

# SOFIE

## Secure and Open Federation of IoT systems

An introduction  
September 25, 2017  
Pekka Nikander, Aalto University

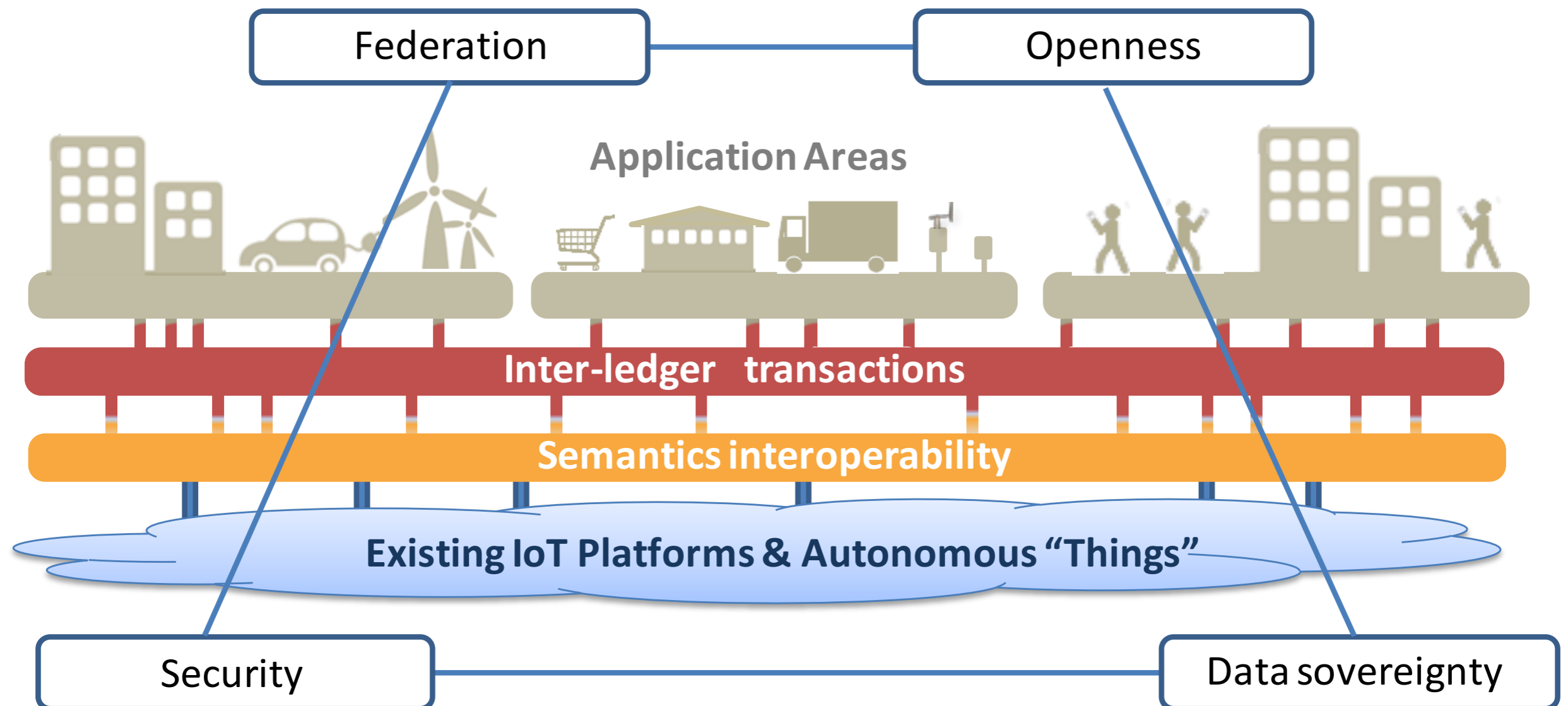
# Outline

- Introduction and goals
- Core concept
- Project partners
- Technical approach
- Field trials
- Constrained devices
- Summary

