

# ConnectinGEO Energy – *In-situ* Measurements

Unleash Surface Solar Irradiance (SSI) Observations – A challenge !

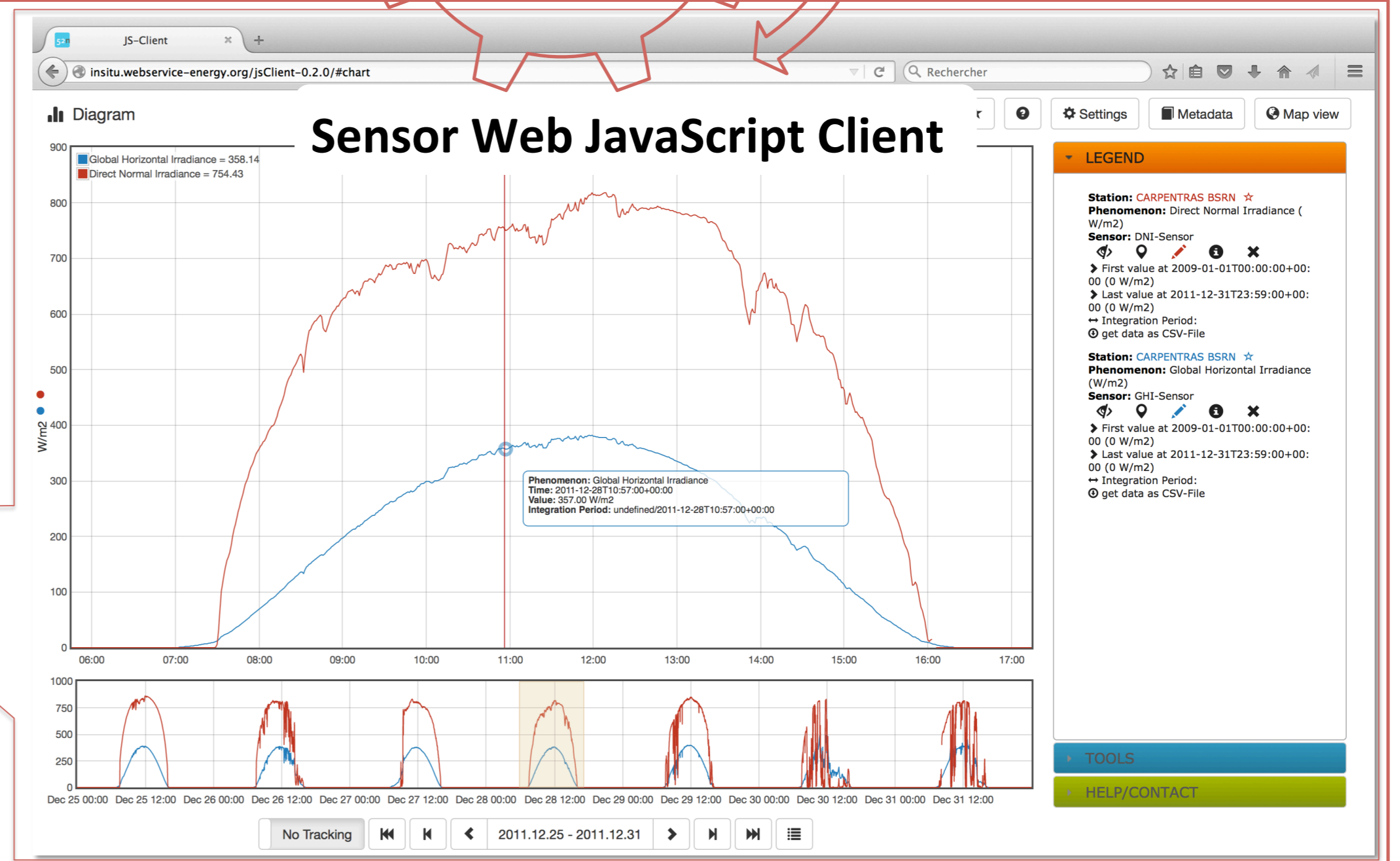
## Deploy Data & Metadata

- Standard and interoperable
- Web Services
- Metadata
- Easy to use (View & Download)



