

# *The InterRisk system concept*

## *-a distributed web GIS*

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InterRisk is a Specific Targeted Research Project (contract number 003525321 co-funded by the Information Society and Media DG of the European Commission

# Outline

- InterRisk Project Objectives and Heritage
- Service Concepts (initially)
  - DISPRO service chain
  - SSE (Service Support Environment) model
  - Service Network model
- Service Concepts (evolved)
  - InterRisk System of Systems
  - Realisation
- Conclusions

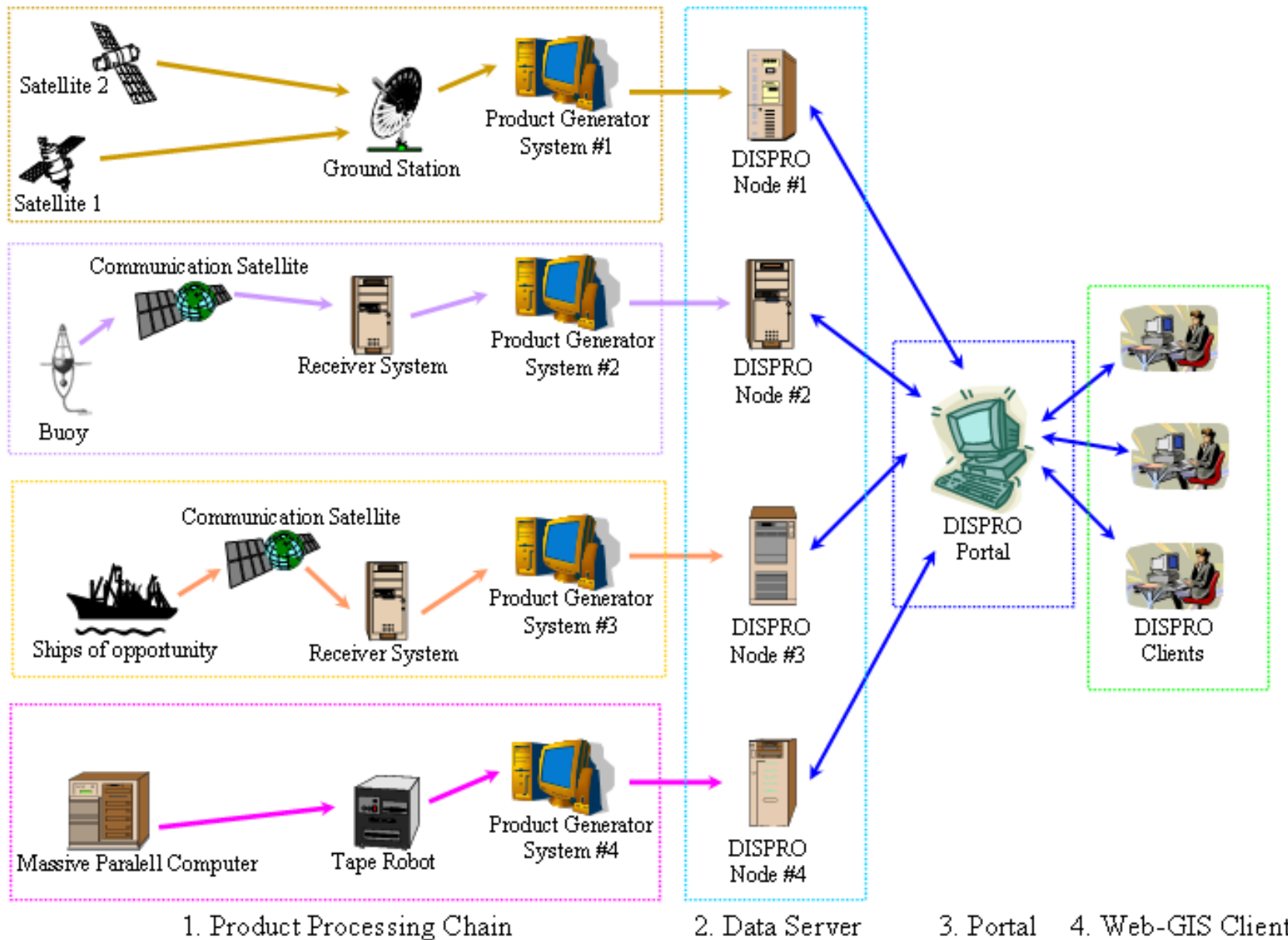
# InterRisk Project Objectives

- The overall objective is to develop a pilot system for **interoperable monitoring and forecasting services** for environmental risk and crisis management in marine and coastal areas.
- The services are based on **satellite & aircraft data, in situ observations** and **forecasts from numerical models** needed to monitor and forecast marine environmental crisis events.
- An **open system architecture** has been designed **based on established GIS and web services protocols**, and implemented in a network of services (InterRisk services) for several European regional seas.