# Introduction and goals

- EU H2020 IoT-03 R&I project
- 3 years 2018–2020
- Key idea: Secure Open Federation, using DLTs
- Stated concrete objectives:
  - Define an IoT federation *architecture* and develop a corresponding *framework*
  - *Deploy and evaluate* the federation framework *in field trials*
  - Evaluate the *commercial viability*
  - Establish the IoT federation approach as *a major enabler*

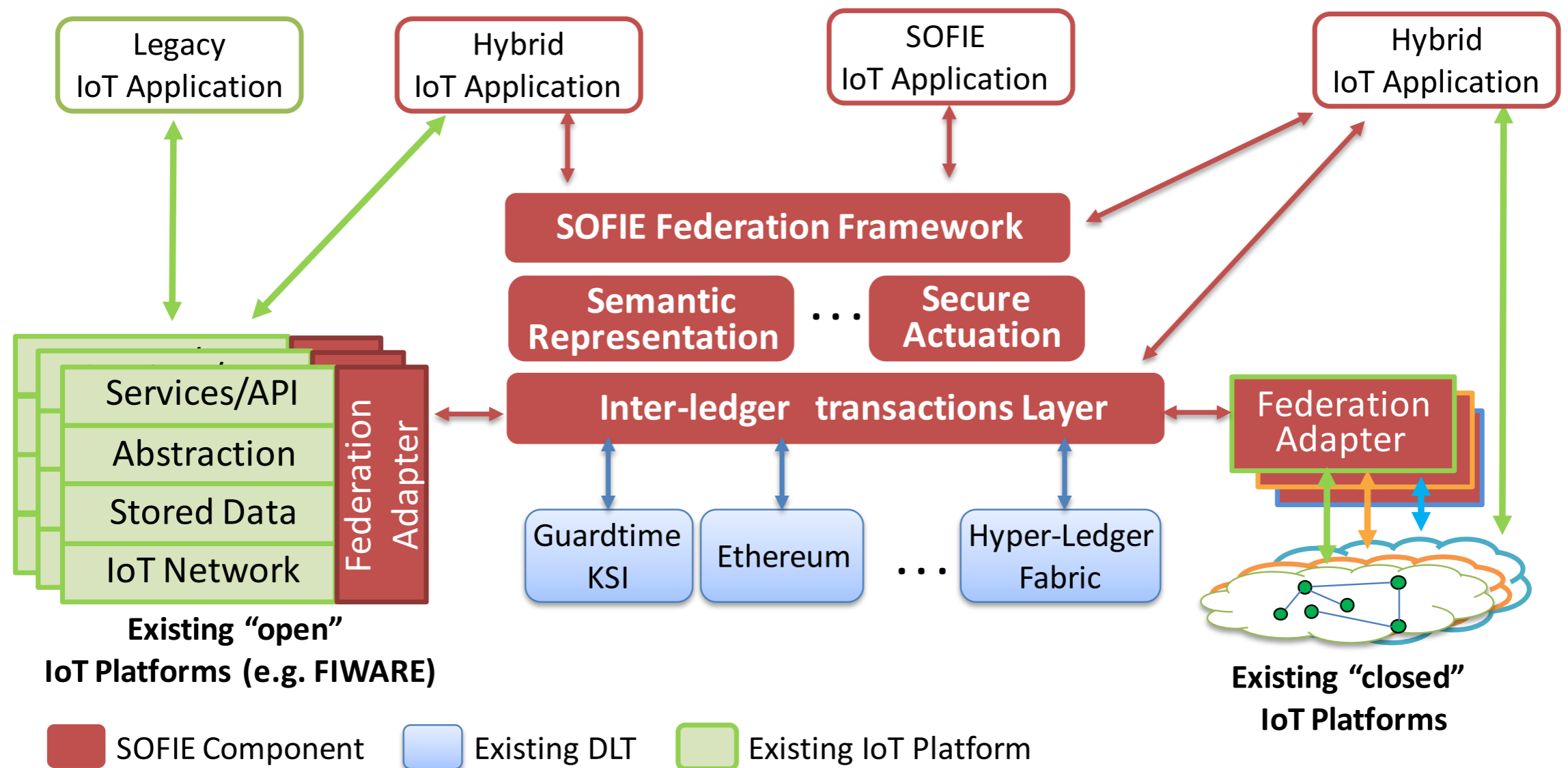
# Core concept



# Consortium

Participant	Country
Aalto University	Finland
Ericsson	Finland
Rovio	Finland
Guardtime	Estonia
AUEB	Greece
Synelixis	Greece
Optimum	Greece
Eng	Italy
Asm Terni Spa	Italy
Emotion Srl	Italy

