Data Marketplaces: Interoperability for the Internet of Things

Industry 4.0 data for federated marketplaces

Edgar Fries, Siemens AG
i3-MARKET –
The missing link between Europe's data marketplaces

Data-driven collaboration between data providers and consumers

Challenges

• Today’s data marketplaces are large closed ecosystems without support for data exchange across their boundaries.
• Provide technologies and solutions for a
  • trusted (secure, self-governing, consensus-based and auditable)
  • interoperable (semantic-driven) and
  • decentralized (scalability) infrastructure
• Sharing of sensitive personal or industrial data assets lacks high security standards for data platforms
• Lack of secure tools for incentivizing the data trading

Approach

An open-source i3-MARKET backplane with trusted and secure software tools for incentivizing data trading across various marketplaces.
i3-MARKET: Project participants

3 Universities
5 Large Industries
5 SMEs

Project Coordinator:
Vision of i3-MARKET

Three Industrial Pilots

- Automotive Sector by Atos
- Industry 4.0 by Siemens
- Wellbeing & Active and Healthy Aging by IBM

- Openness: every marketplace is allowed to participate in the federated data market
- Fairness: all participants of the ecosystem are treated equally
- Security and Privacy: data owners control with whom their data is exchanged
- Interoperability: missing standards, common APIs and shared semantic data models
- Consensus-based ruling: all stakeholders have equal voting rights and must reach consensus to extend the network, change policies, etc.
- Incentivizing: data providers are motivated to offer their data assets
- Non-centralized control: mitigates the risk that a central authority can control and dictate policies, prices, etc.
Industry 4.0: Key Elements

- Cloud computing
- Autonomous, efficient production
- Big Data
- Internet of Things
- Cybersecurity
- System Integration
Use Case: Optimization of production machines

Factory operator

Specialist for machine operation optimization
i3-MARKET offers services to marketplaces

- Data registration and discovery
- Semantic data description
- Secure data transfer
- Identity Management
- Electronic Payments
- Smart contracts
- OSS Template Marketplace
- And more…
Contact

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