



Big Data Analysis facilitating Decision Support at Regional Security Center

Presented by

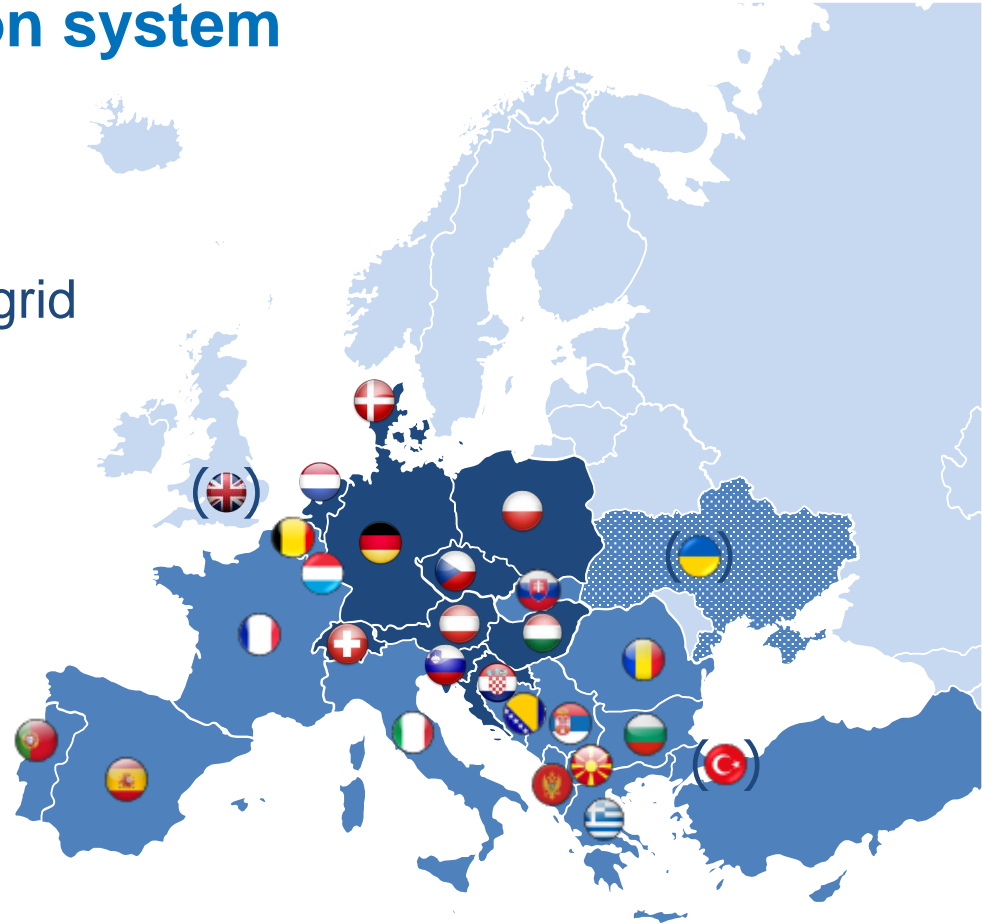
Alexander Küster – Head of Operations



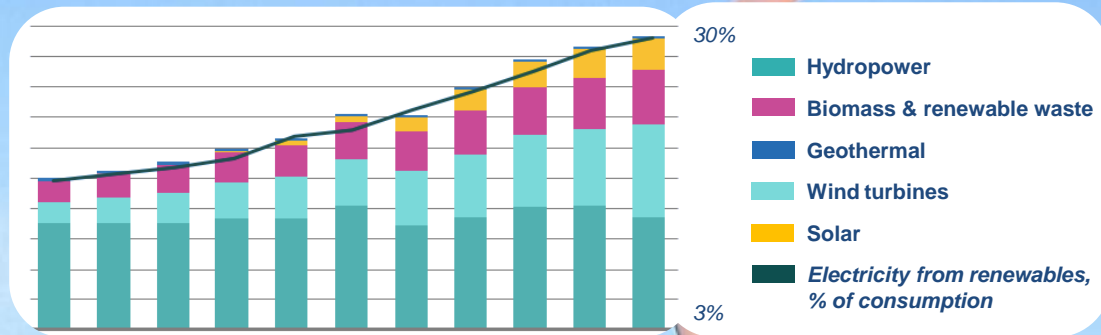
European power transmission system

The power system of Europe

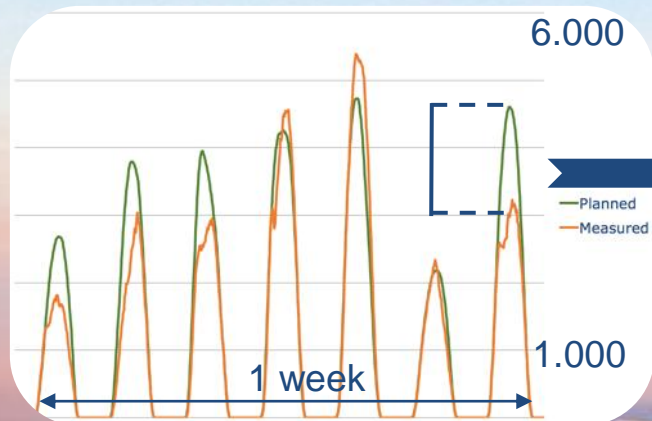
- Worlds largest interconnected grid
- 700 Mio. customers
- 42 TSOs covering 35 countries



