



See the world as it really is

# Mobile World Congress 2013

Shared Situational Awareness - from Desktop to Mobile

Roger Brackin MSc



## Shared Situational Awareness - from Desktop to Mobile

We are now often in situations where a multitude of people, both command centre based and mobile need to contribute to a shared awareness of a large situation

- Law and Order/Terrorist Incident Management
- Natural Disaster Management
- Pre-planned Event Management

How do we make sure everyone has the best information for their needs?

Clearly a significant part of the answer is Open Standards.

## Envitia and the Mobile Platform

- **Developer of Mobile Technology**
  - *Envitia MapLink Pro Android SDK* (Military, Civil Resilience and Emergency Services Applications.)
- **Providers of Systems using Mobile as a component**
  - *WG Set Aside programme Prototype.* (Capture of Set-aside of land 'from the farmer's field').
- **Research into Location Based Services**
  - **AGIS** (Advanced Geospatial Research For Ministry of Defence)

## Envitia and the OGC



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### Interoperability Trials

Participation In test-beds  
OWS-7, 8 and 9  
Aviation, CCI, CITE and  
Innovations Threads

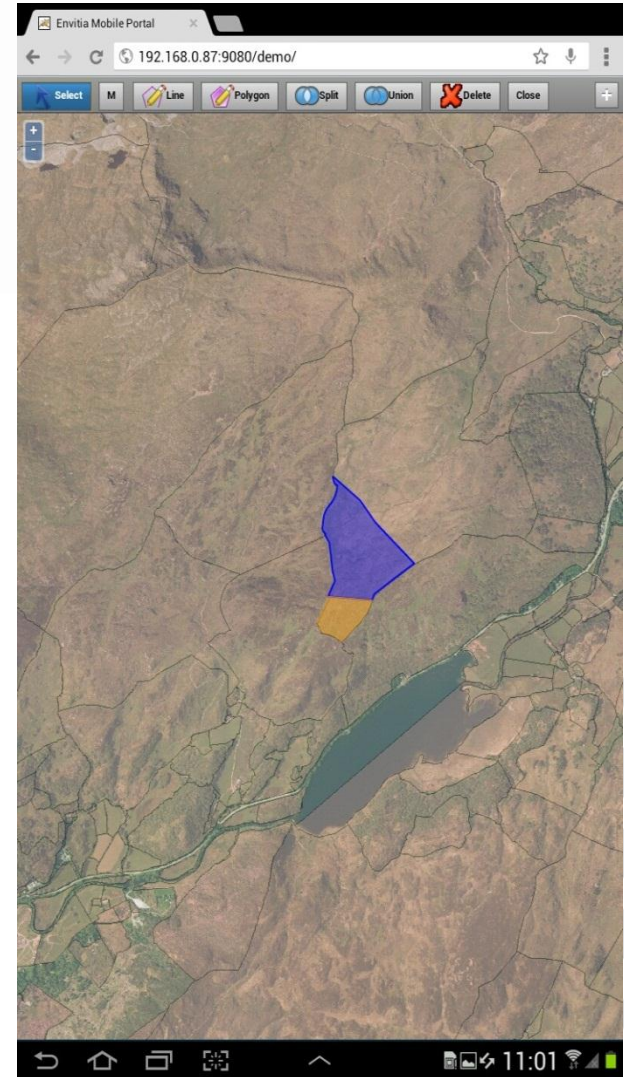
### WGs and Reports

Authored, Co-authored or  
contributed to 10+ OGC  
Reports/Standards,  
members of 20  
SWGs/DWGs

### Implementations

Implemented many OGC  
Standards (WMS, WMTS,  
WFS, WCS, WPS, CSW,  
WCPS, OWS, WMC, GML,  
GMLJP2, SLD etc.)

- Allows updating of field boundaries on-site using mobile technology.
- As user draws, the polygon is snapped to the field boundary by **OGC Services** requests to the server.
- Desk based users can analyse the 'set-aside' requests.



