eandis

altijd in uw buurt

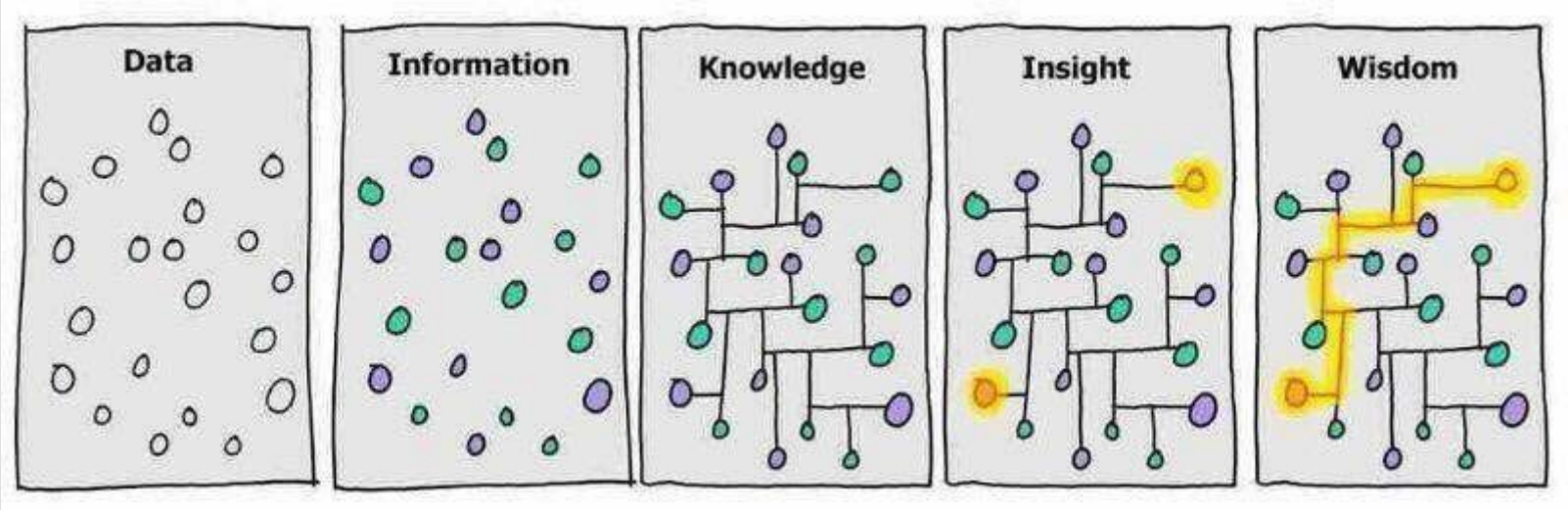
From Data to Information
(benefits for the energy transition)

Decoster Luc (Eandis)

