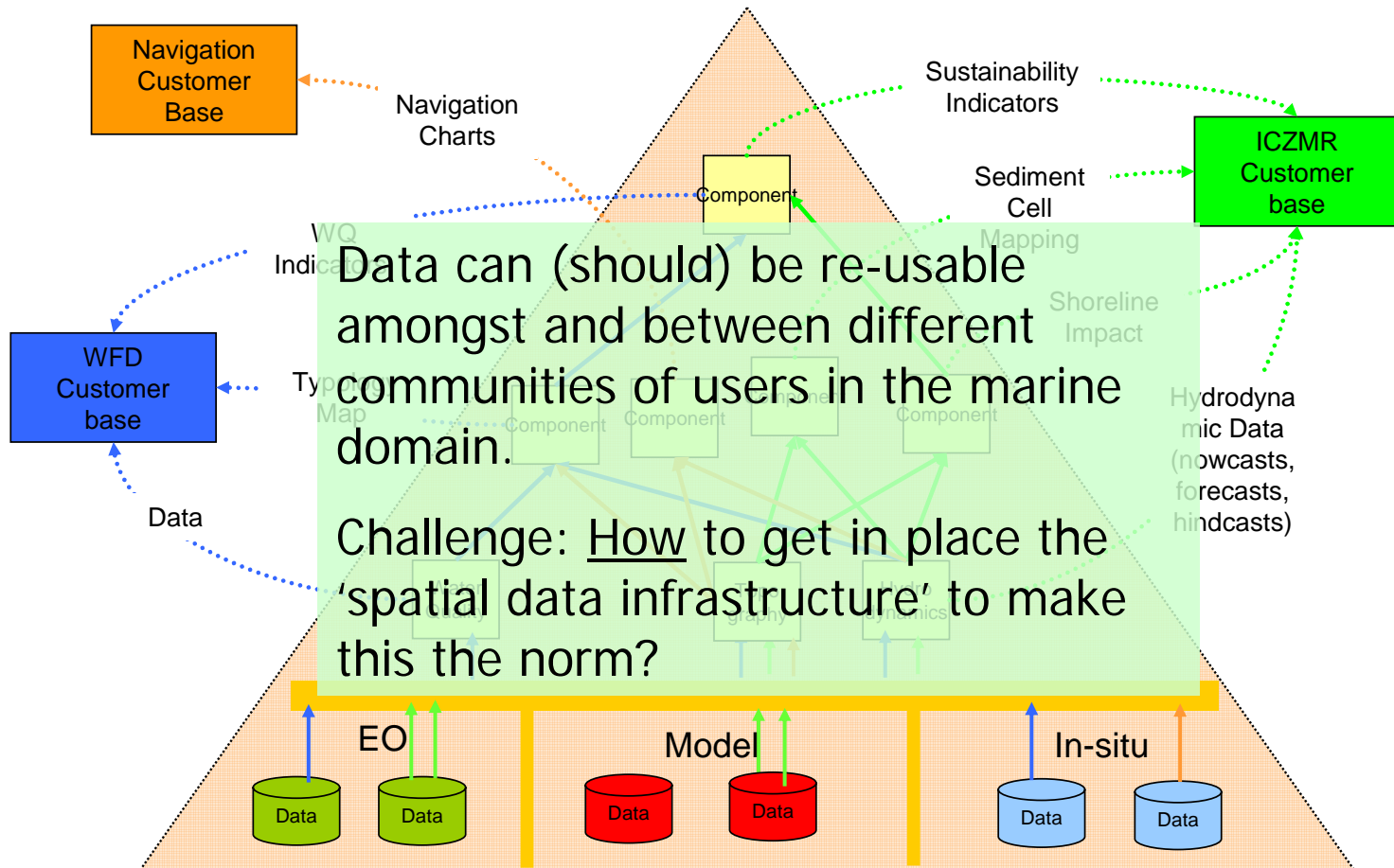


MarineXML & MOTIVE

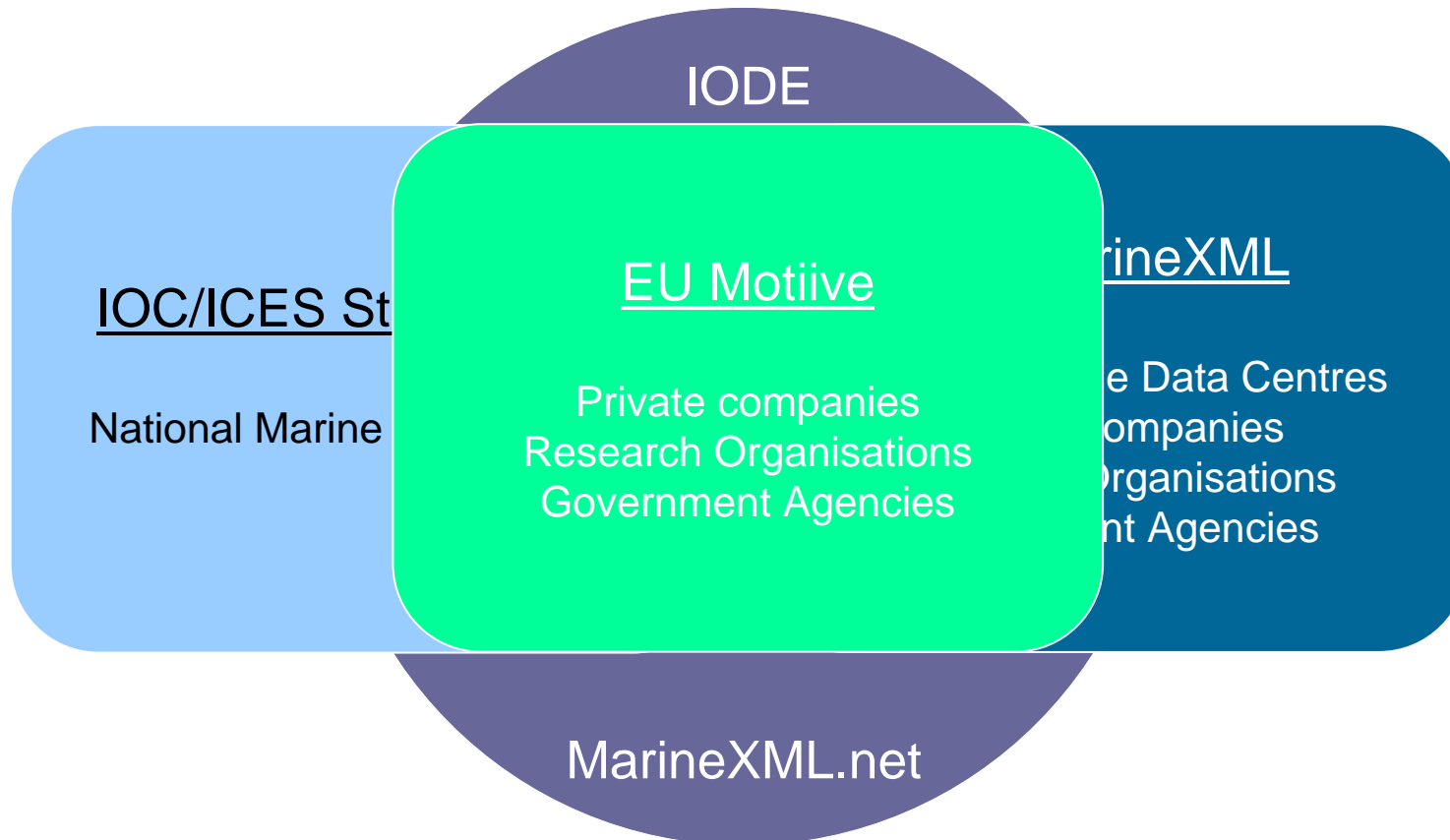
Keiran Millard
Roger Longhorn

GMES User Context



www.marineXML.net

MarineXML initiatives



INSPIRE

- INSPIRE is a draft EC Directive to establish an SDI at a European Level
- INSPIRE implementation (presently) raises more questions than it answers
- Unclear how (or if) realtime marine applications benefit from INSPIRE
 - WMO/JCOMM
- Unclear how GMES Services make use of INSPIRE and the benefits delivered
- MOTIIVE is set-up to solve these issues