## Heritage: DISMAR and SSE

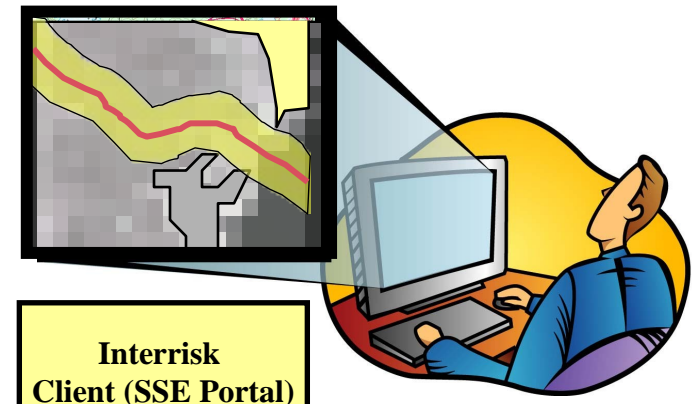
- The **DISPRO tool**, a prototype decision-support system, developed in a previous project DISMAR, for integration of multi-source data and numerical models. DISPRO is based on **OGC WMS**; metadata on **ISO 19115**
- The **SSE (Service Support Environment)** has been developed in multiple ESA projects since 2001.
- The SSE provides the underlying infrastructure for the InterRisk system enabling
  - User and service provider **registration and administration**
  - Access of all services through a **common portal**
  - **Service chaining** enabling composite services

# DISPRO System Concept



# SSE (Service Support Environment) Concept

- Open and standards-based
- Builds on operational ESA technology



OGC Interfaces

Service chaining creates

Interrisk Client (SSE Portal)


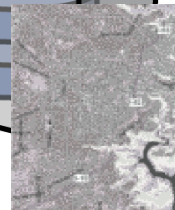
Internet

Value-added products

**CSW**  
(catalogue)




**WMS**  
(Producer-B, Vendor-2)

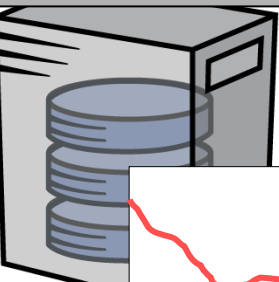
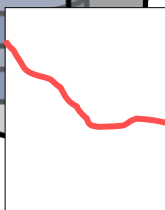



**WCS**  
(e.g. Spot, NASA)




...

