



CERISE introduction

Symposium Linked Data NL
29 september 2015

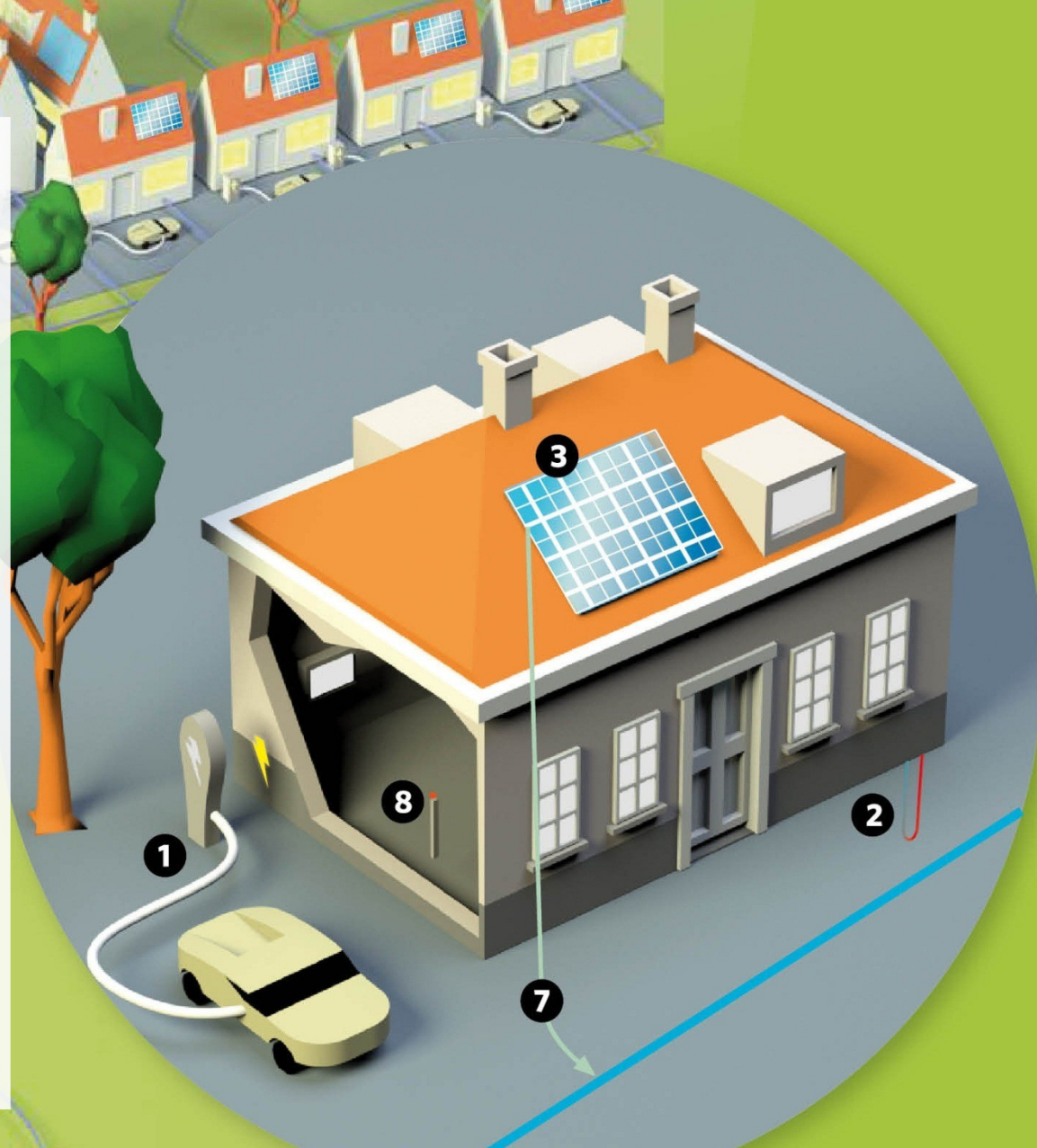
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CERISE Smart Grid project: government sponsored collaboration between academia, public services, utilities and commercial sector. *Objective:* deliver innovative methods to improve the accessibility of e-government, geo- and utility (open) data (models) for the benefit of society as a whole.