# Technical approach



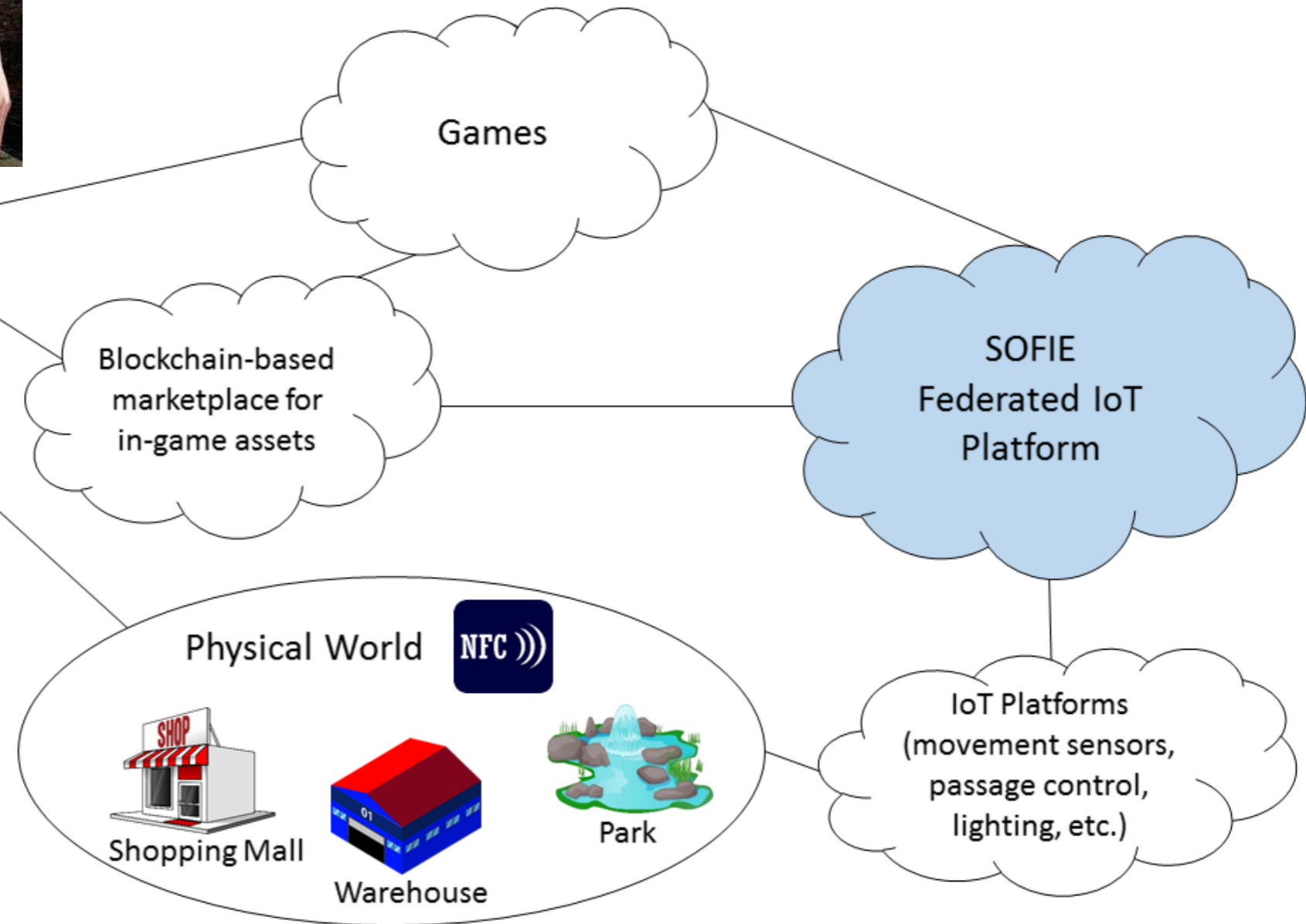
# SOFIE field trials

- Mixed reality gaming
- Energy (2 partly federated trials)
- Food chain
- **Looking for additional external users / trials**