CEDEC – 18/10/2016

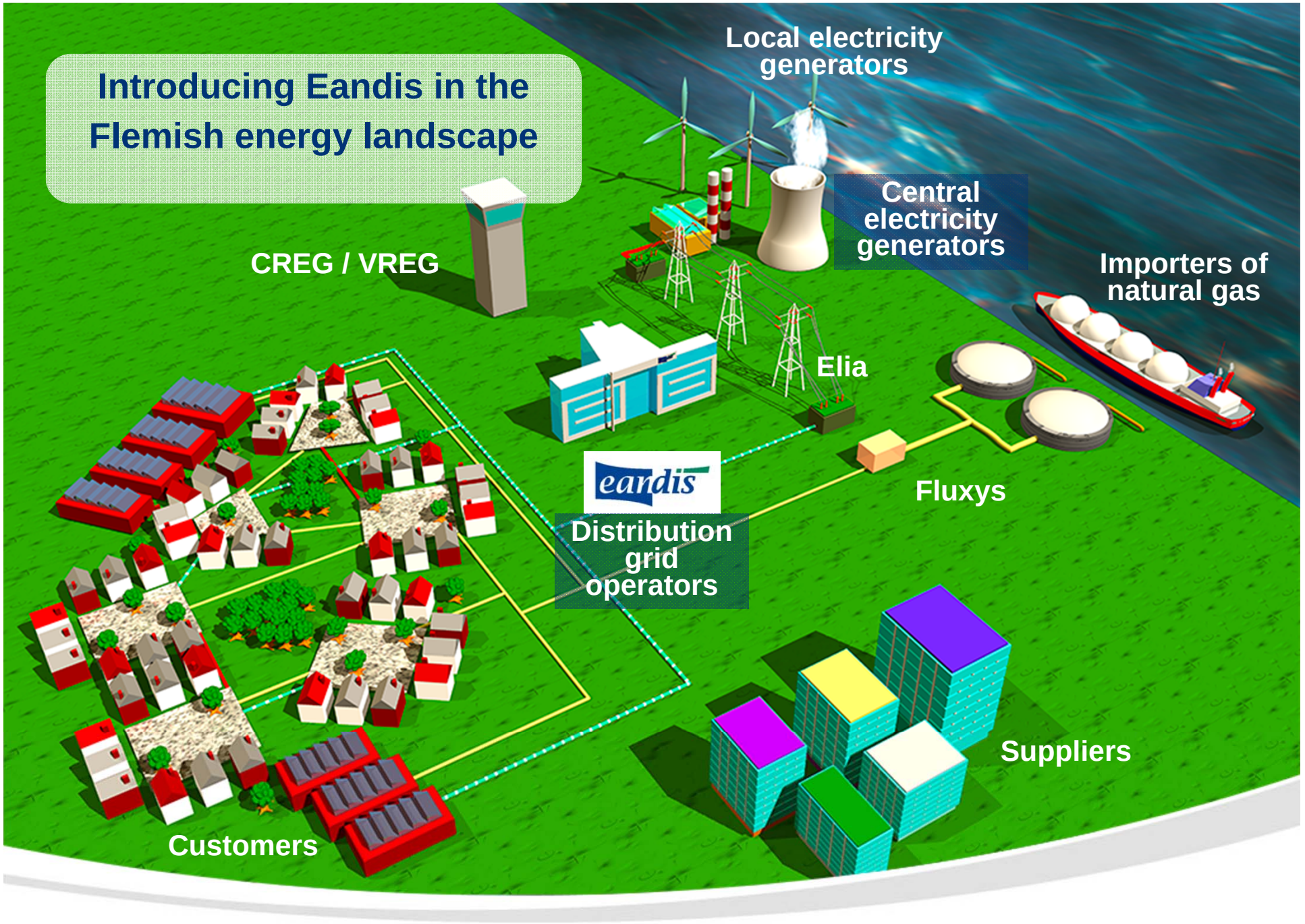
eandis

From data to information to wisdom



"Knowledge is knowing that a tomato is a fruit, wisdom is not putting it in a fruit salad."

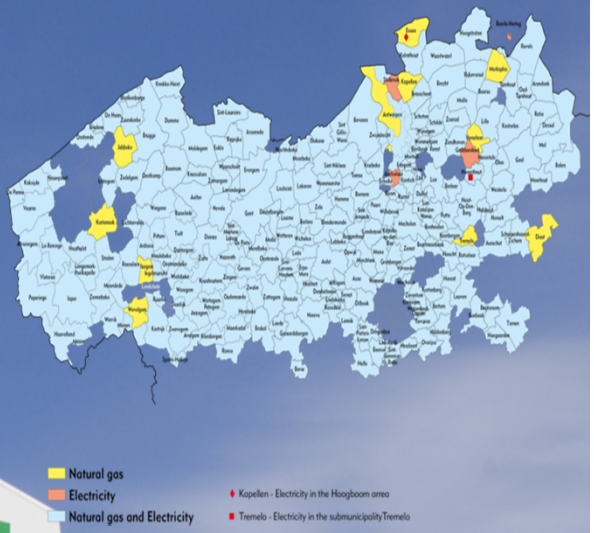
Miles Kington


Introducing Eandis in the Flemish energy landscape
Local electricity generators
Central electricity generators
CREG / VREG
Importers of natural gas
Elia
eandis
Distribution grid operators
Fluxys
Suppliers
Customers