**WFS**  
(Producer-n, Vendor-x)

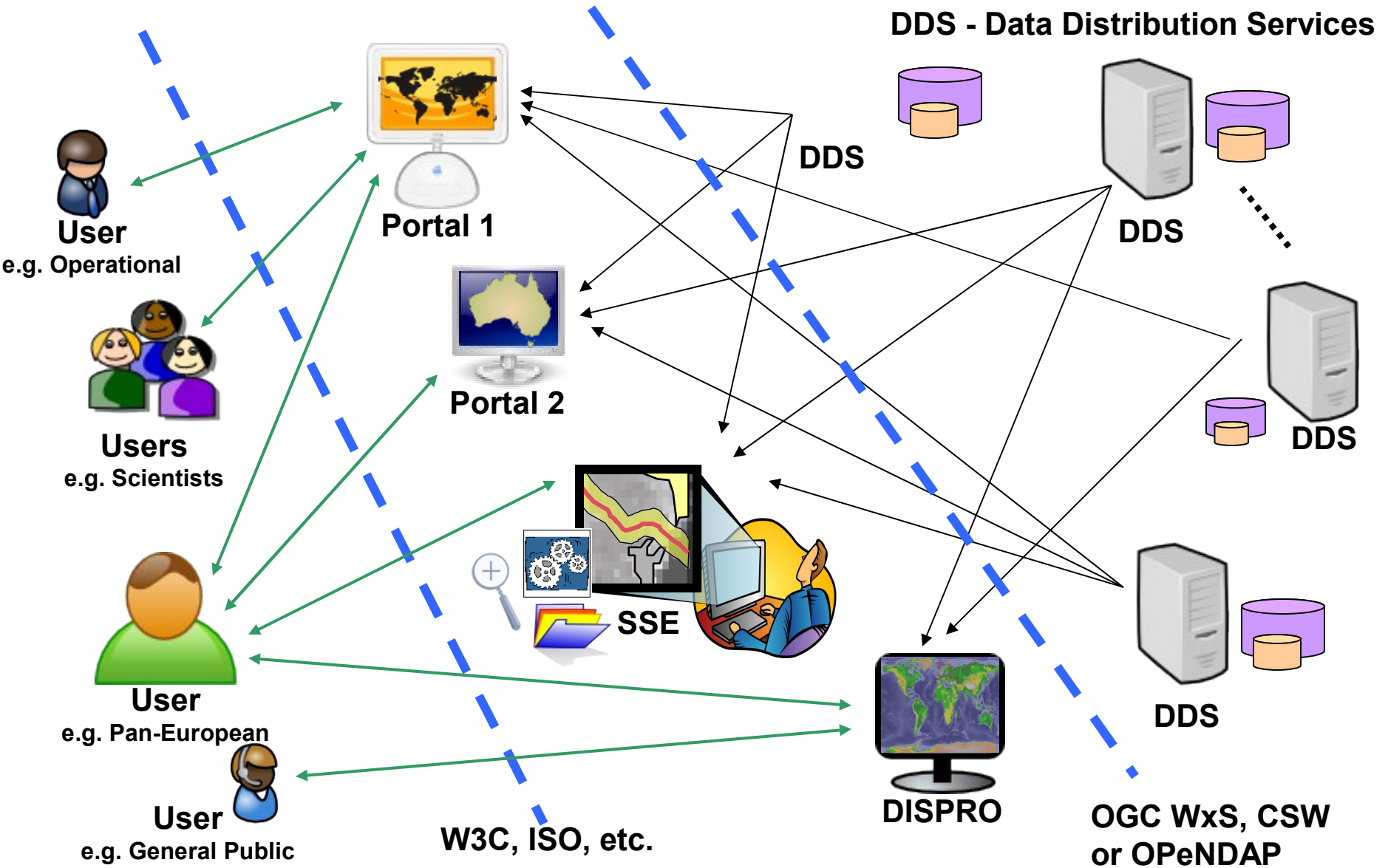
## DISPRO – SSE System Concepts

- Both DISPRO and SSE rely on established web-GIS standards, enabling interoperability between different data delivery services
- Benefits for service providers:
  - A number of tools exist for setting up delivery services
  - The same service can deliver data to multiple portals
- Benefits for users;
  - One system provides access to all data products
  - Only a web browser is needed to access them

