EPOS needs for Borehole

99th OGC Technical Committee – 3D Geoscience borehole ad-hoc meeting
Dublin, Ireland
Sylvain Grellet - BRGM
22 June 2016
EPOS in a nutshell

- **European Plate Observing System**
  - [www.epos-eu.org](http://www.epos-eu.org)
  - European research infrastructure on solid earth science
  
  - Integrates the existing and future advanced European facilities into a single, distributed, sustainable infrastructure

Copyright © 2016 Open Geospatial Consortium
EPOS in a nutshell

Community-specific integration

Novel e-infrastructure

Data generation
Data collection
Responsible of sustainability and operation

Data curation
Metadata
Registration
Community Services
Standardization

Interoperability
Brokering

Metadata registry
Processing
Aggregation
Integrated analyses
Visualization
Borehole in EPOS

• Core notion for Thematic Core Service ‘Geological information and modelling’

• But also of interest for other TCSs
  – Near fault observatories,
  – Volcano observation,
  – Anthropogenic Hazards,
  – Multiscale Laboratories,
  – Geo-Energy,
  – …
Borehole in EPOS

• Information content needed
  – “Global Borehole Index”
    • Summary borehole information
      ⇒ GeoSciML4 Borehole View + couple fields
  • + link to richer structured information flows
Borehole in EPOS

• Information content needed
  – Structured information flows
    • Detailed borehole description (position, depth, contractor, technical construction)
    • Geophysical logs
    • Geological descriptions
    • Rock geochemistry, Pore gas chemistry
    • Geotechnical information
    • Access to physical drill cores
    • Ground water level, chemistry
    • Other sensing information acquired: dilatometers, strainmeters, pressure, …
IT approach

• Rationale
  – Not re-invent the wheel, try to re-use / extend pre-existing initiatives..

• Initiatives identified so far
  – GroundWaterML2
  – GeoSciML
  – BoreholeML
  – Energistics WITSML
  – Observations & Measurements & SWE
  – POSC Caesar, PPDM

⇒This ad’hoc meeting