this approach must be **safeguarded in legislation**. A regular check-in is therefore performed with the development of the new energy law (incl. involvement of the Ministry of Economic Affairs and climate).

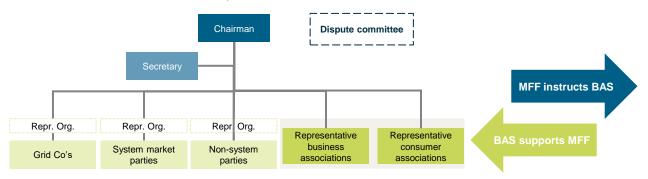


...with MFF and BAS as enablers to facilitate the Dutch energy market and new players...

Marktfaciliteringsforum (MFF)

Legal format: association

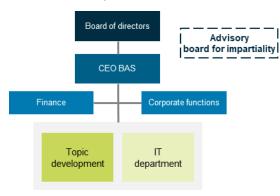
The **open**, **independent**, **decisive** and binding **consultation and decision-making platform** for all issues related to the exchange of data used in regulated energy
processes



Administrator Energy Data Exchange Framework (BAS)

Legal format: Limited liability company (Ltd.)

The entity that manages the Agreements for the exchange of data used in regulated energy processes in accordance with the decisions taken in the MFF, and that coordinates and facilitates the implementation of the decisions taken in the MFF



Activities of the MFF

- Establishment and management of a consultation forum
- Facilitate discussions and documentation of market needs and visions
- Facilitation of decision-making
- Provision of escalation mechanisms
- Mandate to BAS for detailed execution

Activities of BAS

- Management of the market Agreements as established by MFF
- Support in the facilitation of the MFF
- · Coordination of the implementation of decisions in the MFF
- Develop and manage a centralised consent layer



... in the market-wide rollout of future energy use cases...



Infographic
Topic Development

As an organization, you have a **use case** (around data sharing or system processes), that you want to see worked out and activated with all the market players involved.



Once a member, you can put the **use case on the agenda** of the MFF.



Upon approval, a **Topic Manager** is assigned to the use case who **prepares a plan of action (PoA).**



The full **elaboration is monitored** for quality and timeliness by the Operational Portfolio Manager (OPM) and the operational coordination meeting.



A vote will be taken on whether or not to further develop this use case.

To accomplish this, you will become a member of the Market

Facilitation Forum (MFF).



This PoA is **approved within the MFF** after which a further **elaboration** is performed, and a possible **implementation** can start.

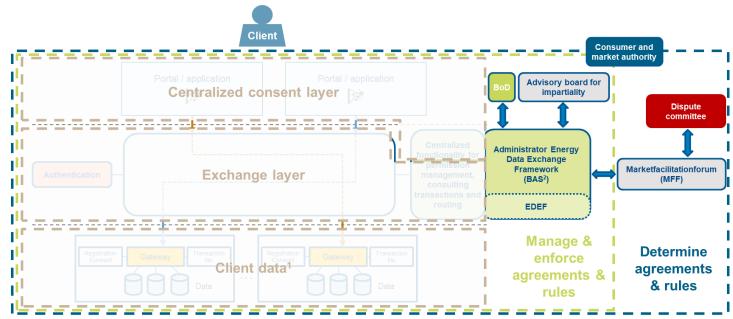


Assurance of lawful treatment can be obtained through committees provided for that purpose such as the Dispute committee and the Advisory board for impartiality.



... and in setting up a centralized exchange layer that enables the access to energy data

BAS is responsible for the development of the centralized consent layer. This consent layer manages the permissions between data owners and service providers regarding the exchanges of energy data.



1) This can strictly include other data: 2) In draft version of F-I aw also referred to as Data Exchange Entity (GUE)

BASIC USE CASES:

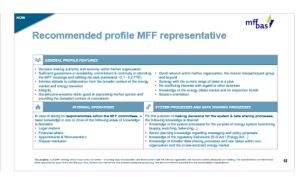
- Granting of consent by the customer to a third party for:
 - One-time retrieval of his data
 - Repeated retrieval of his data
- 2 Request for customer data by a third party.
- 3 Transparent management by the customer of the authorizations granted by him (viewing, modification or termination).



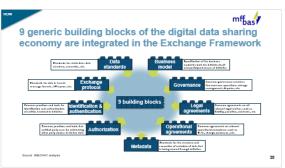
Further details

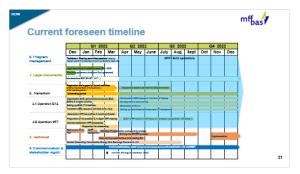










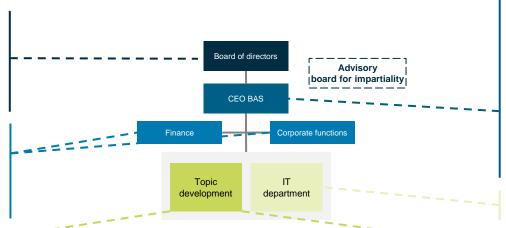






BAS organization

- Ensuring the independence of BAS through reactive intervention
- Advising the BAS Management Board on matters laid down in the Articles of Association
- Establishing changes to BAS Articles of Association
- Facilitate decision making regarding internal operation of BAS
- · Supporting BAS Director and topic managers
- Provide and coordinate legal support where needed