Renewables share in EU 28 consumption (TWh) 2005 - 2015

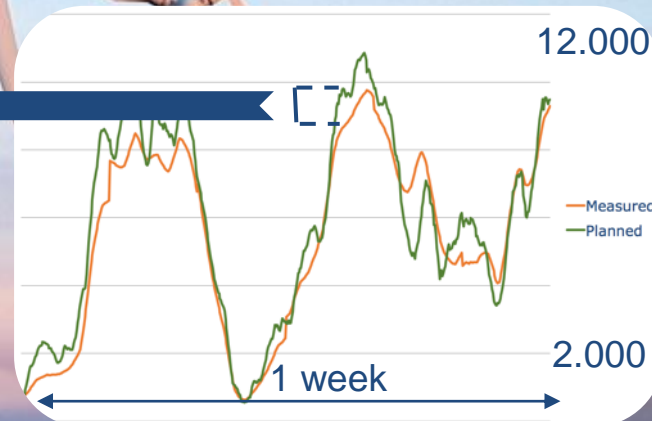


Solar



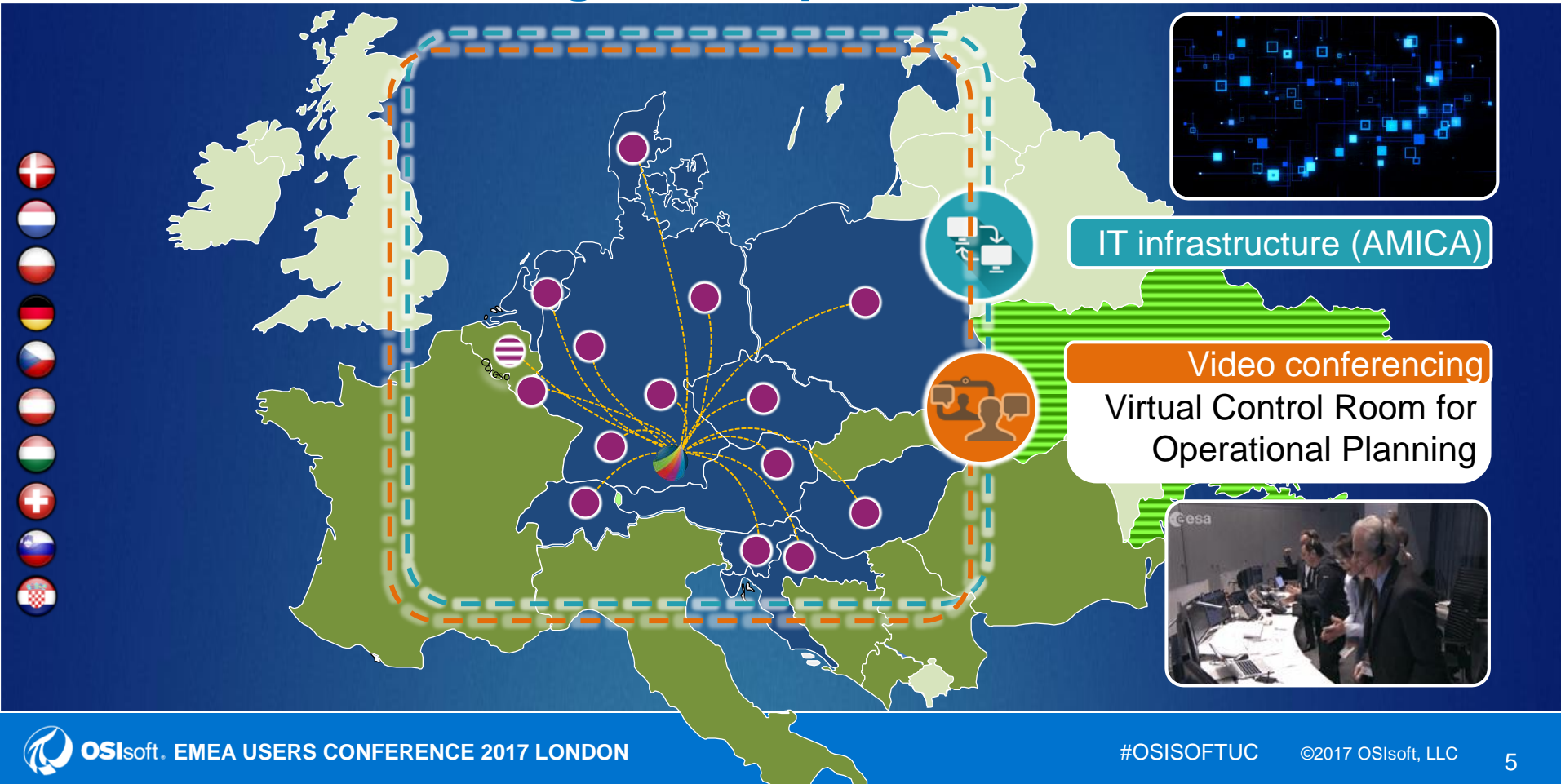