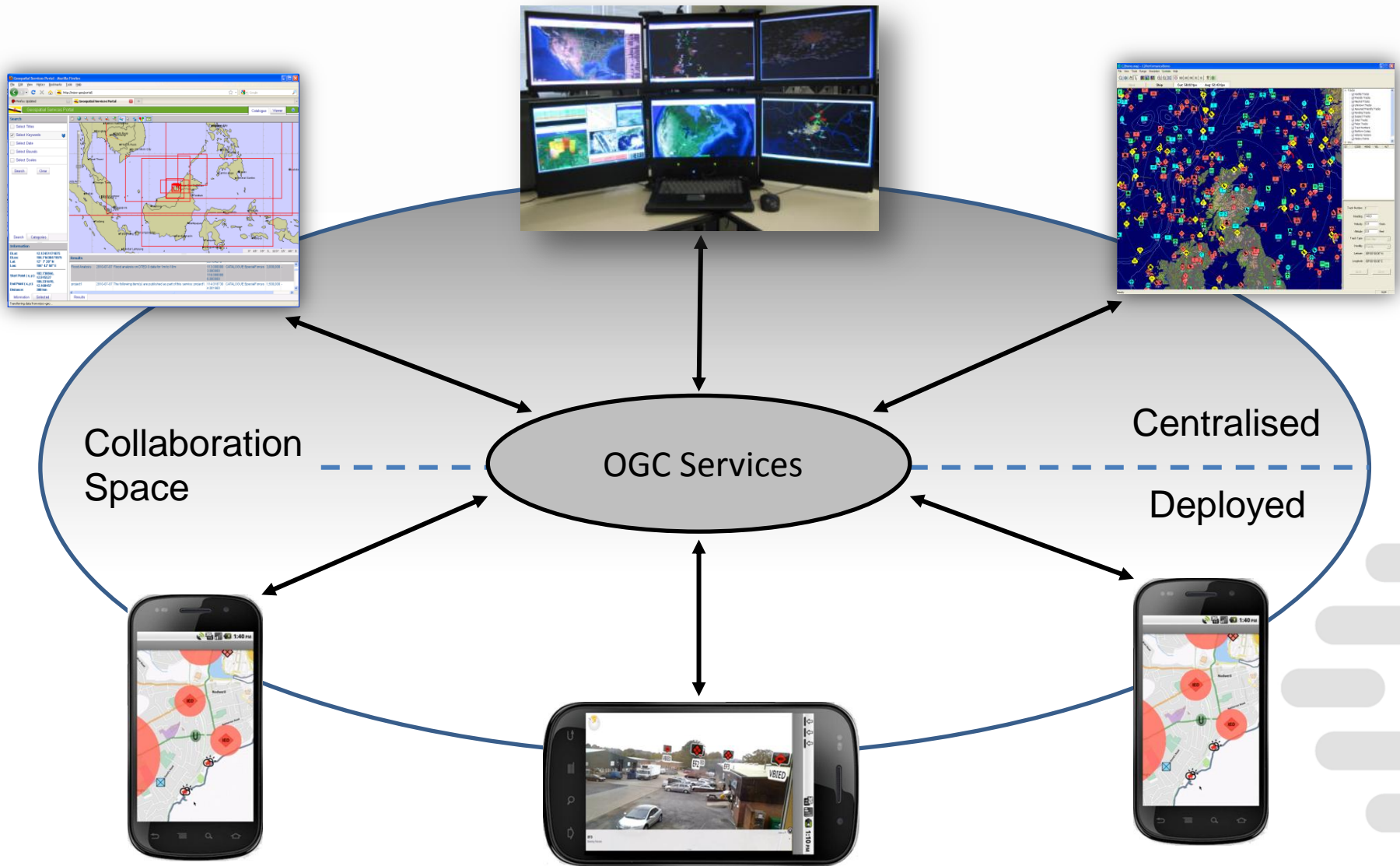


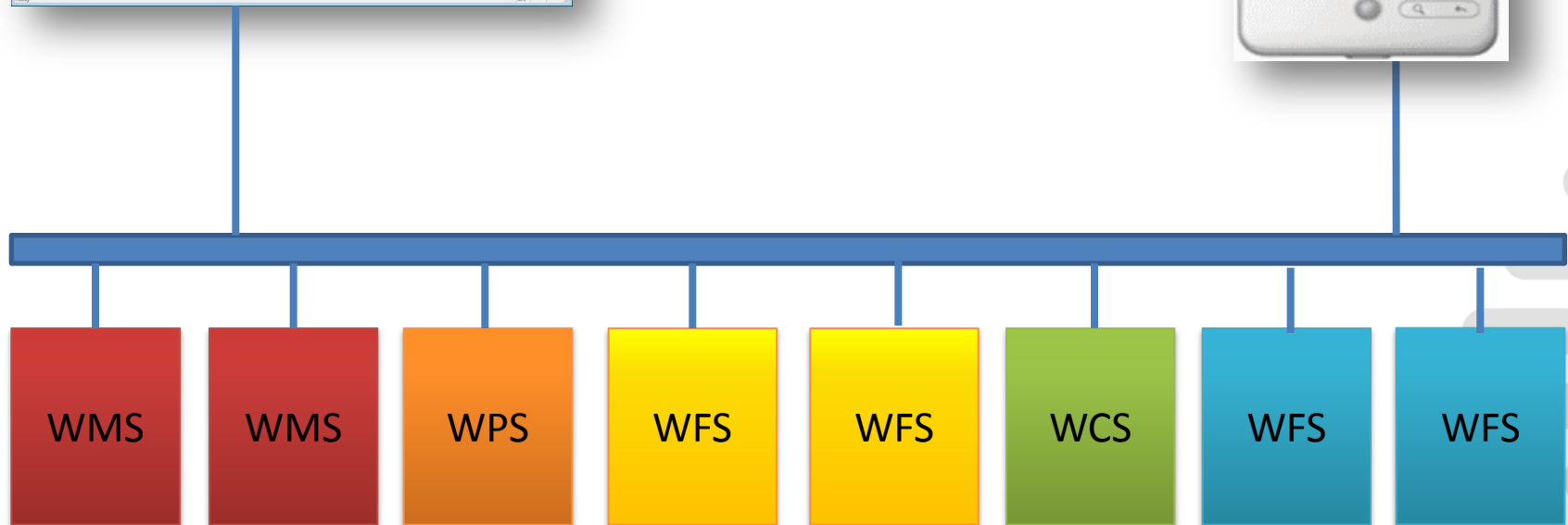
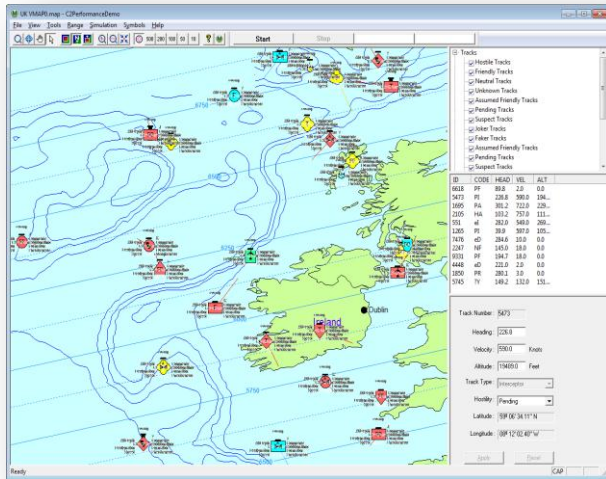