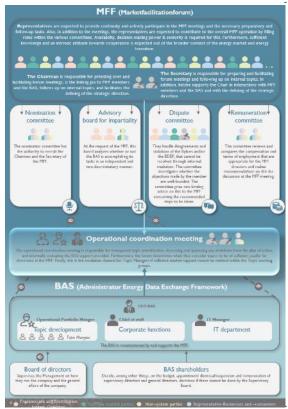


- Managing daily operation BAS
- Final responsibility for budget and resource deployment BAS
- · HR responsibility employees BAS
- Managing BAS bylaws
- Reporting to Board of Directors and MFF (in accordance with processes)
- Act as linking pin with MFF
- Facilitate the MFF
- Providing the centralized exchange layer

Defining the centralized exchange layer Continue to execute ongoing System processes and incorporate new changes Preparing for the transition to the new Energy Act Launching the first data-sharing initiatives Development of topics with ad hoc working groups, at the request of MFF Proactively identify points for improvement for the market and present them as topic proposals to MFF Reporting progress of the development Defining the centralized exchange layer Nanaging the new Energy Act Managing the Energy Data Exchange Framework Coordinating sector releases Recognize/certify and on-board new parties to the system



MFF organization



Infographic MFF organizational structure

Representatives are expected to provide continuity and actively participate in the MFF meetings and the necessary preparatory and follow-up tasks. Also, in addition to the meetings, the representatives are expected to contribute to the overall MFF operation by filling roles within the various committees. Availability, decision-making power & seniority is required for this. Furthermore, sufficient knowledge and an intrinsic attitude towards cooperation is expected out of the broader context of the energy market and energy transition.



The Chairman is responsible for presiding over and facilitating forum meetings, is the linking pin to MFF members and the BAS, follows up on internal topics, and facilitates the defining of the strategic direction.



The Secretary is responsible for preparing and facilitating forum meetings and following up on internal topics. In addition, he/she supports the Chair in interactions with MFF members and the BAS and with the defining of the strategic direction.

▼ Nomination committee



The nomination committee has the authority to recruit the Chairman and the Secretary of the MFF.

Advisory board for impartiality



At the request of the MFF, this board analyzes whether or not the BAS is accomplishing its tasks in an independent and non-discriminatory manner.





They handle disagreements and violations of the Bylaws and/or the EDEF, that cannot be resolved through informal mediation. The committee investigates whether the objections made by the member are well-founded. The committee gives non-binding advice on this to the MFF concerning the recommended steps to be taken.

▼Remuneration committee



This committee reviews and compares the compensation and terms of employment that are appropriate for the MFF directors and makes recommendations on this for discussion at the MFF meeting.











The operational coordination meeting is responsible for transparent topic prioritization, discussing and approving any deviations from the plan of action, and informally evaluating the BAS support provided. Furthermore, the forum determines when they consider topics to be of sufficient quality for discussion in the MFF. Finally, this is the escalation channel for Topic Managers if sufficient market support cannot be realized within the Topic working



Recommended profile MFF representative



GENERAL PROFILE FEATURES

- Decision-making authority and seniority within his/her organization
- Sufficient guarantees of availability, commitment & continuity in attending the MFF meetings and fulfilling the task (estimated ~0.1 - 0.2 FTE)
- Intrinsic attitude to collaboration from the broader context of the energy market and energy transition
- Integrity
- Social/communicative skills: good at expressing his/her opinion and providing the (broader) context of motivations

- Good network within his/her organization, the market role/participant group and beyond
- Synergy with the current range of tasks is a plus
- No conflicting interests with regard to other activities
- Knowledge of the energy (data) market and its respective trends
- Solution orientation



INTERNAL OPERATIONS



SYSTEM PROCESSES AND DATA SHARING PROCESSES

In view of taking on **responsibilities within the MFF committees**, a basic knowledge in one or more of the following areas of knowledge is desirable:

- Legal matters
- Financial affairs
- · Appointments & Remuneration
- Dispute resolution

For the purpose of **making decisions for the system & data sharing processes**, the following knowledge is desired:

- Knowledge in the system processes for the purpose of energy system functioning (supply, switching, balancing...)
- Sector planning knowledge regarding messaging and policy proposals
- Knowledge of the regulatory framework (E-G Act / Energy Act...)
- Knowledge of broader data sharing processes and use cases within own organization and the (cross-sectoral) energy market

^{*}Assumption: one MFF meeting of four hours every six weeks + 4 working days of preparation and follow-up time with the internal organization and involved market participants per meeting. The expected time commitment will rather approach the upper limit in the first year. Also, the time commitment will vary between participant groups (e.g. less time commitment expected from the representative organizations).



