

P2P flexibility marketplace and energy communities

Bright

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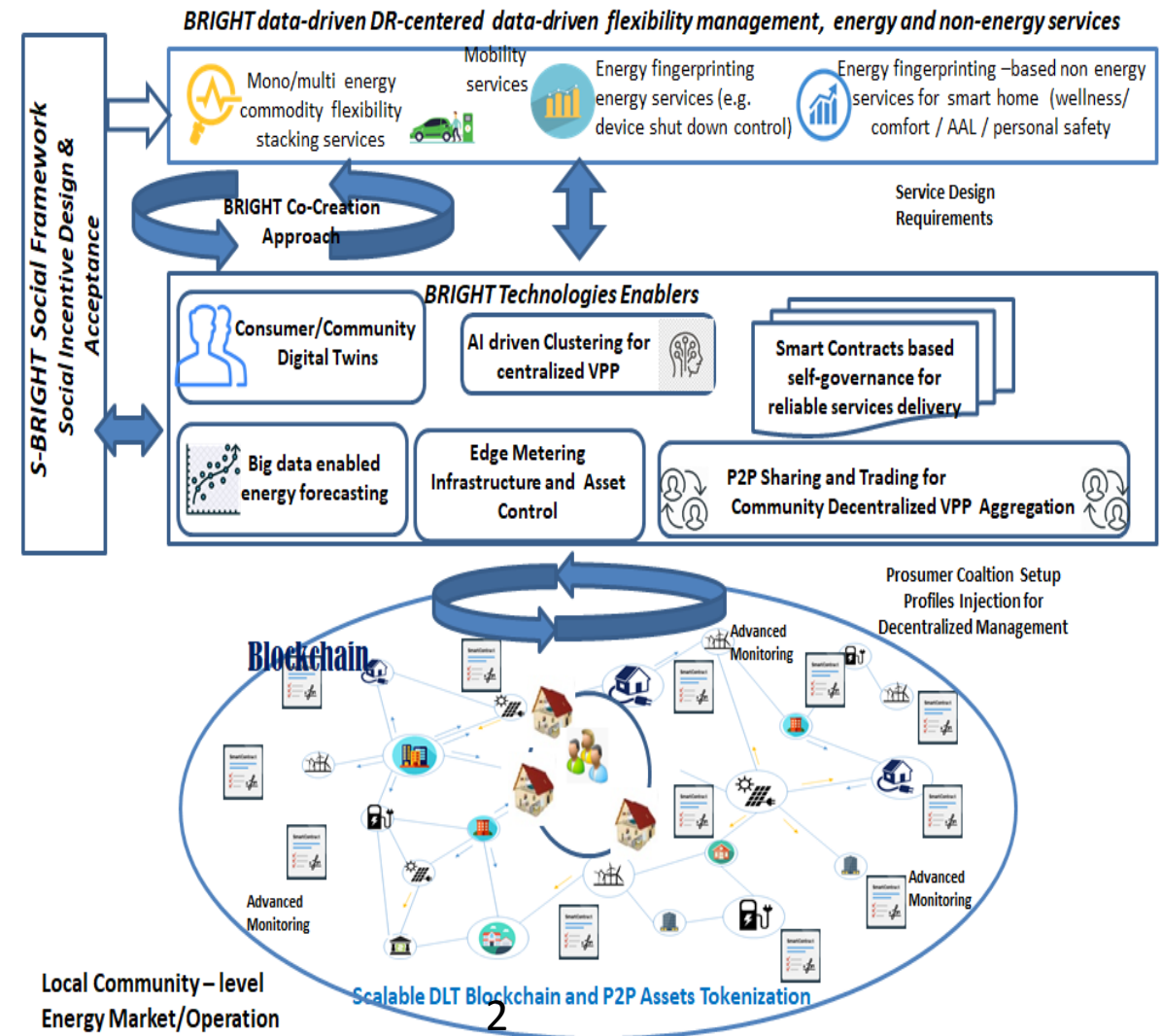


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Bright Concept for Energy Community

Innovative approach combining

- social science for understanding and community-level beyond-economic incentive;
- consumer and community DTs by integrating data-driven preferences and behaviour modelling with energy prediction;
- DLT/blockchain/smart contracts technology enablers aimed to implement P2P trading/sharing mechanisms for supporting decentralized P2P VPP;
- cross-domain value stacking service design and innovative business modelling at the interplay among different energy carriers, different energy stakeholders, different domains.