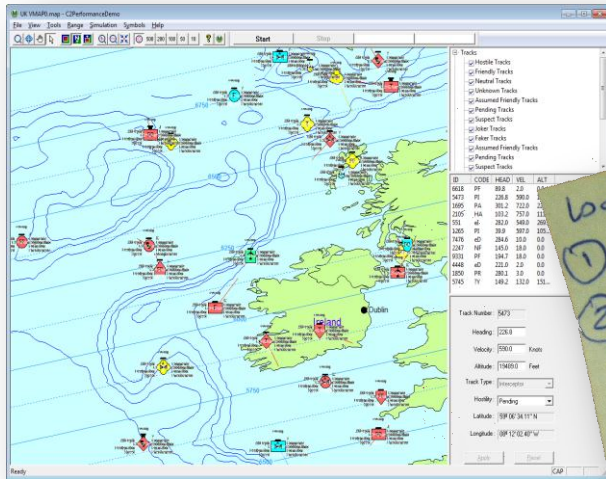
- Very specific views needed
- Support for different views of Information from same data.
- Common, up-to-date information
- Bi-directional flow.

**Envitia MapLink Pro  
Android SDK**

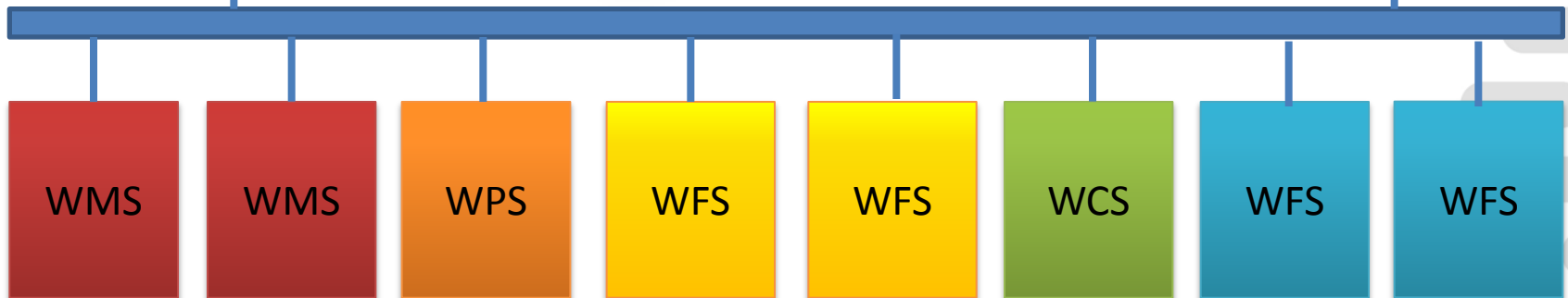
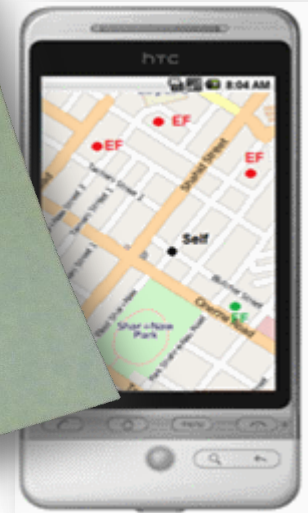




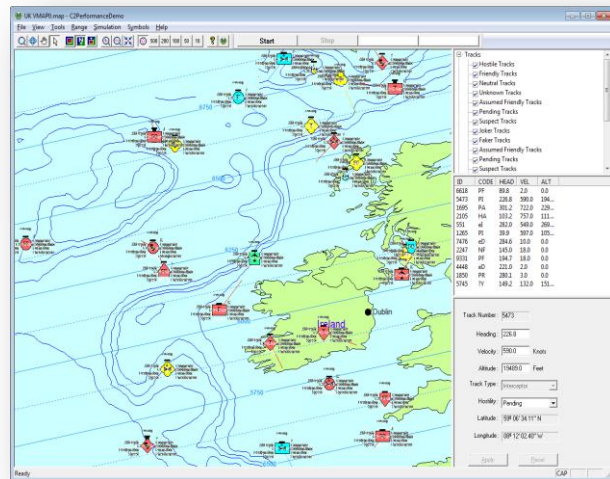




bad these !  
 ① [www.jpl.nasa.gov/wms](http://www.jpl.nasa.gov/wms)  
 ② [www.em.signet.com/wms](http://www.em.signet.com/wms)  
 And zoom to:  
 Lat  $51^{\circ}12'$   $53^{\circ}20'$   
 Lon  $010^{\circ}17'$   $010^{\circ}25'$







