

EU's InterConnect Project: Blockchain P2P Energy Marketplaces

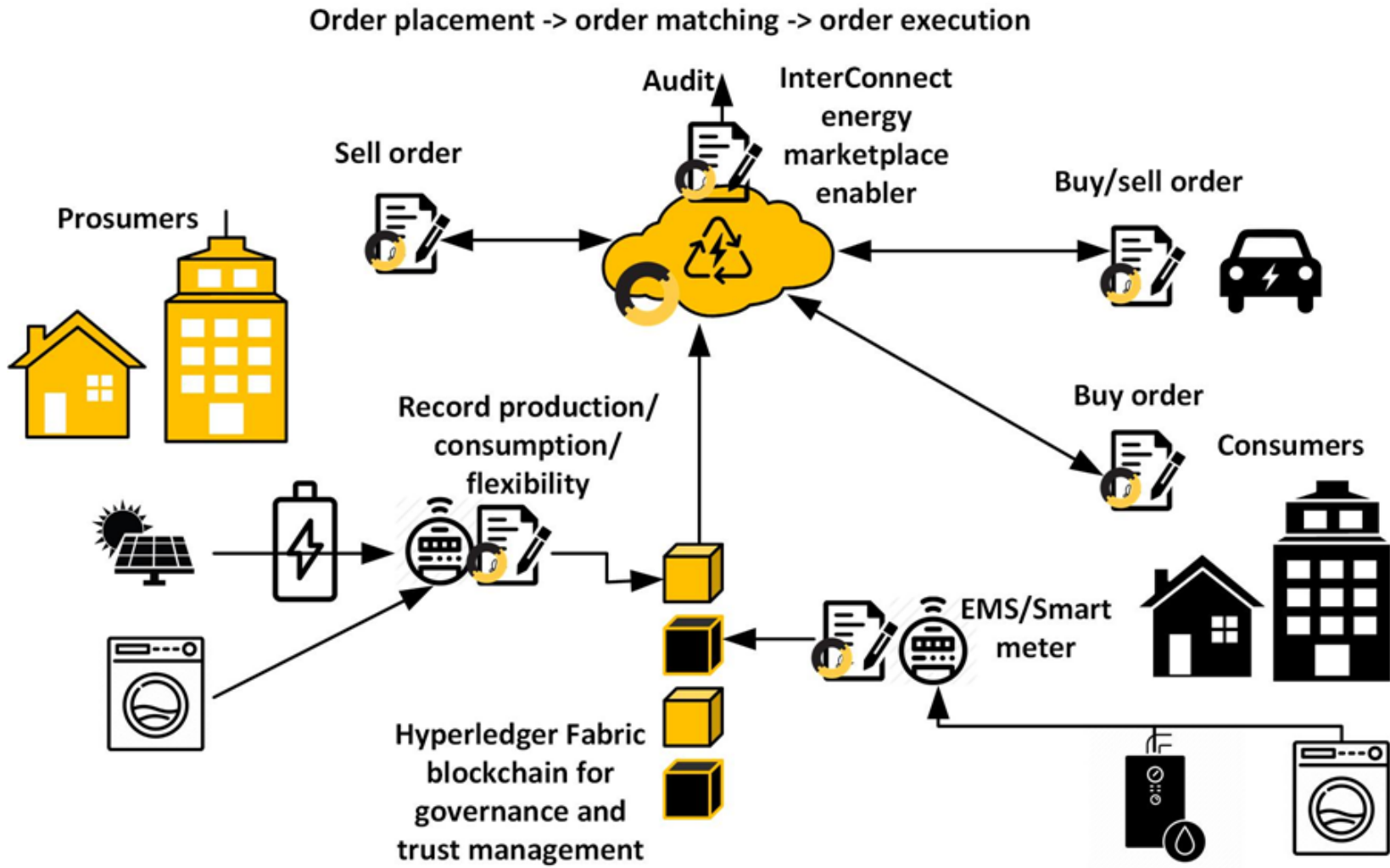
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InterConnect P2P Marketplace Concept



Legal Interoperability

Challenge(s)

Marketplaces are collections of smart contract templates, which facilitate transactions envisioned and supported by a particular marketplace. There are seven pilots envisaged to be implemented in Portugal, Belgium, Germany, the Netherlands, Italy, Greece and France.

Possible Solution(s)

- Defining trusted data and identity sources and their locations (including DLT oracles) for smart contract validation and execution ensures that marketplaces can be fully managed and regulated in line with local legislations within which energy community is established.
- The trusted data and identity sources in each pilot should necessarily comply with national regulation and legislation.
- The blockchain solutions should be GDPR-compliant by applying privacy by design principles (Kondova and Erbguth, 2020).
- Trust related aspects not only to be determined in detail, but also assessed in terms of their capabilities to be adaptive to possible changes.
- Adoption of an agreed-upon vocabulary.
- Adoption of a data model used to exchange data (through a common data export format) among existing information systems and to integrate data that comes from disparate data sources.

Governance Interoperability

Challenge(s)

Project's strategy is to build consortium blockchains for each energy P2P trading community with a joint strategy for entering the wider energy market. Alternative option under consideration is the setting of a single mother blockchain network.

Possible Solution(s)

- The governance model and consensus mechanisms should be defined for each community/use case/pilot.
- Inter-chain dispute resolution mechanisms, inter-chain incident management, inter-chain know your customer requirements, and inter-chain accountability and liability issues are facilitated through the clearly defined trusted data and identity sources and data exchange models in the project as well as through agreements

Technical Interoperability

Challenge(s)

The blockchain layer will employ mechanisms for automated compliance tests for semantic interoperability and security/data protection framework. Successful compliance tests will generate unique certificate of interoperability which will be integrated with a service store and a resource/system broker to confirm compliance with the InterConnect interoperability framework.

Possible Solution(s)

- Semantic interoperability of smart contracts.
- Interoperability through shared consensus mechanisms and identity management between communities and project pilots.
- Use of unique identifiers to accommodate individuals, legal entities, 'things' and processes.
- Use of a standardized data model and standardized transactional and event data languages.

Thank you!

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Use Case Sources:

InterConnect Project: [https://interconnectproject.eu/wp-content/uploads/2020/01/AF-Interconnect Booklet.pdf](https://interconnectproject.eu/wp-content/uploads/2020/01/AF-Interconnect_Booklet.pdf)

Coelho, Fábio. Personal Communication on InterConnect P2P Marketplaces.