Increased dynamics at the endpoints of energy networks creates new demands for information exchange: real time demand and supply, production forecast, collective brokerage results, potential for solar production based on geography, etc...

Most stakeholders require a common (fairly limited) set of data to deliver new information products to Smart Grid stakeholders. There is a lot of (good) data available, but they're not compatible due to semantic issues



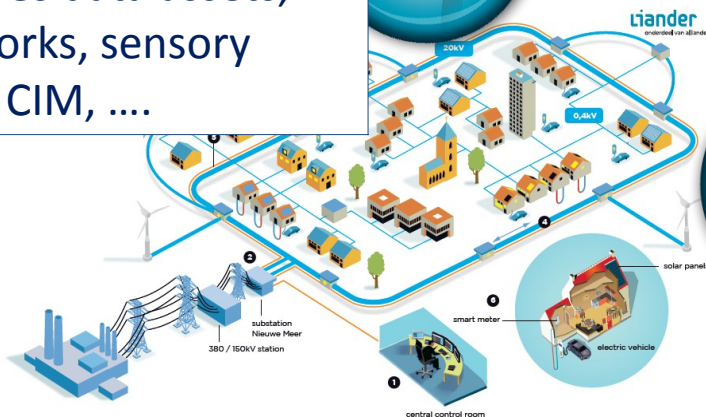
Multi-domain interoperability



E-government data sources (CBS, Trade & Commerce, Real Estate, Public Safety), ...



Utilities data assets, networks, sensory data, CIM,



Geo-data cartography, INSPIRE, WION/WIN, BAG, BGT, ...