Energy Data Exchange booklet: overview



Content

Section A: Introduction

- 1. This document
- 2. About the Energy Data Exchange Framework
 - Mission and Vision
 - 2. Scope & Realization
 - Relationship with the Energy Act and 15. Process flows Minsterial Regulation
 - 4. Stakeholder Landscape
 - Setup of the ecosystem
 - 1. Data sharing
 - 2. System processes
 - 6. Value proposition for the sector
 - 7. Relationship to existing agreements & 21. Data Quality processes in the energy sector
 - 8. Relationship to existing systems in the 22. Fraud management energy sector
 - 9. Guiding Principles

Section B: Legal and administrative frameworks

- Statutory and legal framework
- 4. Administrator Energy Data Exchange Framework (BAS)
- Admission and certification processes
- 6. Liability
- 7. Escalation procedures

Section C: Financial agreements

- 8. Funding of the Framework
- 9. Financing of the data

Section D: Functional agreements

- 10. Available services based on Energy Data Exchange Framework
- 11. Functional components
- 12. Roles within the Energy Data Exchange Framework
- 13. Authorization levels
- 14. Reliability levels
- 16. User experience requirements

Section E: Technical Agreements

- 17. Participant registration
- 18. Messaging protocols / APIs
- 19. Error Messages
- 20. Information Security & Privacy

Section F: Operational agreements

- 23. Compensation mechanisms
- 24. Information management
- 25. Change management process
- 26. Complaints and Disputes
- 27. Incident Management
- 28. Quality management, SLAs & KPIs

Appendix A: Classification of existing market

facilitation processes

Appendix B: Technical Specification Appendix C: Detailed processes for

authorization

Appendix D: Use cases

Appendix E: Future use cases

Principles



Data Owner central

The DATA RIGHT-HOLDER has control over and insight into the use of their own



Accessibility

Parties are granted access to regulated energy data on equal terms based on consent of the CONNECTED ENTITY or a legal duty or other basis for processing in the case of personal data.



Cost-effective

PARTICIPANTS will have access to regulated energy data in a cost-effective manner, where 'cost-effective' must be weighed across all stakeholders. The social cost-benefit analysis (SCBA) will guide the consideration of whether the whole is cost-effective or not.



Future-proof

The system will be set up and technologically designed in such a way that it can easily accommodate future developments (changing laws and regulations, joining of new PARTICIPANTS, market developments, etc.) so that in the future PARTICIPANTS are maximally digitally facilitated.



Reliability

The Energy Data Exchange Framework shall be designed in such a way that the CONNECTED ENTITY and PARTICIPANTS can trust each other in a resilient and secure exchange of data.

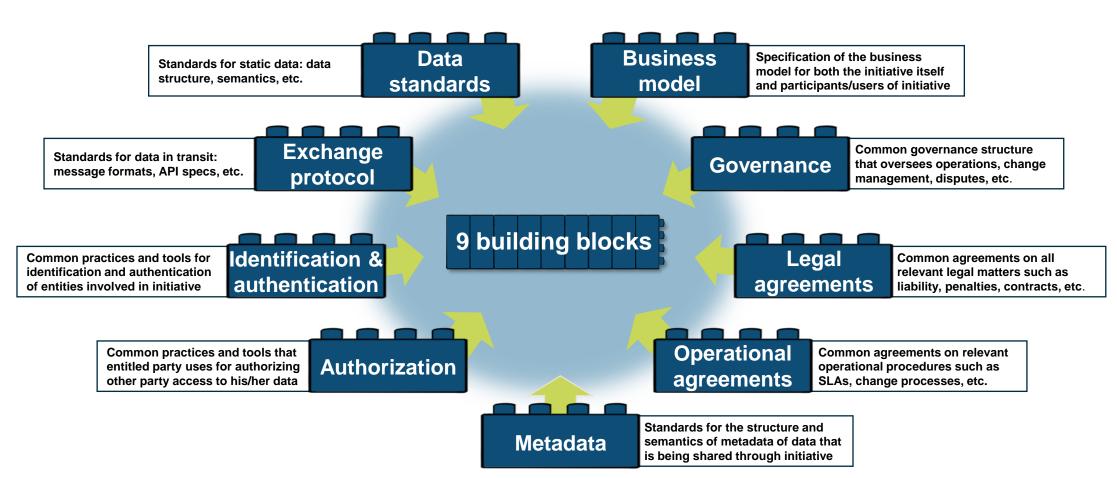


Interoperable

Interoperability is the ability of organizations (and their processes and systems) to effectively and efficiently share information with their environment. For the system. this means interoperability with other systems (within the energy sector and between other sectors, both national and international).



9 generic building blocks of the digital data sharing economy are integrated in the Exchange Framework



Source: INNOPAY analysis



Current foreseen timeline