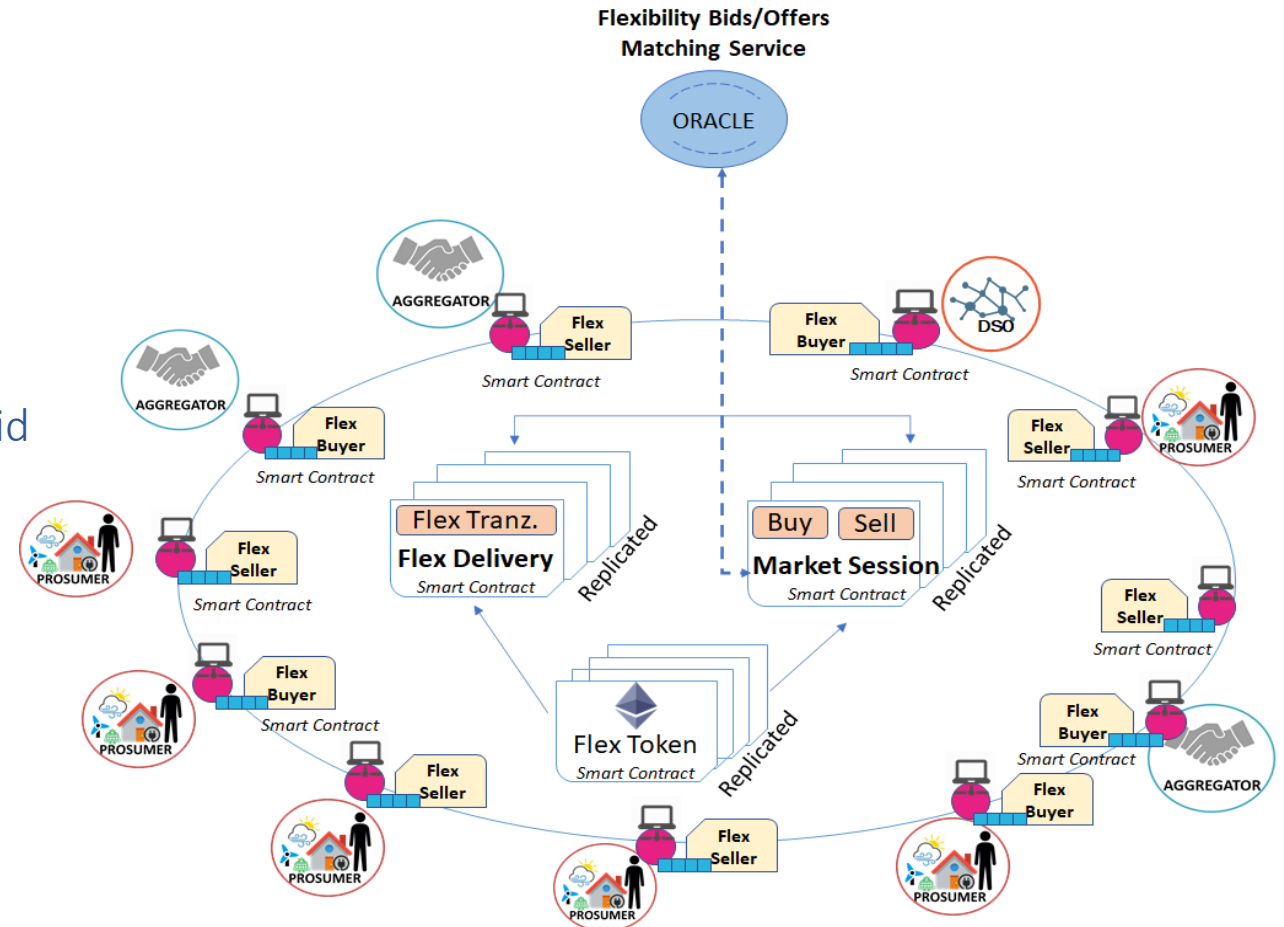
P2P Energy Flexibility Marketplace

Advantages of local energy flexibility markets

- Better monitoring energy flows,
- Motivating changes in prosumers' energy supply and demand,
- Achieving local energy balance
- Minimize the energy exchanges with the main grid