OWS  
Context



WMS

WMS

WPS

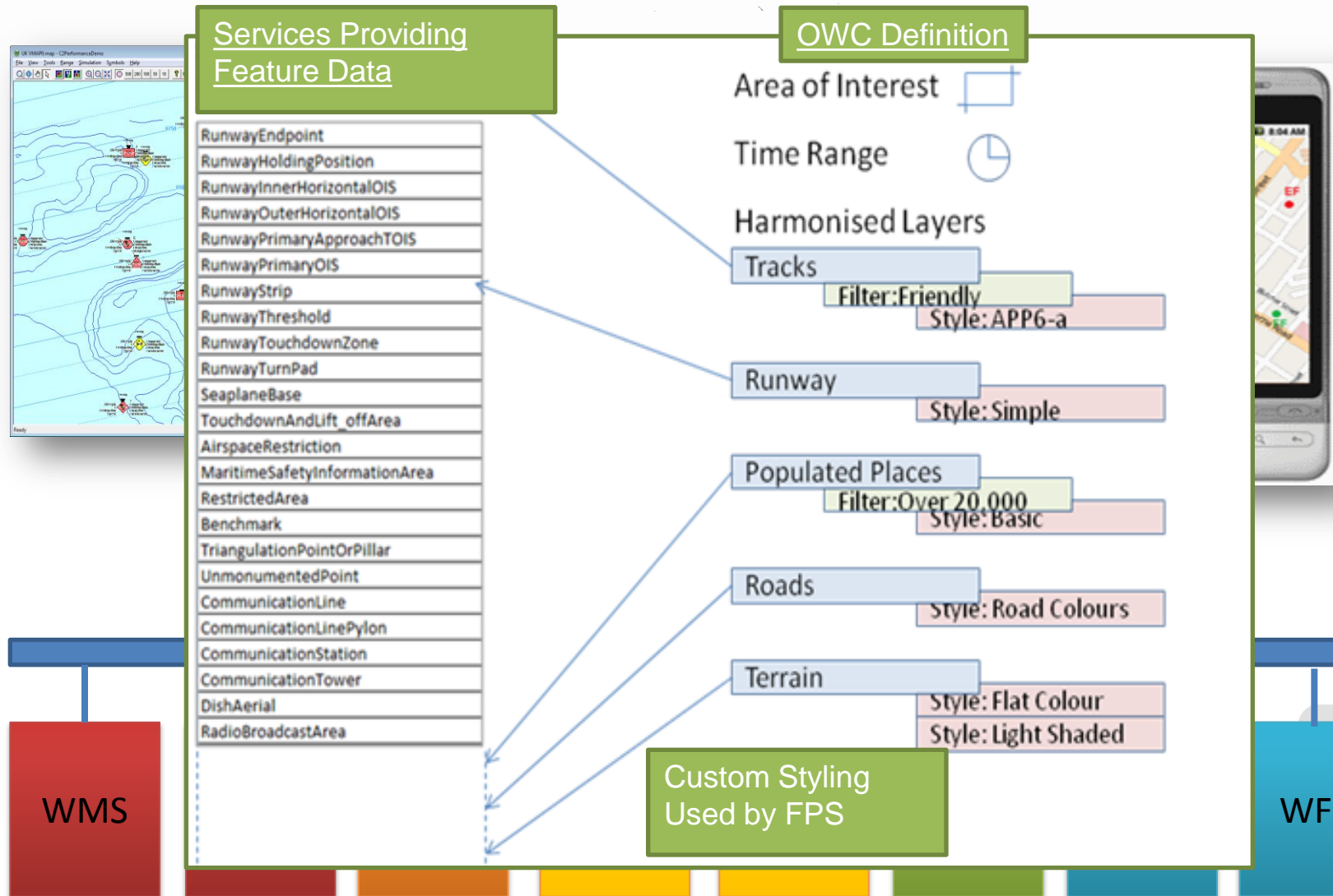
WFS

WFS

WCS

WFS

WFS



UKHO - Defence Maritime Geospatial Services - Mozilla Firefox

File Edit View History Bookmarks Tools Help

UKHO - Defence Maritime Geospatial Se... +

**THE UNITED KINGDOM HYDROGRAPHIC OFFICE** **DMarGS Portal** *Powered by Envitia* Help

Overview Catalogue Viewer Download

**Search**

ARCS Search

Products Advanced

☒ Select Area

**Current View**  
Left: -22.226 Right: -1.774  
Top: 62.595 Bottom: 51.405

☐ Select Title  
☐ Select Product Type(s)  
☐ Select Catalogued Date  
☐ Select Citation Date  
☐ Select Classification  
☐ Select Scales

Clear Results Clear Filters

Search

**Geographic**

AOI: User Defined

**Information**

DLat: 57.6500  
DLon: -15.3314  
Lat: 57° 39' 0" N  
Lon: 15° 19' 52" W

Start Point ( x, y ):  
End Point ( x, y ):

**Product Search Results** *Returned 270 results.*

Name	Date	Extent	Product	Class.	Action
British Isles	2011-06-03	-14.5517 47.6365 4.2167 63.5122	ARCS	Unclassified	
Approaches to Holyhead	2011-05-31	-4.75687 53.2601 -4.49389 53.4983	ARCS	Unclassified	
Bantry Bay Black Ball Head to Shot Head	2011-06-03	-10.0811 51.5261 -9.63218 51.7146	ARCS	Unclassified	
North Atlantic Ocean Northern Part	2011-06-03	-84.7286 25.2248 12.9100 67.4128	ARCS	Unclassified	

Selected Information

Product Search Results Gazetteer Search Results Metadata

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Overview Catalogue Viewer Download