## Webservice-energy SDI\*:

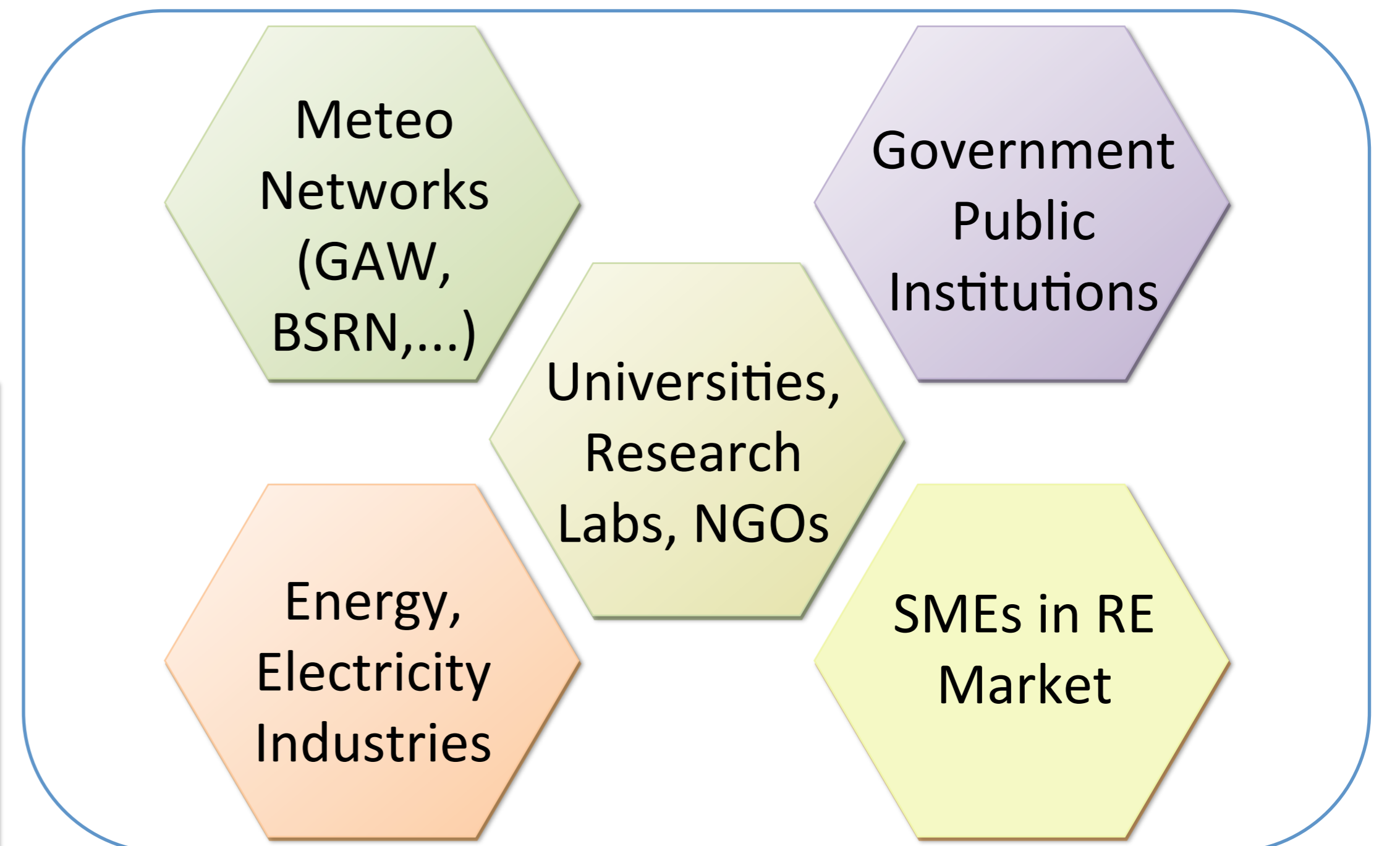
- Sensor Web Enablement Architecture
- Open Geospatial Consortium Catalog
- Connected to the GEOSS Infrastructure (GCI)
- Weekly harvested by the DAB



## 3 - INFRASTRUCTURE – INTEROPERABILITY CHALLENGE

### Bottlenecks

1. No major SSI *in-situ* network dedicated to **Renewable Energy**
2. No harmonization between networks
3. No interoperable access to *in-situ* resources



## 2 - IN-SITU MEASUREMENTS RESOURCES CHALLENGE

**Essential Variables** - Surface Solar Irradiance (SSI) are provided by different Earth observation systems:

- *In-situ* pyranometric sensors
- Satellite image processing (e.g. Helioclim, Copernicus Atmosphere Monitoring Service, Eumetsat CM-SAF)
- Numerical weather models (e.g. ECMWF-IFS, ERA-Interim)



**Needs** - *in-situ* measurements are used for:

- Potential and prospective solar resources
- Resource assessment for bank loans
- Monitoring of existing solar plants
- Forecast for energy storage & planning



## 1 - NEEDS - ESSENTIAL VARIABLES CHALLENGE

BOTTOM - UP ARCH

ASSESS ENGAGE DISSEMINATE