1.500 MW
2.000 MW

Wind

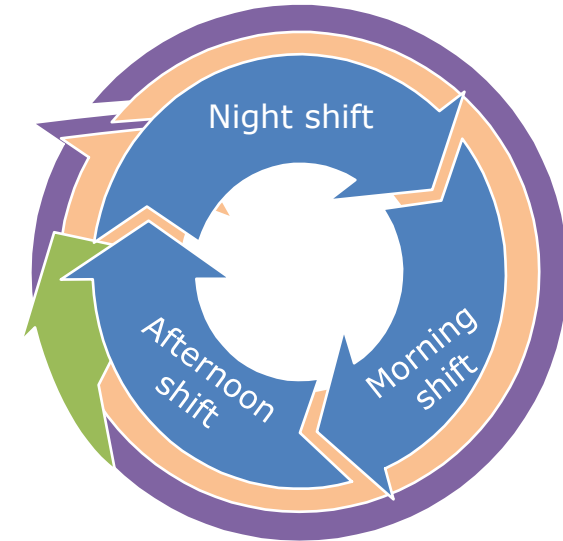
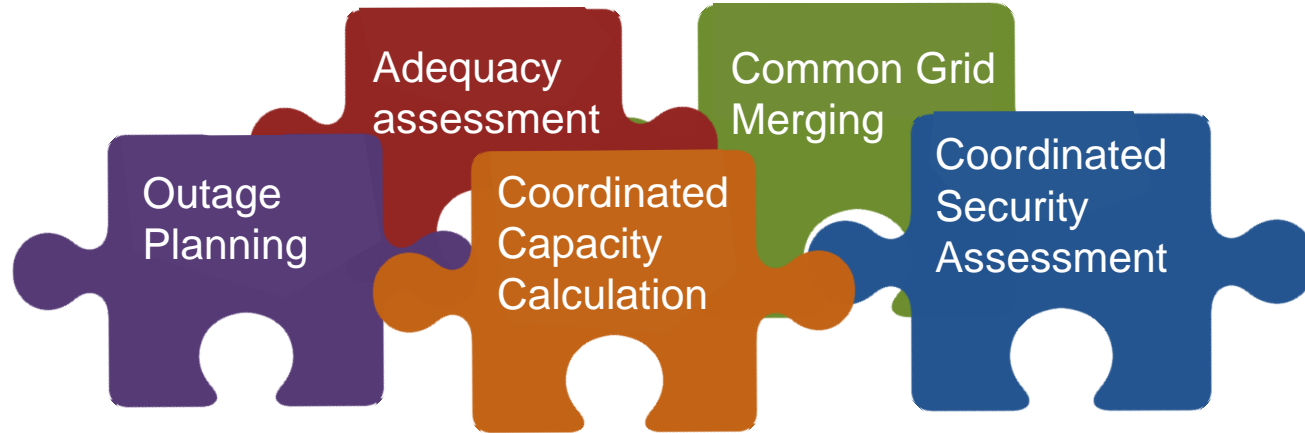