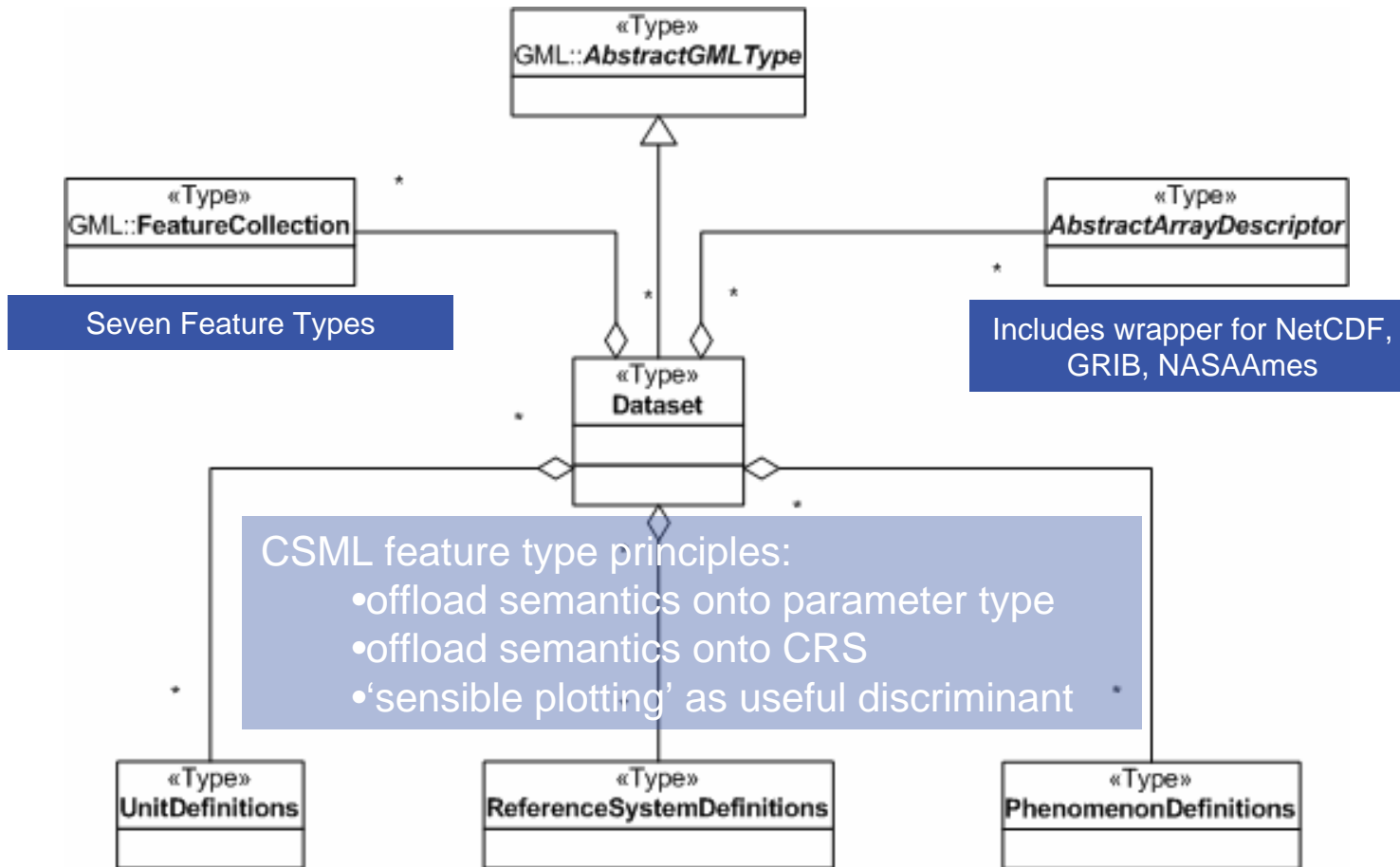
MOTIIVE

- MOTIIVE Is an INSPIRE pilot project covering data harmonisation issues in the marine domain
- How to implement data services in the marine domain based on ISO and OpenGIS standards
- Supports IHO and IOC in establishing a registry infrastructure for standards and services that services can be built on.
- Demonstrate and document the above process, including the cost:benefit of using open standards interoperability

State of Play

- ISO19110 covers the concept of Feature Catalogues to describe data used by a community.
- The IOC MarineXML initiative has shown that the Marine community cannot be served by a single Feature Catalogue