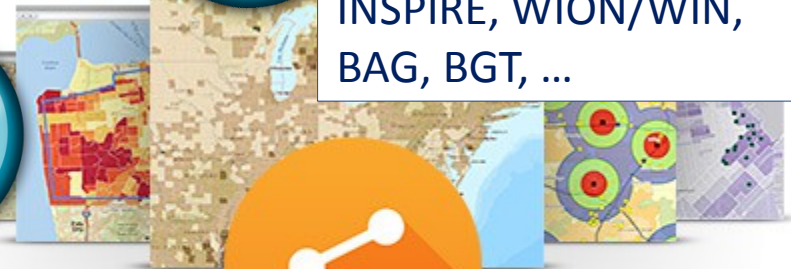


Image: © Esri

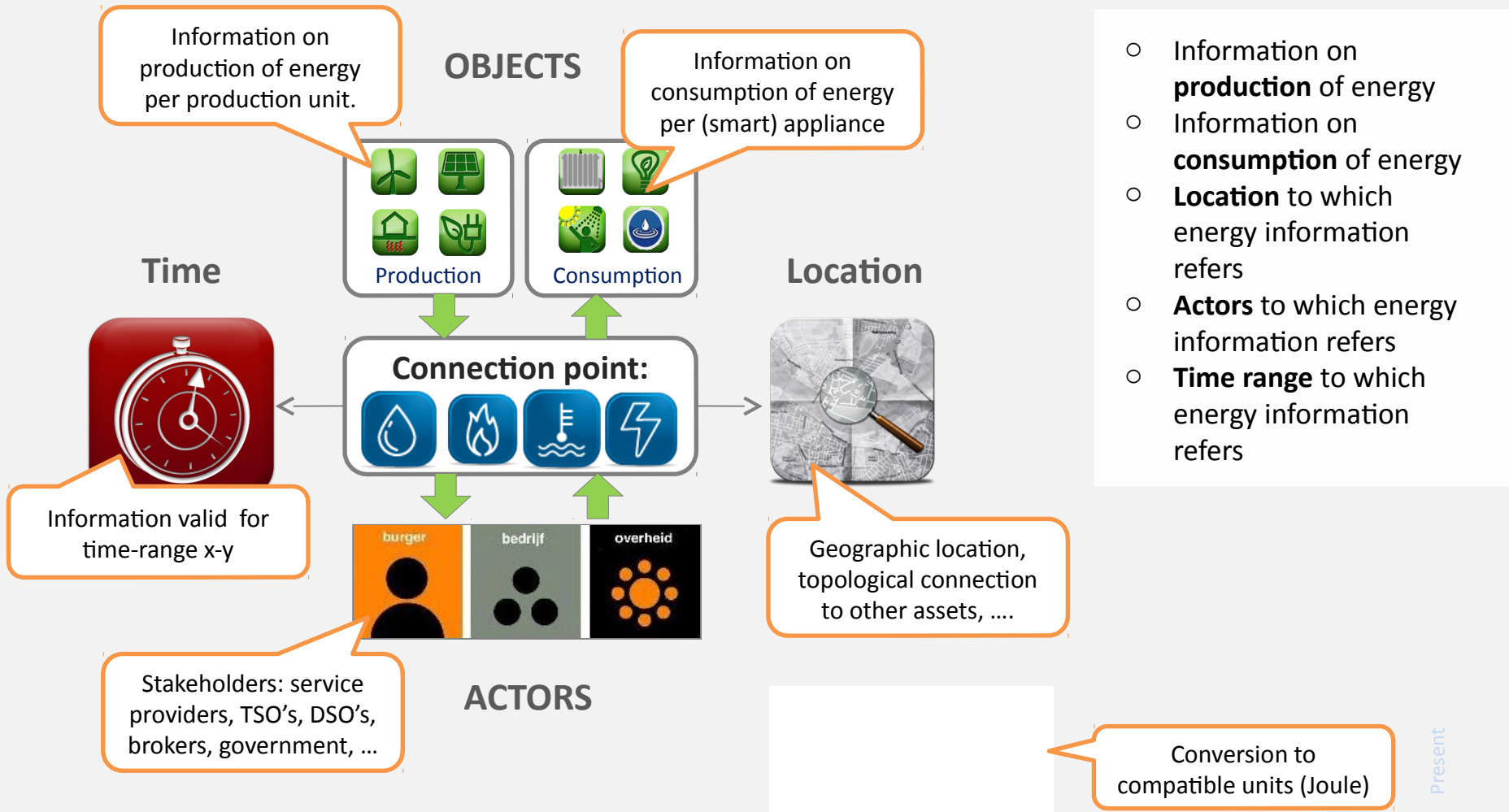
Information building blocks



Gaps in traditional information-models mostly occur at the grid-end points where traditional grid operators' responsibilities end and Smart Grid connections start. Building an information model that will cover 80% of the information needs of all stakeholders in this domain requires a model at the smallest information unit-level that can be aggregated as needed:

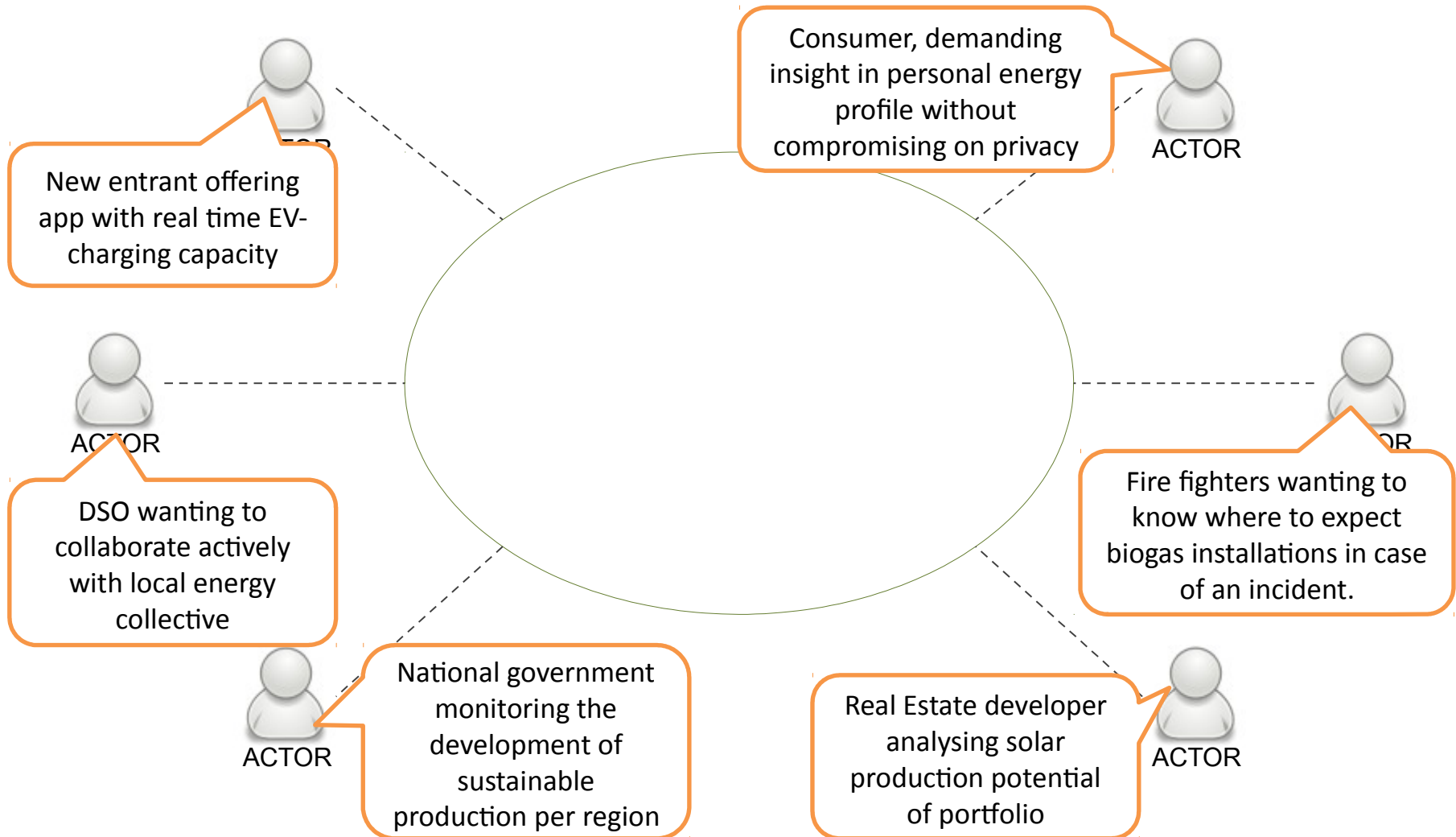
- An information model for an individual household
- A member-based cluster for an Energy Collective
- A regional cluster for municipal services
- A client-based cluster for a supplier of solar panels
- Etc.