Some key figures

4 041
employees

Active in 229 towns / municipalities



97 312 km
electricity network (twice around the world)
- 2,6 million connections
- 60 655 social supplier customers

42 598 km
natural gas network (once around the world)
- 1,7 million connections
- 47 138 social supplier customers

845 250
street lights

customer contact

Website: visitors/month (upward)
260 086

Call centre: calls/month (downward)
108 310

25 customer offices: visitors/month (downward)
13 712

Energy market in evolution

- **Regulatory framework**
  - European climate objectives
  - Changing energy mix
  - New players in changing market model

- **Technological evolution**
  - Decentralised and intermittent generation
  - New technologies (Storage, EV, ..)
  - Managing balance demand - supply

- **Data (R)evolution**
  - Introducing smart metering
  - Transferring raw data to information
  - Big / open data Data platforms - IoT

Technical and Market data: synergies?

Technical data

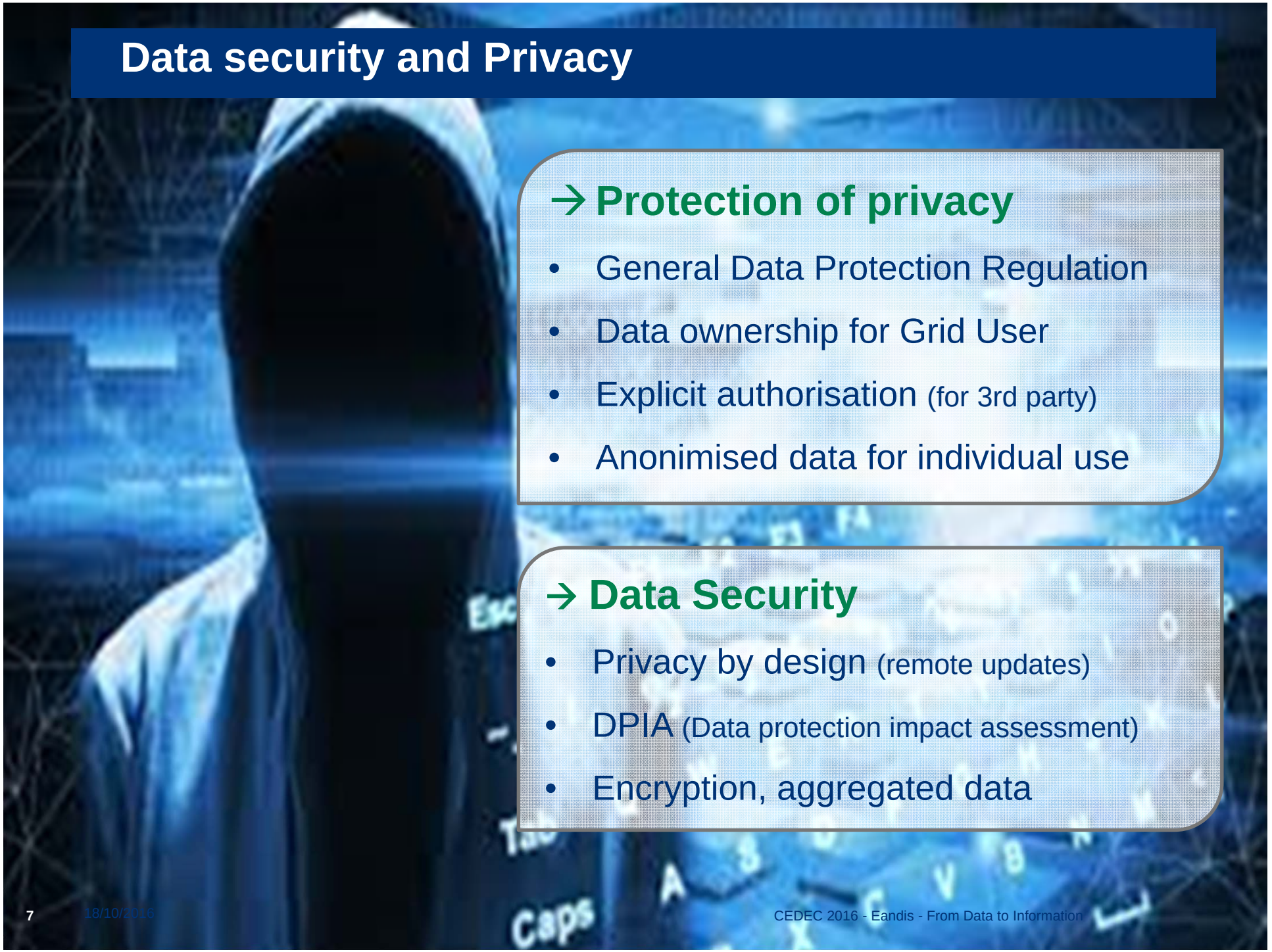
- From sensors and meters in the distribution grid
- Master data, **Raw meter data**, V, A, etc.
- Grid optimisation operational and security purposes