Advantages of blockchain

- provenance,
- immutability,
- peers' consensus, and
- integration self-enforcing smart contracts

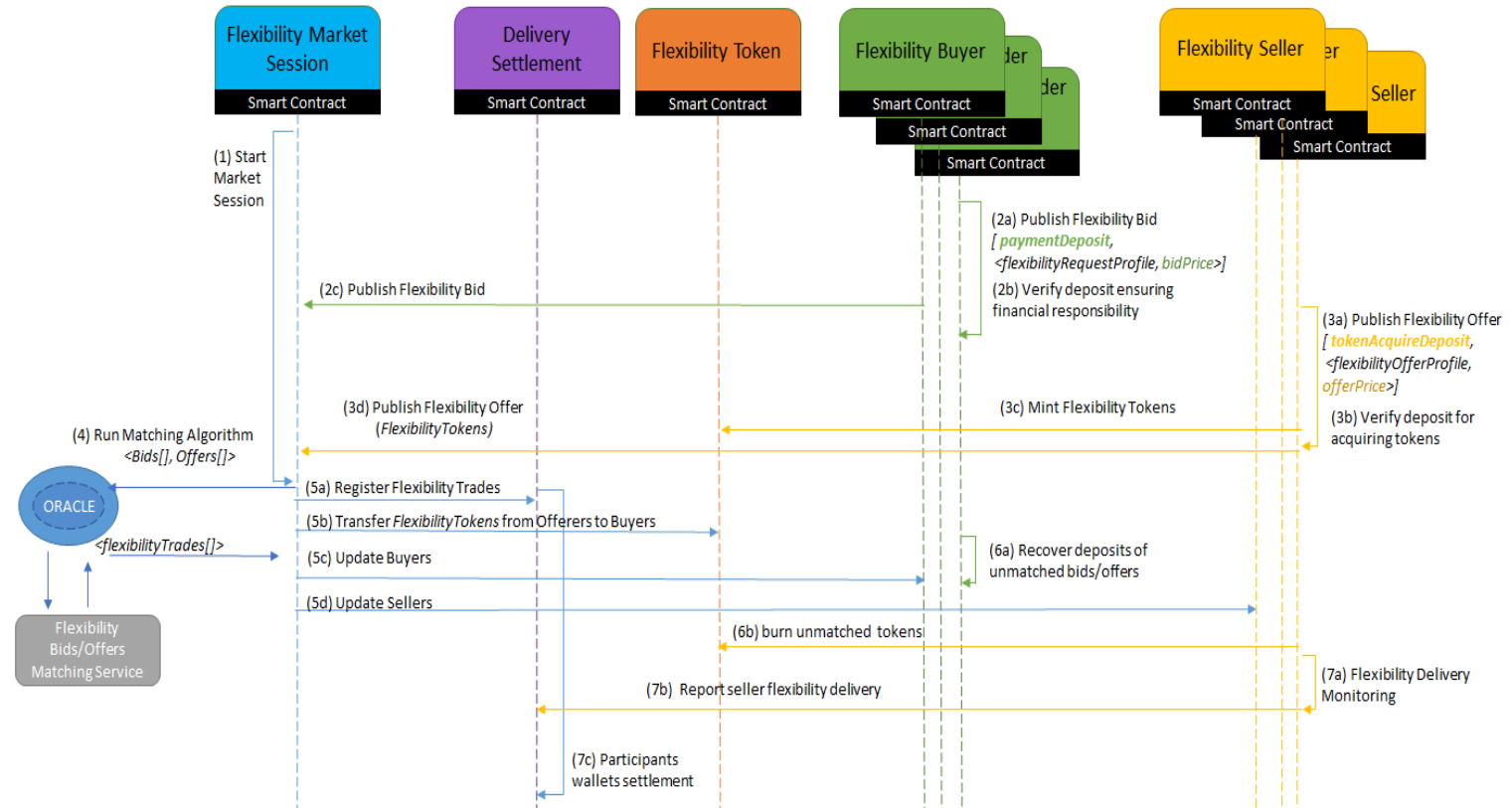
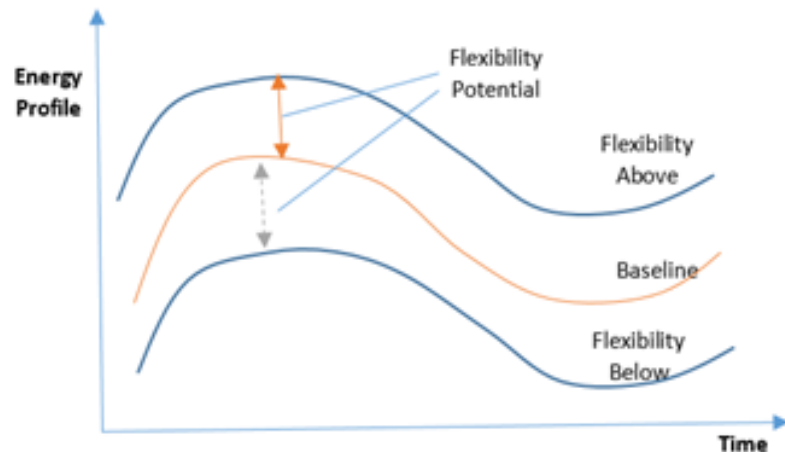