 - Requires mechanisms to map features to several catalogues
- MarineXML also demonstrated Feature Types for general purpose data interchange with S-57
 - Non navigation objects shown within a ENC.

Feature Types defined by CSML



State of Play

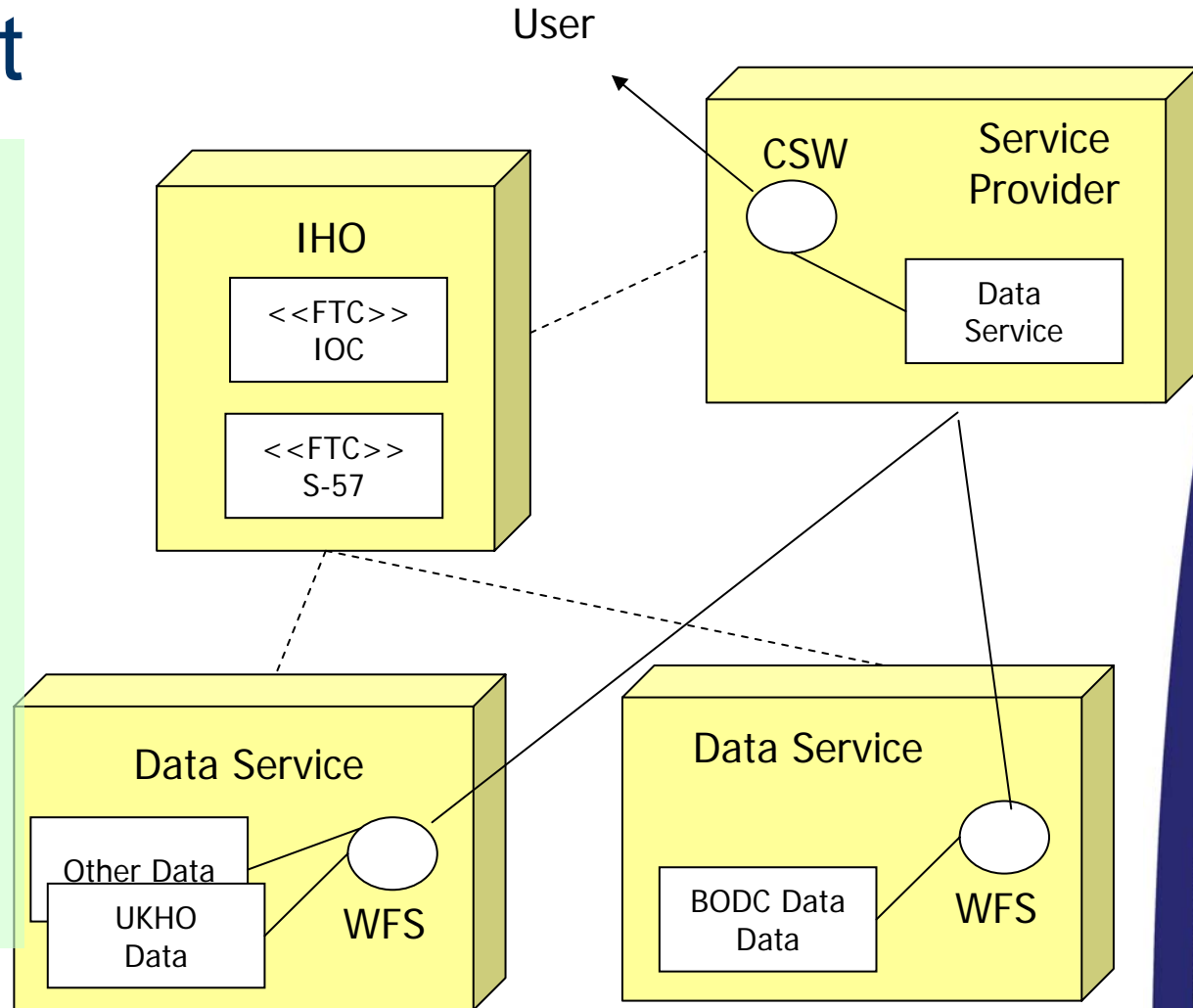
- IHO are looking at ISO 19110 for S-57 v4 to enable re-use of data beyond navigation
- IOC and IHO have a collaboration intent of wider deployment of a 'Marine Feature Catalogue' (IOC/IODE XVIII, 2005)
- In support of this, MOTIIVE will examine how this Feature Catalogue can be deployed, particularly focusing on ISO19135
 - In basic terms "How to do you deploy a web-enabled registry of Feature Types"