Market data

- In the federal clearing house (CMS of the DSO)
- Relational data and **Consumption data for energy and services**
- Metering, settlement and billing purposes (market value)

No commercial use of technical data by the DSO

Data security and Privacy



→ Protection of privacy

- General Data Protection Regulation
- Data ownership for Grid User
- Explicit authorisation (for 3rd party)
- Anonimised data for individual use

→ Data Security

- Privacy by design (remote updates)
- DPIA (Data protection impact assessment)
- Encryption, aggregated data

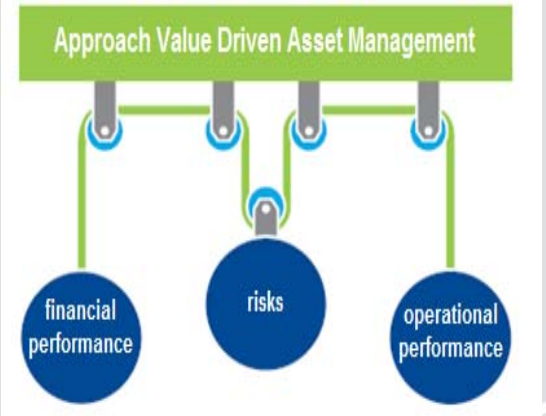
Data analytics and asset management

→ Data (technical) analytics

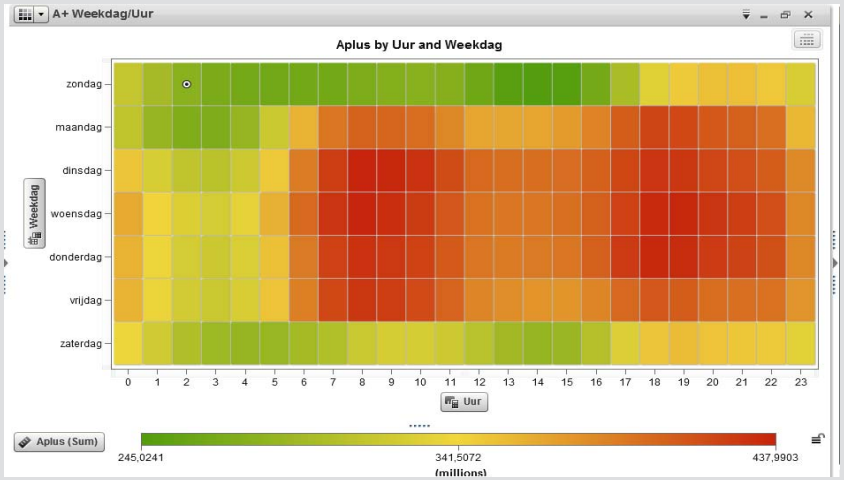
- Transforming data to information
- Predictive models
- Step forward to active net management

→ Asset management

- Transforming information to knowledge
- Life cycle approach (risk, performance, cost)
- Creating value and innovation



Some examples data analytics



All data

Profiling transformer station

- ±300 measured points in substations
- Adding ± 3.500 injection points (MV)
- 6 values every 15 minutes
- 1 year
- → +- 800.000.000 values