**Layers**

- ☐ TotalTide
- ☒ Gazetteer
- ☒ Scotland West Coast
- ☒ Western Approaches to the Orkney and Shetland Islands
- ☒ Western Approaches to Ireland
- ☒ Banks North-West of the Hebrides
- ☒ Banks West of the Hebrides
- ☒ Outer Approaches to the North Channel
- ☒ Water Column
- ☒ Vector Map

**Geographic**

NOT FOR NAVIGATION OR TARGETING USE

55° 12' 8" N, 10° 38' 44" W

**Drawing**

**Drawing Tools**

- Point
- Polygon
- Circle
- Polyline
- Speech
- Select
- Text
- Delete

**Drawing Style**

**Area**

Colour: [Red]

**Metadata**

**Data Identification**

Title	Scotland West Coast
Abstract	ARCS Chart containing raster maritime data. Chart GB-2635 - Scotland West Coast.
Language	eng (English)
Scale	500000
Keywords	PRODUCT:ARCS
Publication Date	2010-11-11
Security	

Metadata Attributes XZ OC Legend Total Tide



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**THE UNITED KINGDOM HYDROGRAPHIC OFFICE** **DMarGS Portal** *Powered by Envitia* Help

Overview Catalogue Viewer Download

**Layers**

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- ☒ Western Approaches to Ireland
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- ☒ Banks West of the Hebrides
- ☒ Outer Approaches to the North

**Drawing**

**Drawing Tools**

- Point Polygon Circle
- Polyline Speech Select
- Text Delete

**Drawing Style**

**Area**

Colour:  

Opacity (%): 25

**Line**

Colour:  