P2P Energy Flexibility Marketplace

Energy flexibility Tokenization

- Flexibility energy adaptation in relation with a baseline
- Use of NFTs for the quantification of prosumers-owned flexibility

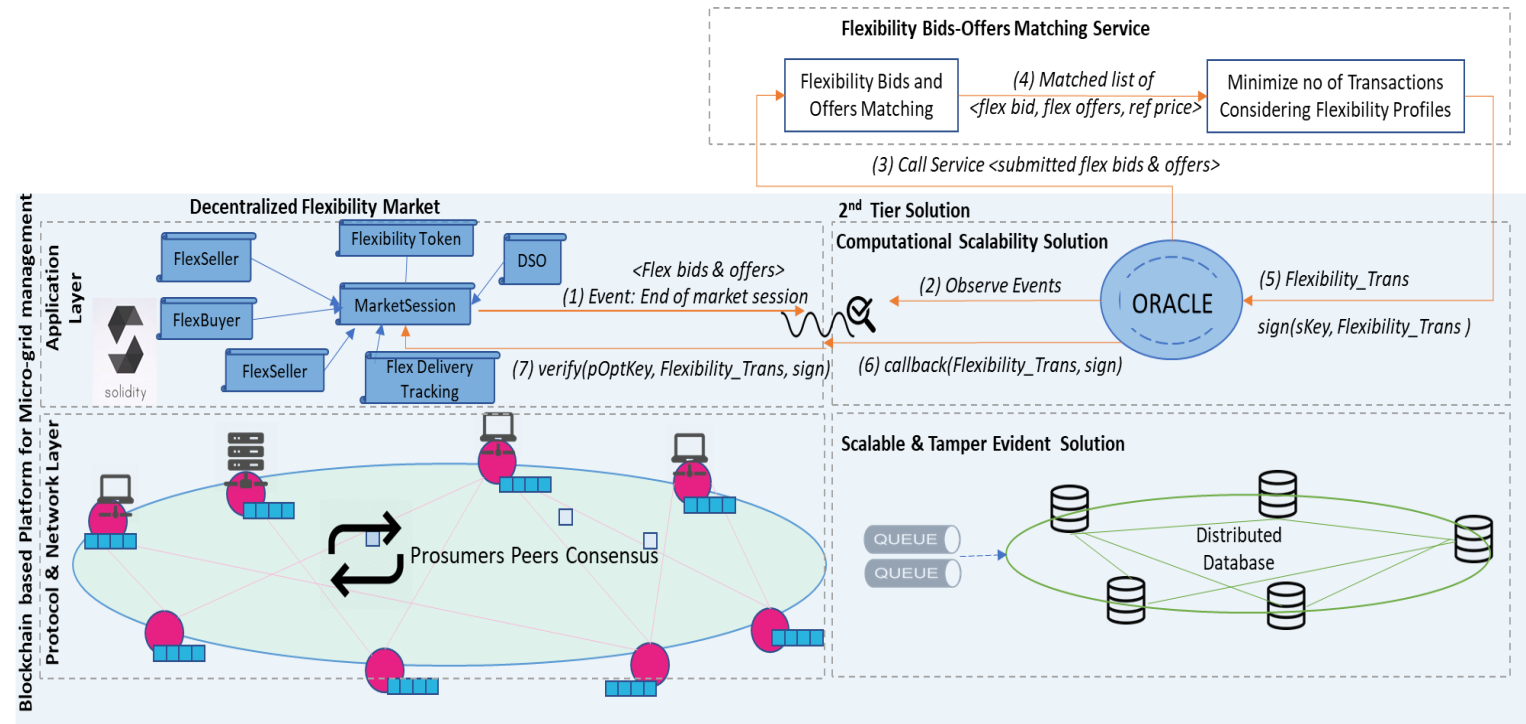
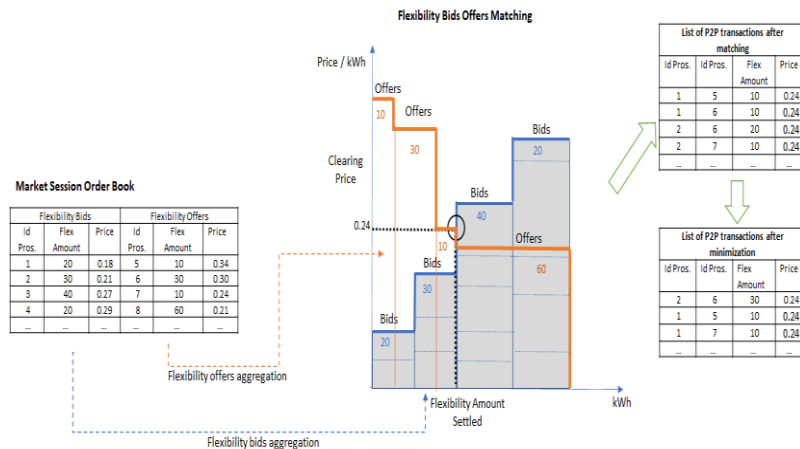
Smart Contracts for market operation