Industrial customers

Residential customers

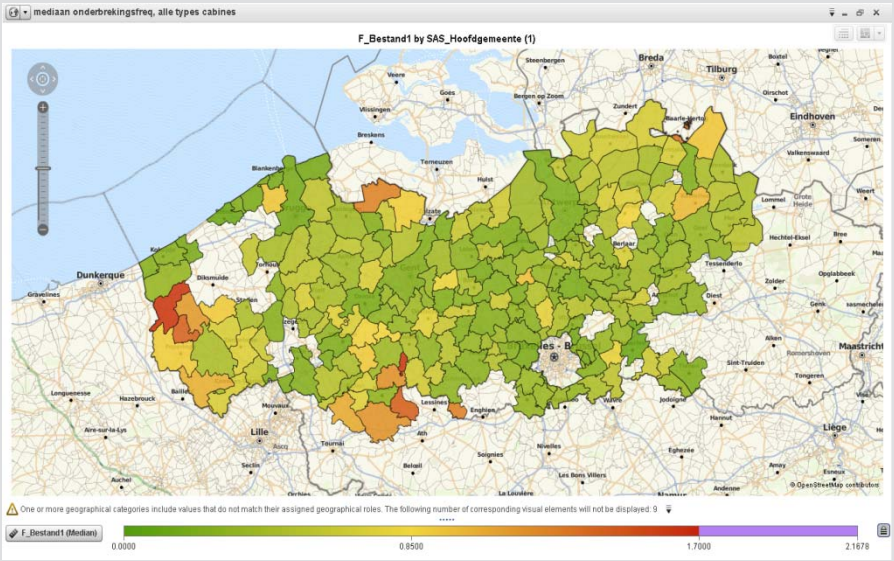
Some examples asset management

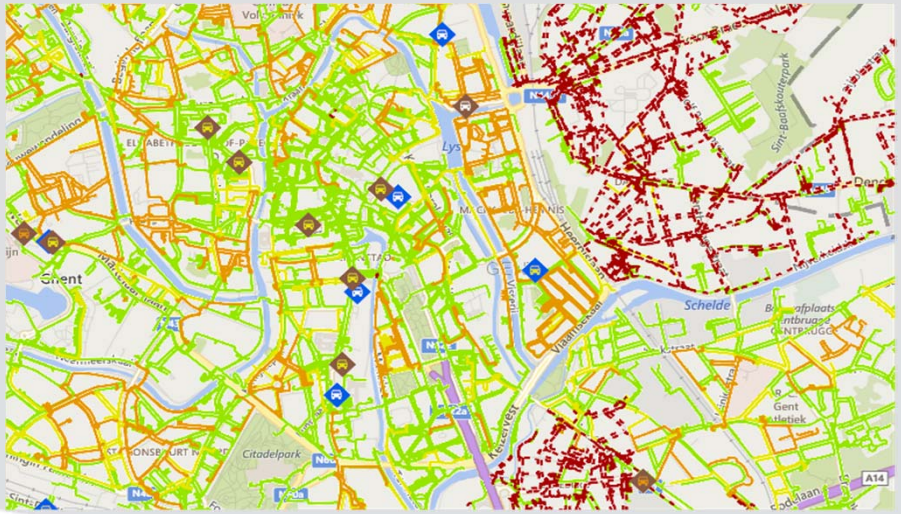
Thematic charts

Assets aging

Predictions

…





Connectivity

Charge stations for electric vehicles

Load factor for LV Grids

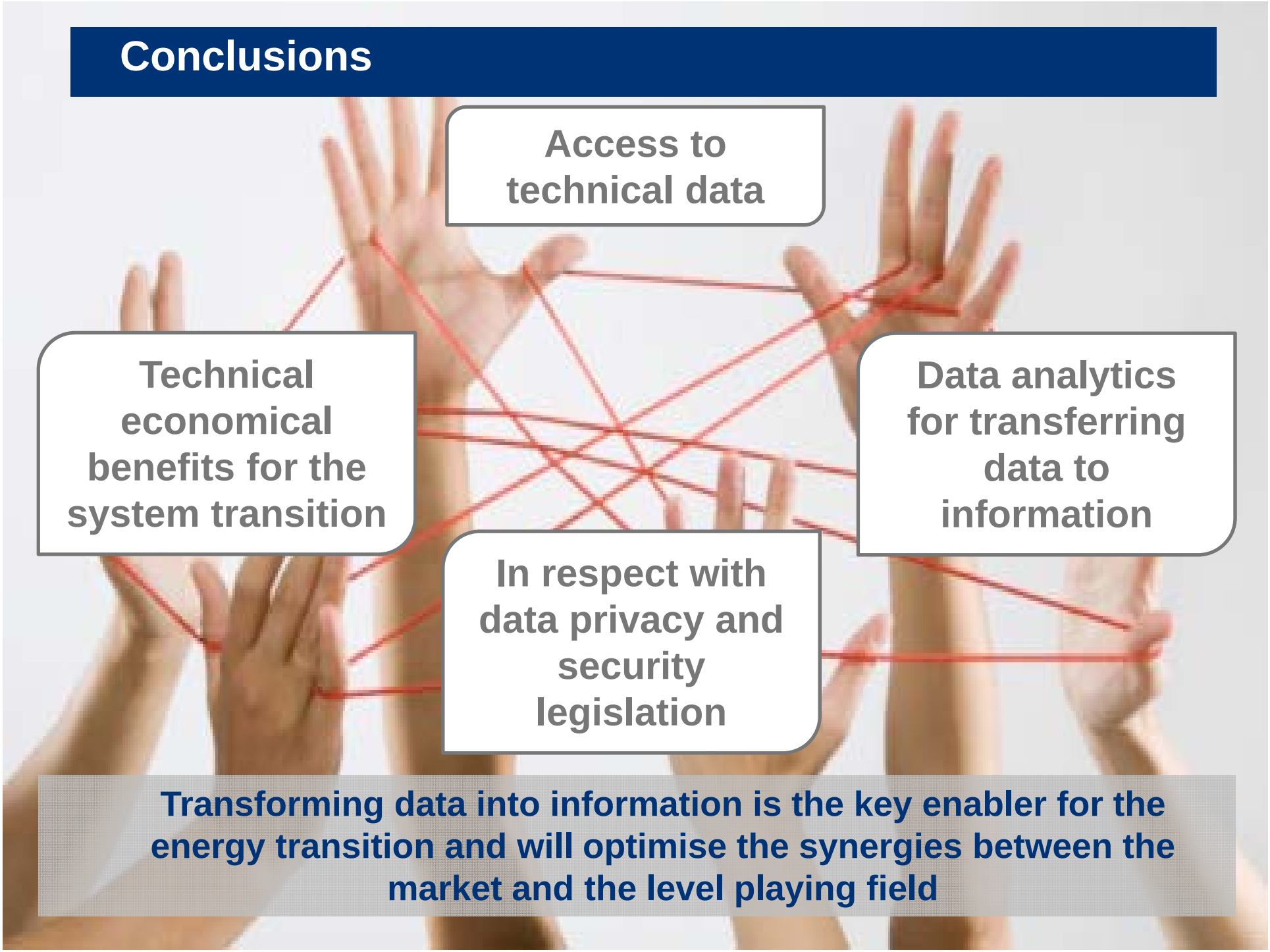
…

Conclusions

- **Distinction between data for technical and market purposes**
- **DSO as a neutral and independent market facilitator**
  - Role of data manager (operating data platform)
  - Role of meter operator and asset manager (incl. collecting customers' data)
- **Make available data to the market on non discriminating basis**
  - Consumption data, billing, switching to suppliers, aggregators, service providers
  - Taking into account customers privacy and data protection
- **Make available technical data for grid purpose**
  - Transfer data to technical information (meter data, sensors, …)
  - Optimise quality and security off supply, asset management and grid development
- **Enable future market developments**
  - Balancing production and load, flexibility services
  - More efficient (dynamic) network management (real time information, predictions, ...)

Distribution network management can be made more efficient through the processing and analysis of available technical data

Conclusions



Transforming data into information is the key enabler for the energy transition and will optimise the synergies between the market and the level playing field