To address...

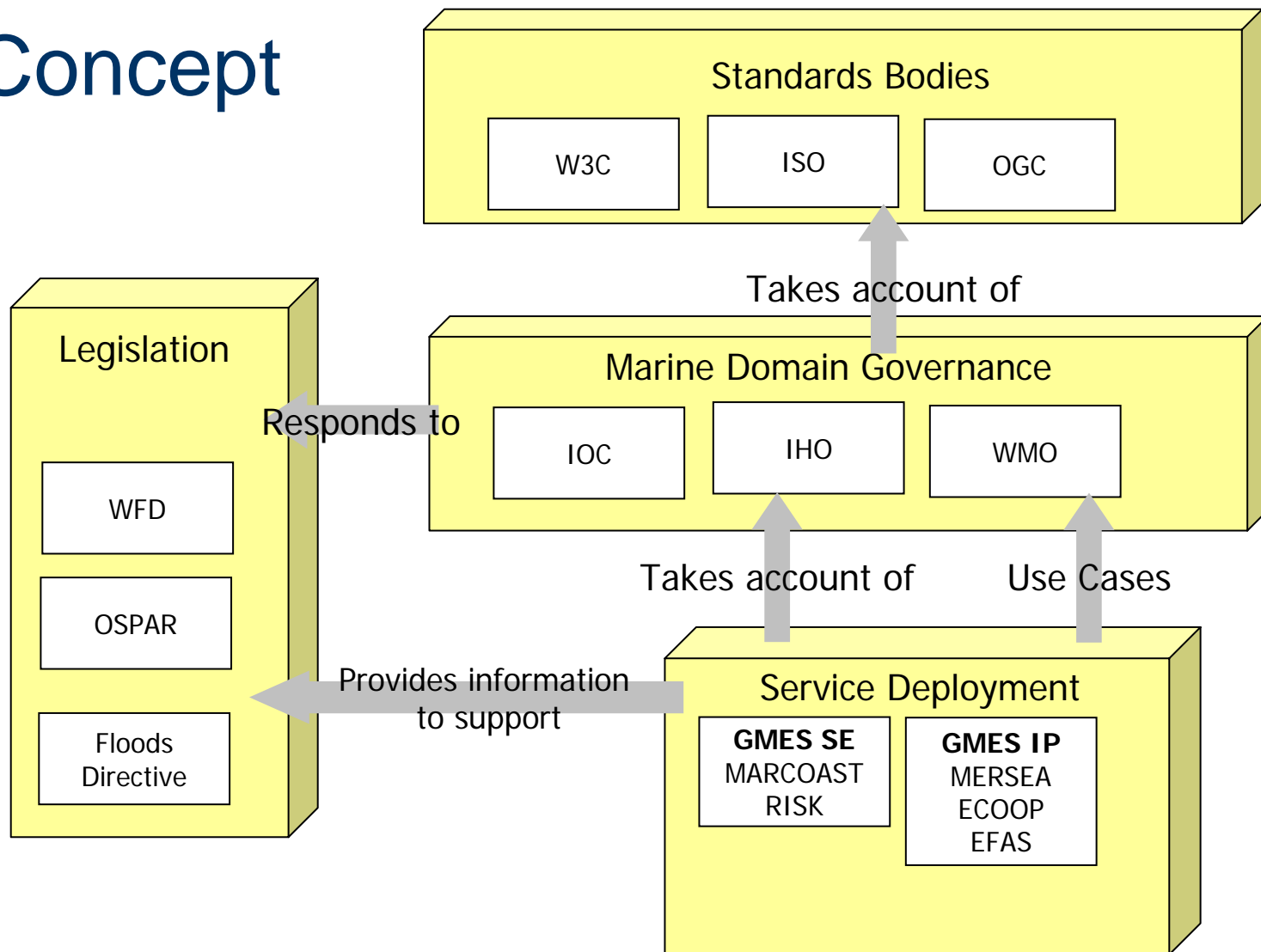
- MOTIIVE will require multiple Feature Type Catalogues in multiple organisations.
 - That implies the requirement for the deployment of a common Feature Type model (within registries) with common (Web) interfaces.
 - This could make use of CSW or OGC Catalogue service on top of an ebRIM meta-model
- MOTIIVE Feature Types will be multi-dimensional (3D + time + parameters) and will need to maintain a separation between 'semantics' and 'packaging' (for example as different coverage encodings)
- MOTIIVE Feature Types will provide information about ability to support processing operations and this needs to be reflected in the FTC implemented by RISE/MOTIIVE