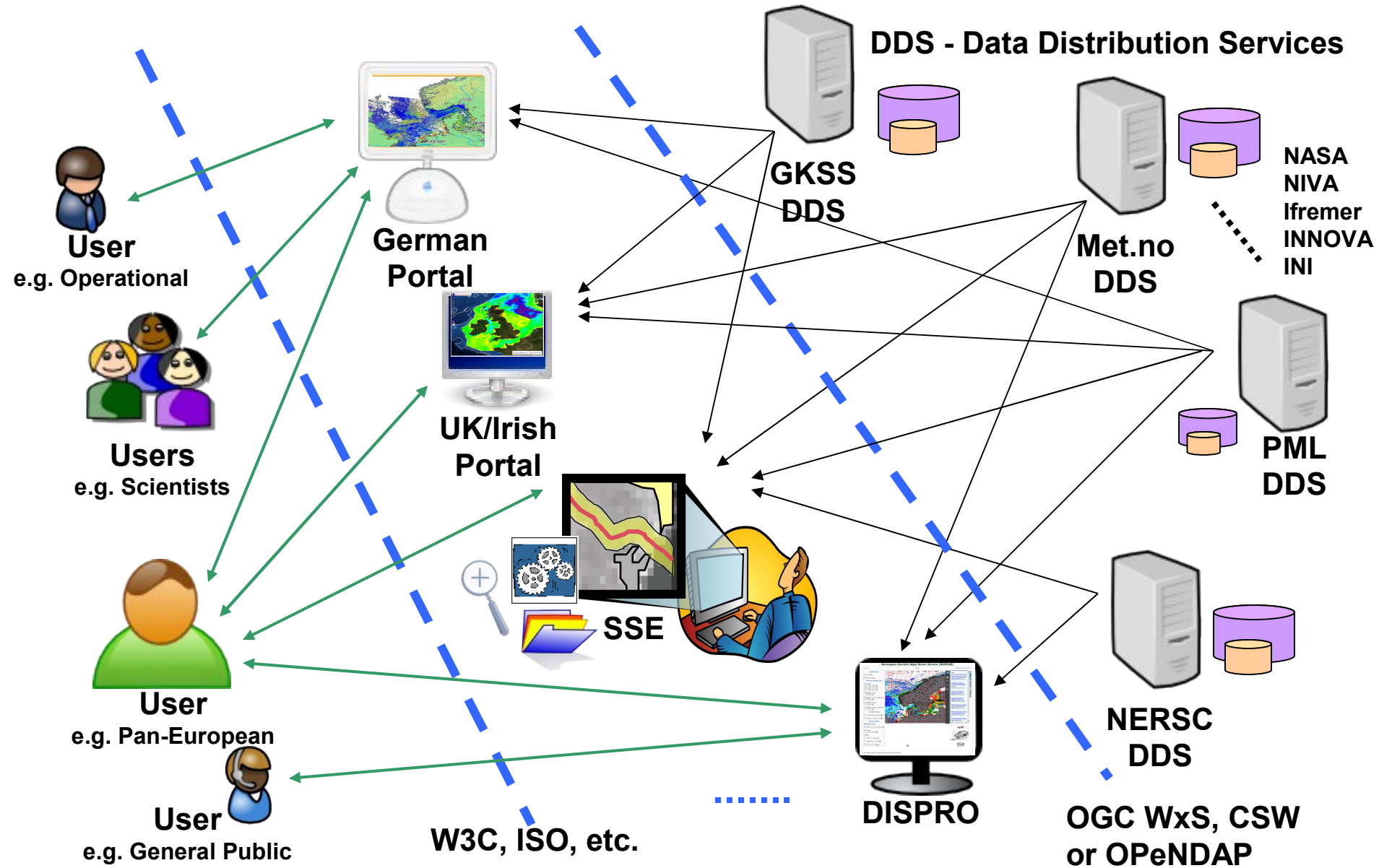
## System Concept (evolved)

- During the InterRisk project the targeted user groups widened
  - Operational users and Pan-European users
  - **Scientific users and the General public**
- We found that users in different countries have **different priorities and different requirements** and these could be conflicting.
- Thus, **different portals are required for different user communities**
  - InterRisk grew into a system-of-system, with multiple **portals customised to specific user groups**

# System of Systems - Concept



# System of Systems – Realisation



## Conclusions

All development of services and systems are **based on established and upcoming web and GIS standards**, and **draws upon results from earlier RTD projects**. The adoption of standards facilitates multiple providers – multiple end-users networks and ensures developed systems can be sustained in the future.

Service providers have set up OGC WMS/WFS/WCS and OPeNDAP basic services, which are integrated in **both regional portals and the InterRisk SSE**. The first complex services are under development.

The InterRisk pilot is being **validated by users responsible for risk and crisis management** in case of oil spills, harmful algal blooms and other marine pollution events.

# Questions and Feedback

Please visit the InterRisk web site

<http://interrisk.nersc.no/>

*Forward questions and feedback to*

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*or to your national contact point for the project.*

***Thank you for your attention!***