Best conditions for great cooperation

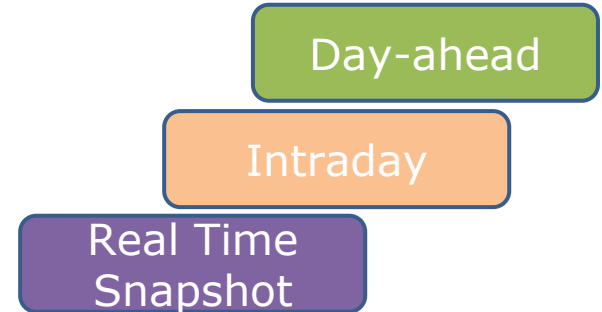


Security Initiative – Security Coordinator

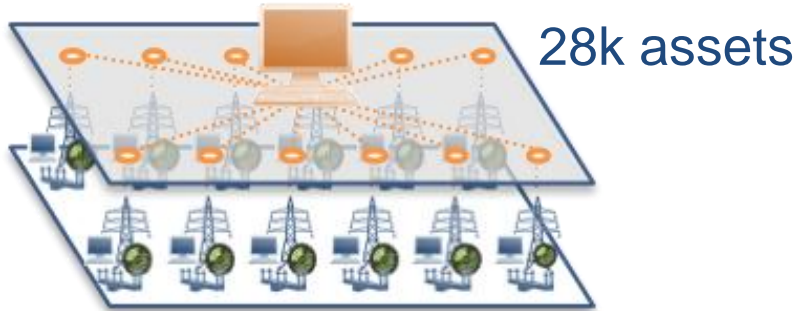


TSC a powerful initiative

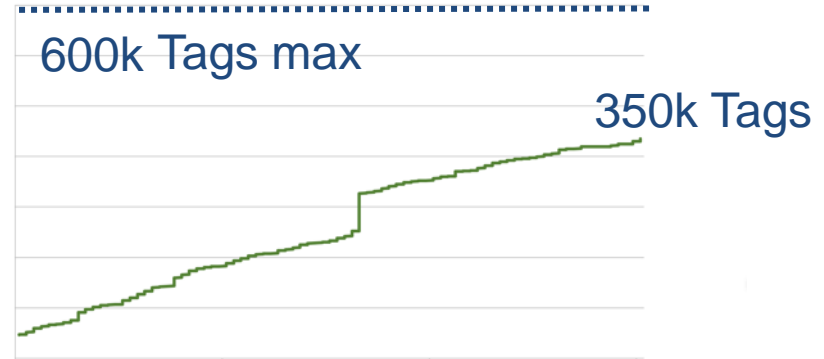
- Initiated in 2008
- 14 TSOs covering 11 countries
- 24/7 coordination support since 2013



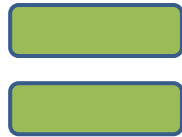
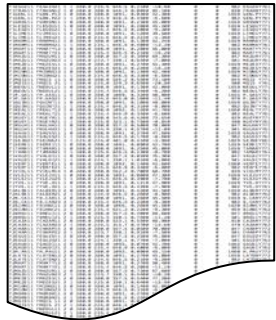
The challenging first steps