Concept

Service provider can access instances of features (e.g. UK coastline) stored in data catalogues. How the FTC and service catalogue are integrated is something MOTIIVE will address



Concept



Conclusions

- MOTIIVE – INSPIRE pilot project, and follow-on from MarineXML
 - IODE to continue ‘MarineXML’ steering role
- How to implement data services in the marine domain based on ISO and OpenGIS standards
 - Feature Catalogue deployment focusing on ISO19135
- Builds on a “pre-standardisation level” using XML for marine data exchange based on ISO19000 standards
 - IHO and IOC Plans
- Met/ocean community is informing ISO developments
 - ISO 19111 (Spatial referencing by coordinates) – proposal for ‘parametric’ vertical datum actively being pursued.

Working with Motiive

If you would like to support the development of MarineXML, please go to the IOC interoperability website.

www.marineXML.net

Interoperability Issues

- Where does it need to happen?
 - Level of processing (measurement, data, product)
 - Between which organisations/communities?
 - Closed v open
- Standards promote interoperability (ISO/OGC)
 - Standards framework is always a good place to start to realise interoperability.
 - *“Interoperability provides the freedom to mix and match information system components without compromising overall success”* ISO 19101: Geographic information Reference model
 - Therefore there is a (business) test for what level of interoperability works

Strong & Weak Feature Types

- **Weaker:**

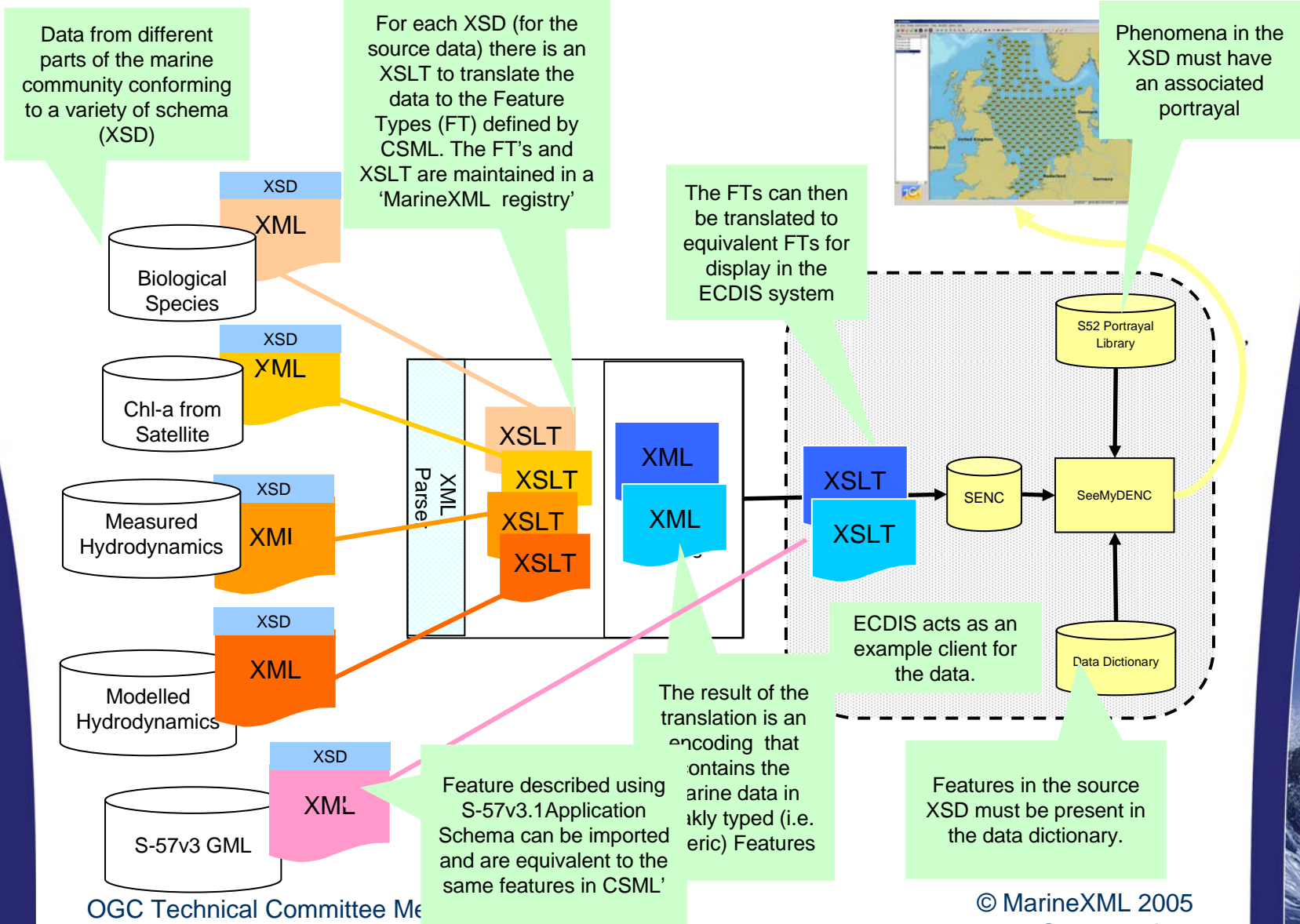
- Greater flexibility so that we can accommodate a large a number of features via the use of different domain vocabularies to specify types

```

GeneralFeature (attribute:type="Cardinal Buoy", attribute{name:"colour",
value:"red"})
    or
    BuoyFeature (attribute:type="Cardinal", attribute:colour="red")
    or
    Cardinal_Buoy (colour="red")
    or
    Red_Cardinal_Buoy

```

- There is more control in the structural checking
- More aid can be given to the user on the choice of feature type.
- A larger more detailed specification is given, providing much more data



MarineXML Testbed