# Mixed reality gaming

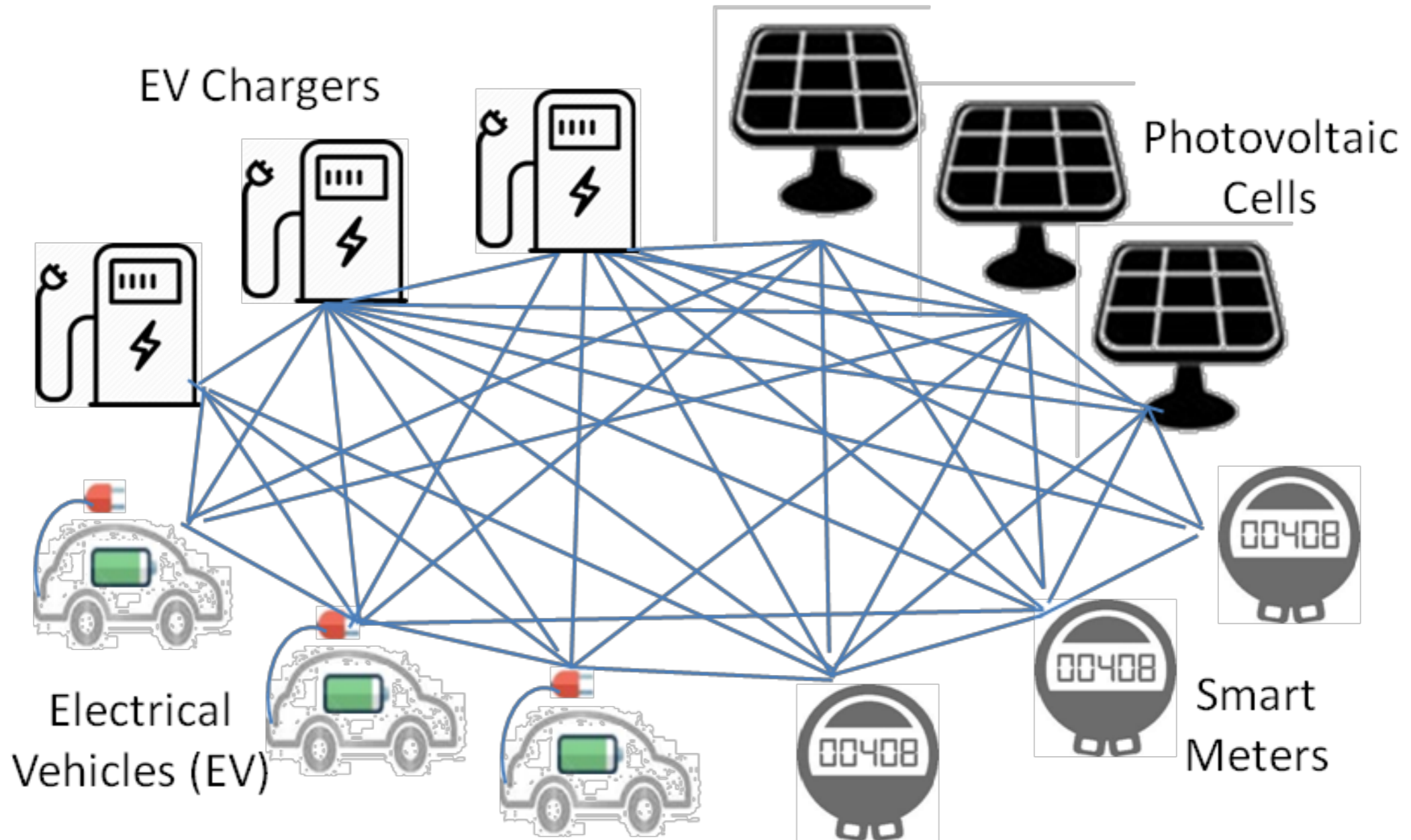


Gamers

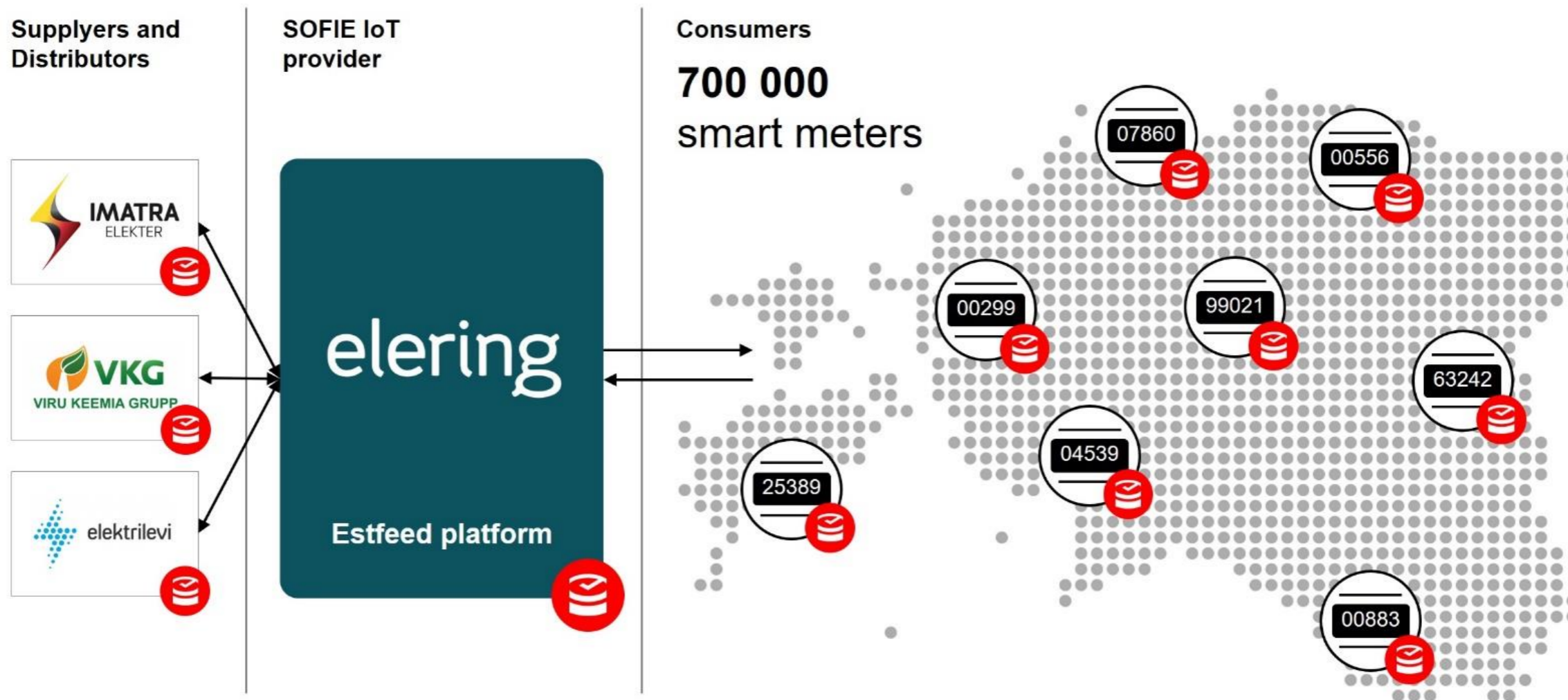




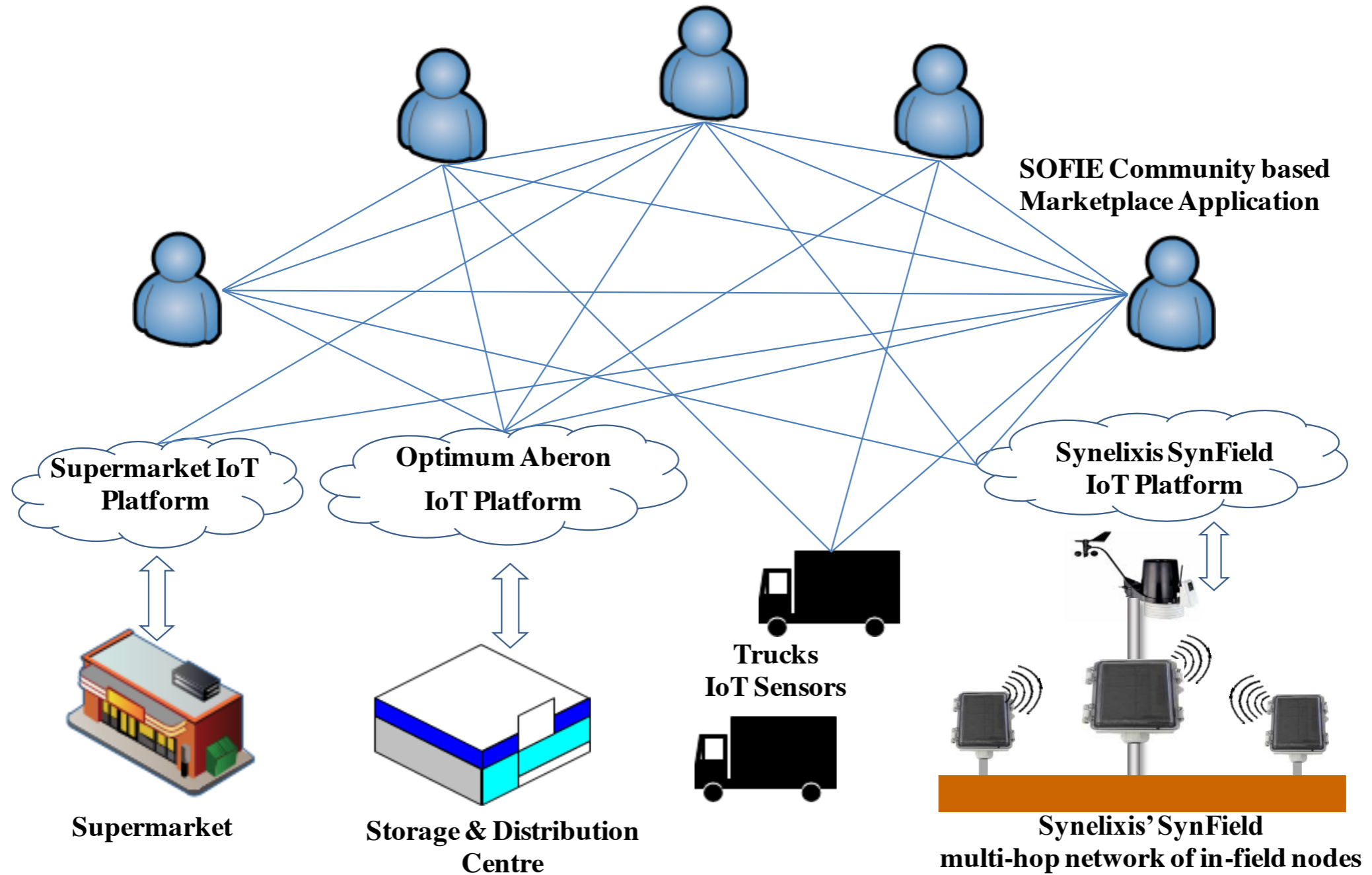
# Energy: Terni



# Energy: Estonia

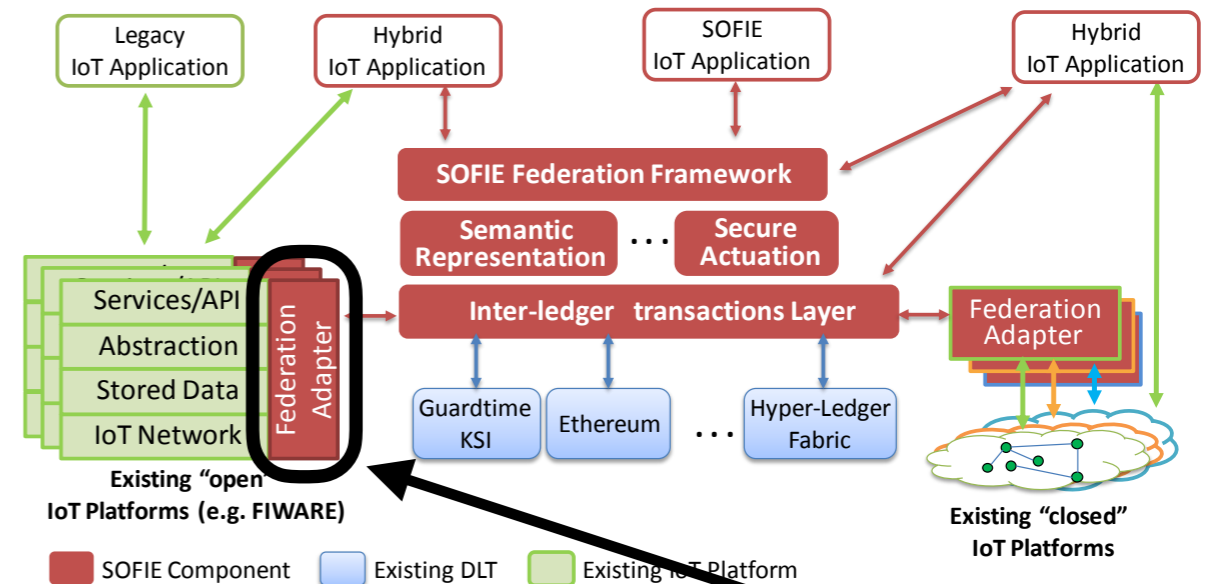


# Food chain



# Constrained devices

- Currently *not* considering constrained devices directly
- You may want to convince us otherwise 😊
- Perhaps an "open" federation adapter could address that?
- Anyone volunteers to write such an adapter? 🙏



# Reflection

- Not rocket science
  - Mostly novel integrating of existing components
- Security and privacy may be challenging
  - Especially end-to-end data security
  - Apparently lots of conflicting needs
- Need community help to get the details right

# Summary

- H2020 IoT-03 R&I, 2018–2020, 4.5 M€, 10 partners
- Secure Open Federation of IoT platforms with DLTs
- Trial areas: Gaming, Energy, Food chain
- We are looking for
  - Community feedback (e.g. to our white paper)
  - New external trials / users (from mid 2018)