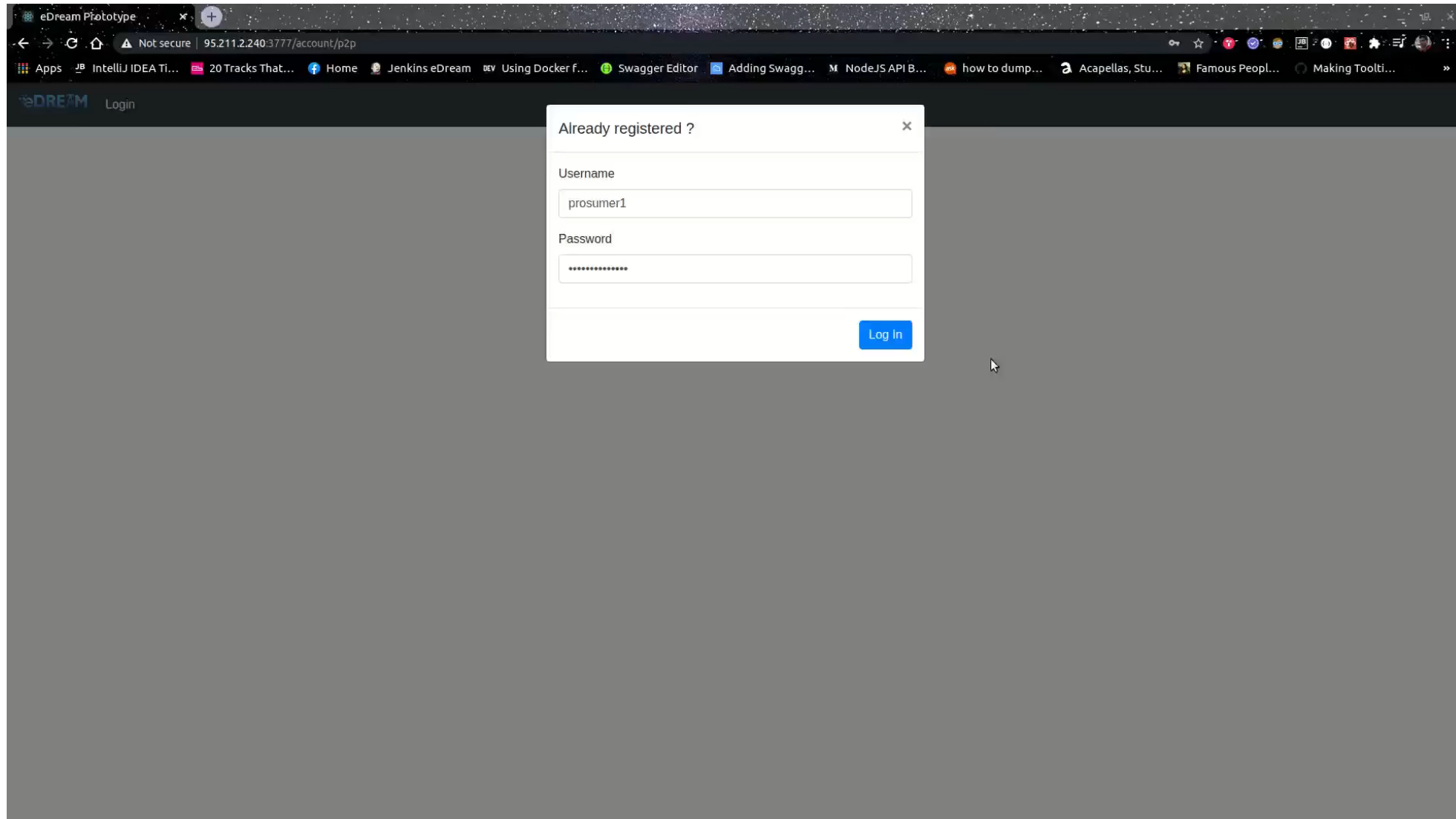
P2P Energy Flexibility Marketplace

Energy flexibility trading mechanisms

- Price driven
- Social enablers driven
 - E.g., investment in RES, batteries etc.
- Competitive model vs cooperative model



P2P Energy Flexibility Marketplace



Bright Identity Card

- **ID:** 957816/2020
- **Title:** Boosting DR through increased community-level consumer engaGement by combining Data-driven and blockcHain technology Tools with social science approaches and multi-value service design
- **Lifetime:** 01.10.2020 – 30.09.2023
- **Program:** H2020-LC-SC3-2018-2019-2020: Building A Low-carbon, Climate Resilient Future: Secure, Clean And Efficient Energy
- **Budget:**
 - 504,375 Euro (UTCN-DSRL)
 - 5,877,633 Euro (Total)

<https://www.brightproject.eu/>



Consortium

- One Large Enterprises: Engineering, leading in advanced ICT, with 10.500 employees.
- A variety of energy stakeholder, fully covering the energy value chain, including one of the largest European-wide independent aggregator (Centrica, CEN), one supplier (W+V), one DSO (ASM) as power network operator, one ESCO (DuCoop), which oversees a Local Energy Cooperative
- Industry: ISKRAEMEKO (ISKRA) as one of the largest providers of smart metering solutions in EU;
- Specialized SMEs: Emotion (EMOT), a leading-edge EVs fleet provider, ComSensus (COM), SunContract (SUN), one of the most successful European P2P DLT/Blockchain providers, CyberEthicsLab (CEL), bringing cutting-edge know how on privacy, and DOMX
- 3 leading-edge Research & Academy Institutions (TNO, TUC, IMEC)
- Association of Consumers, APC, which, as member of BEUC, the European