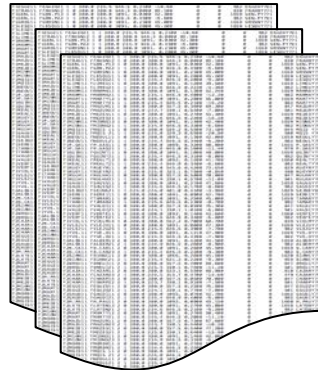
Tag usage August - November



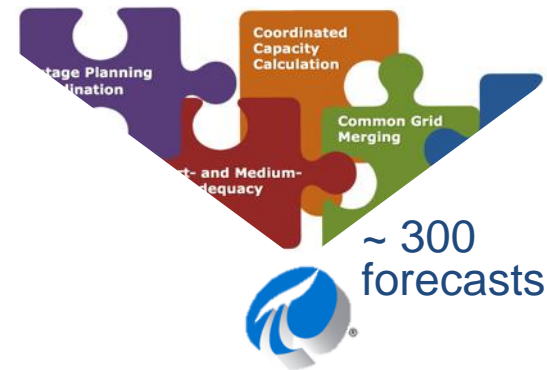
3 MB text files



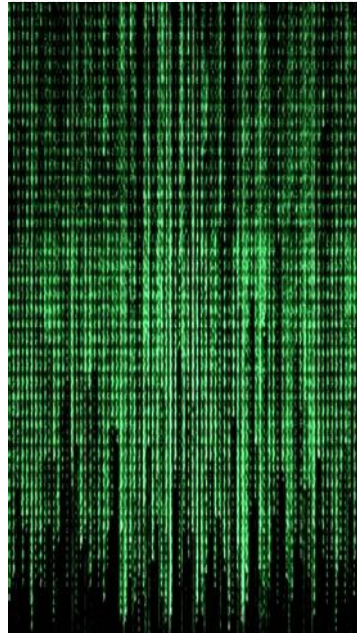
3 GB text file daily



Integrated

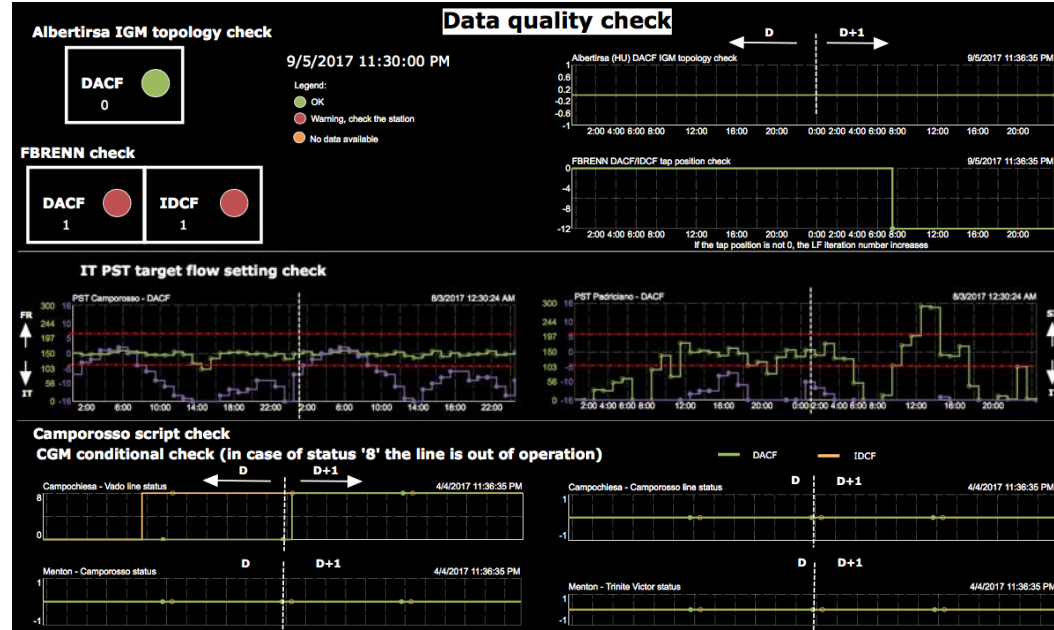


Data Quality Management



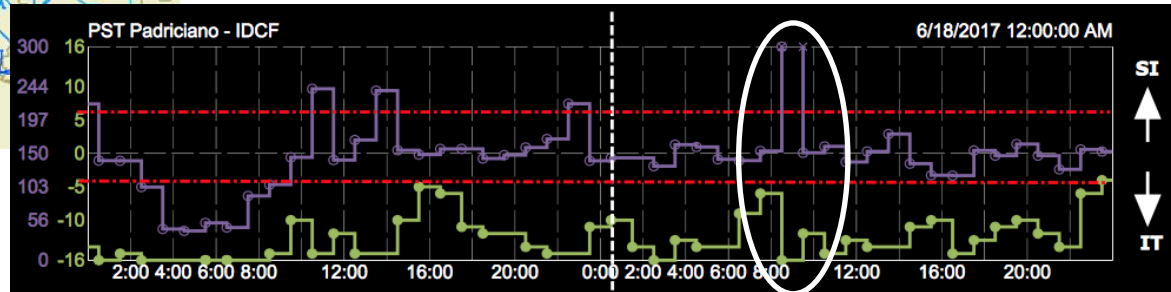
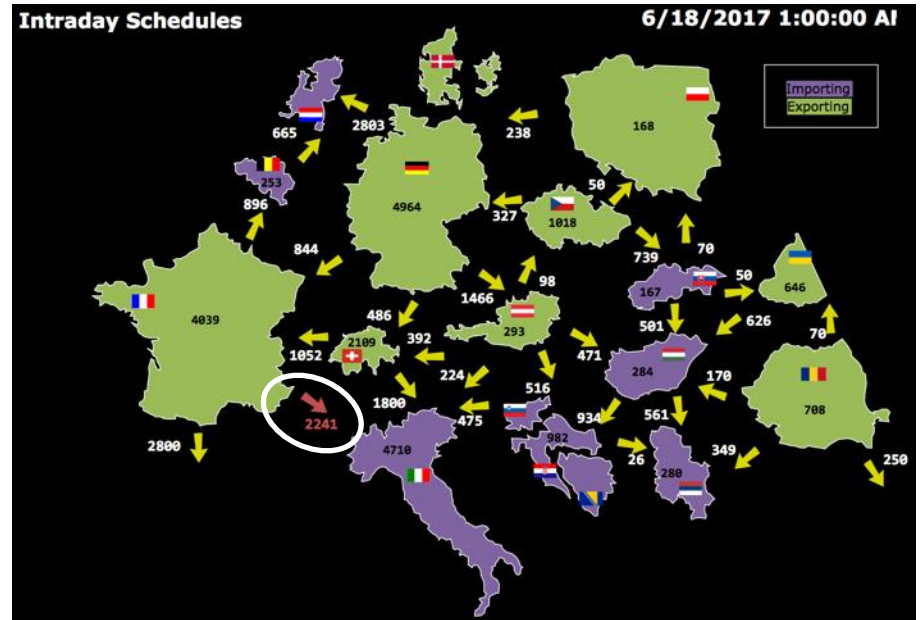
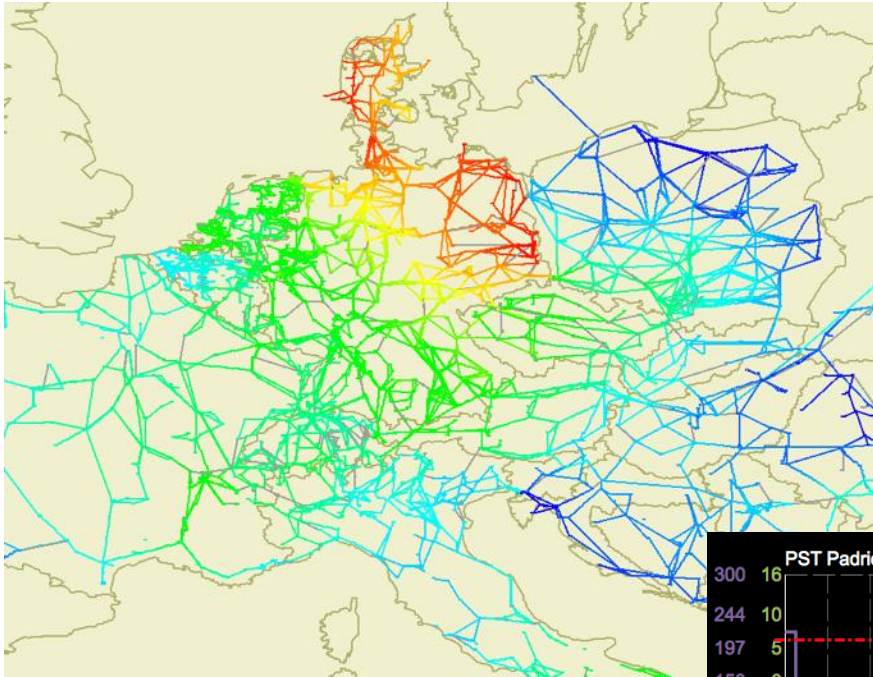
Raw data

Conditional validation



Warnings & overviews

Awareness



Data visualization



Big Data Analysis facilitating Decision Support at TSCNET



TSCNET Services helps 14 TSOs in Europe to ensure overall **security of electricity supply**.



BUSINESS CHALLENGES

- Heterogenic data sources
- Short decision window
- Massive amount of data
- Lack of quality indicators
- System state prediction

SOLUTION

- Custom UFL interface
- Managed File Transfer
- Central database as integrational platform
- Customized visualization templates

RESULTS AND BENEFITS

- Real-time service awareness
- Quality control & improvement
- Visual data investigation

Alexander Küster

Head of Operations

a.kuester@tscnet.eu



Péter Ambrus & Gábor Bús

Data Quality Manager

p.ambrus@tscnet.eu & g.bus@tscnet.eu



감사합니다

Danke

谢谢

Merci

Gracias

Thank You

ありがとう

Спасибо

Obrigado