The 'grid-endpoint' information unit

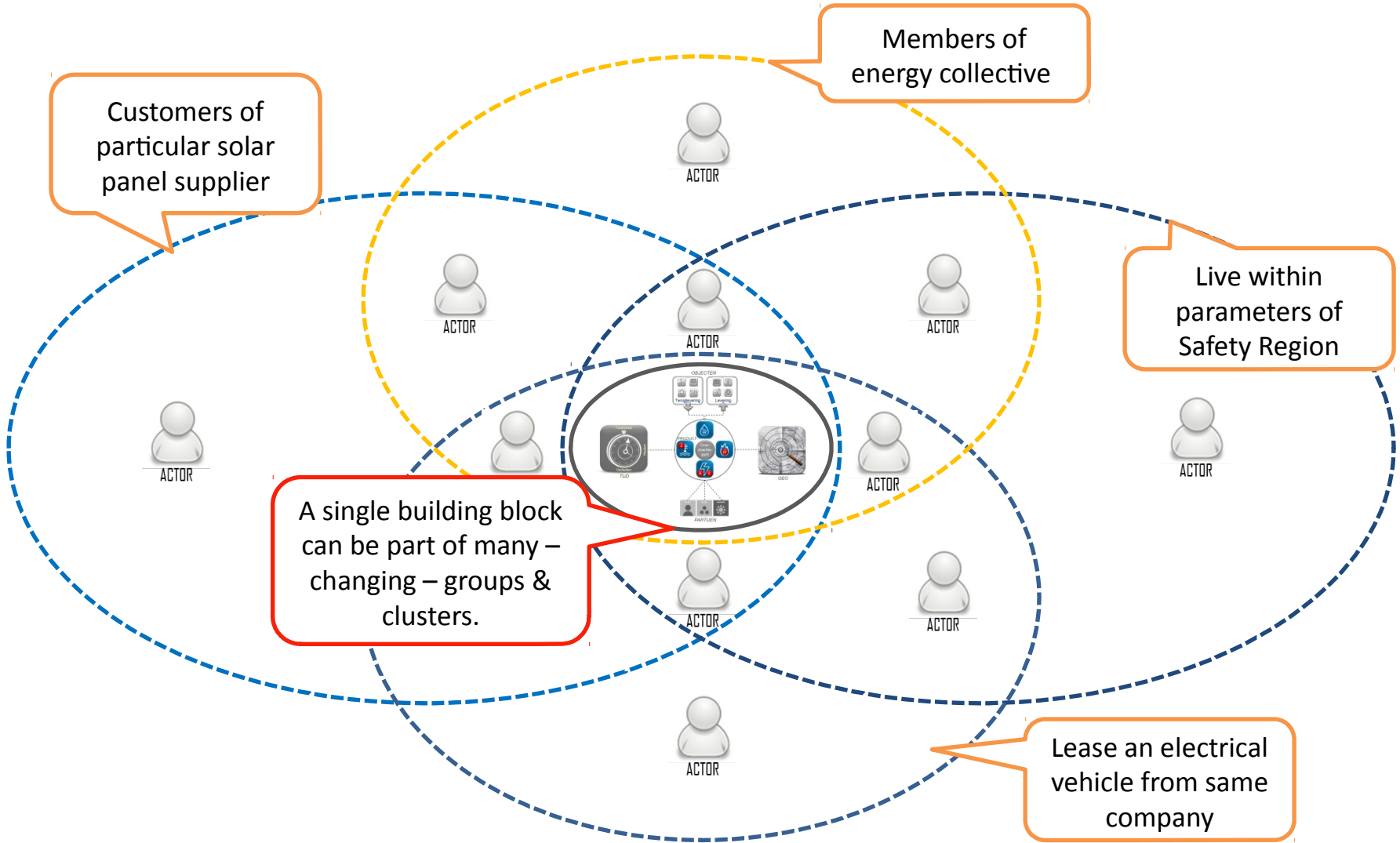


- Information on **production** of energy
- Information on **consumption** of energy
- **Location** to which energy information refers
- **Actors** to which energy information refers
- **Time range** to which energy information refers

Many different kinds of actors:



The dynamic Smart Grid Ecosystem



Information model



Linked Data exchange



- Linked Data exchange can be viewed as a flexible exchange platform of data
- It provides an easy possibility to reuse data over the internet
- It is more user oriented instead of the more 'traditional' supply oriented exchange

Informationmodel as connector



Shared Informationmodel

Energy
model

Geo model

eGov
model

Energy
data

Geo data

eGov data

5-2-2013 16:39:55

Time interval:

Energy type:

Animation:

☐ Gas consumption
☒ Elec consumption
☐ Elec return

Dashboard 5-2-2013 16:39:55 temperature: 2 sun Q: 19

2 deg

1-2-2013 00:00:00

☒ Sun 19.29
☒ Temp (right axis) 1.94

☒ Sun ☐ Temp (right axis)

2.76

Temp.

-0.00

CERISE achievements



- Shown that with Linked Data it is possible to query data from different domains in different languages
- Linked Data does not require every party to talk the same language
- MKBA to show value of reuse of data
- Shown that Linked Data can provide better information in crisis management situations (and in the preparation phase)

Thank you!