Style: Solid

Thickness (px): 2

Opacity (%): 100

**Point**

Style: Square

Radius (m): 3

**Geographic**

**Patrol Station**

NOT FOR NAVIGATION OR TARGETING USE

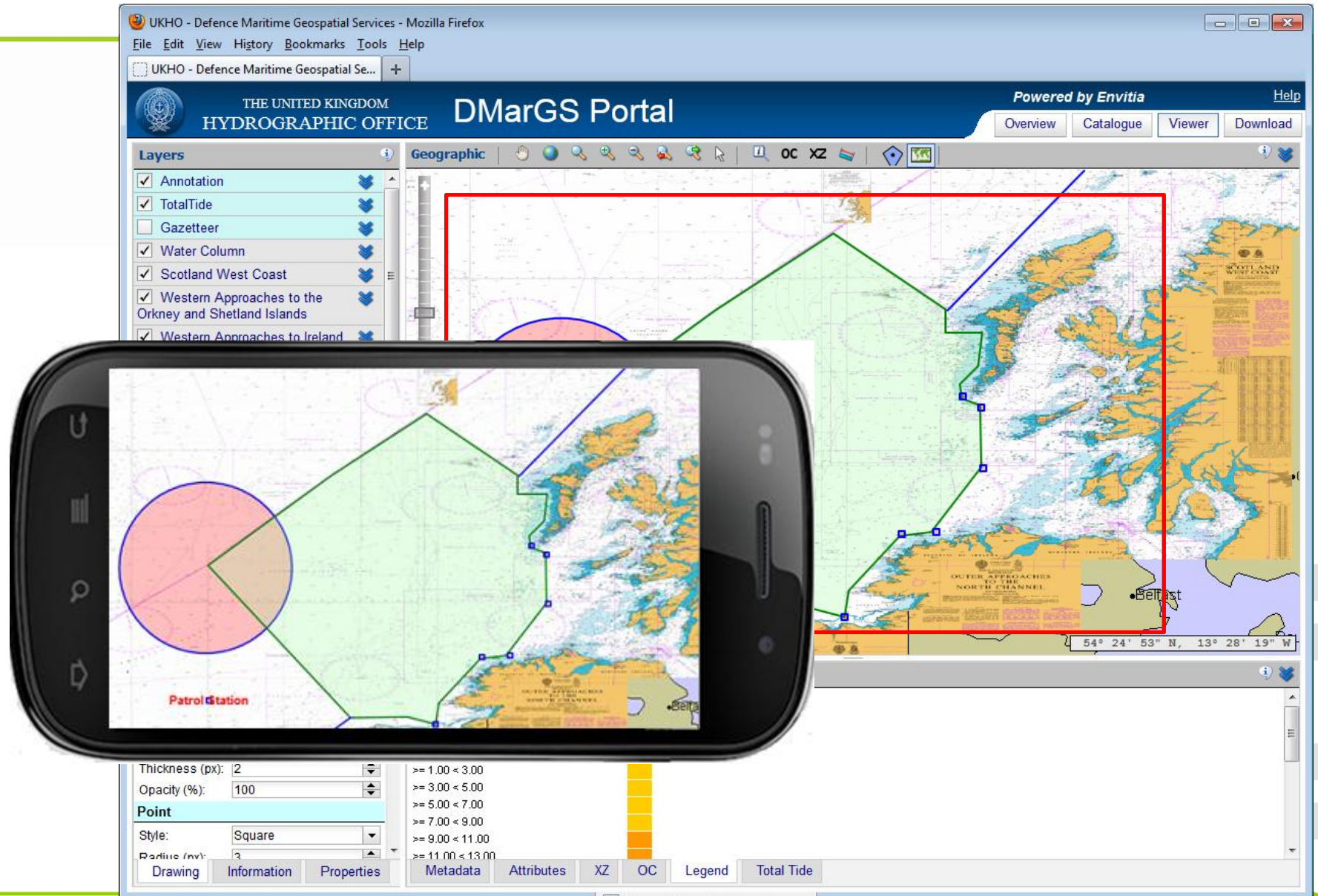
**Legend**

**temperature**

**GPPDB Point/Temperature Raster Grid**

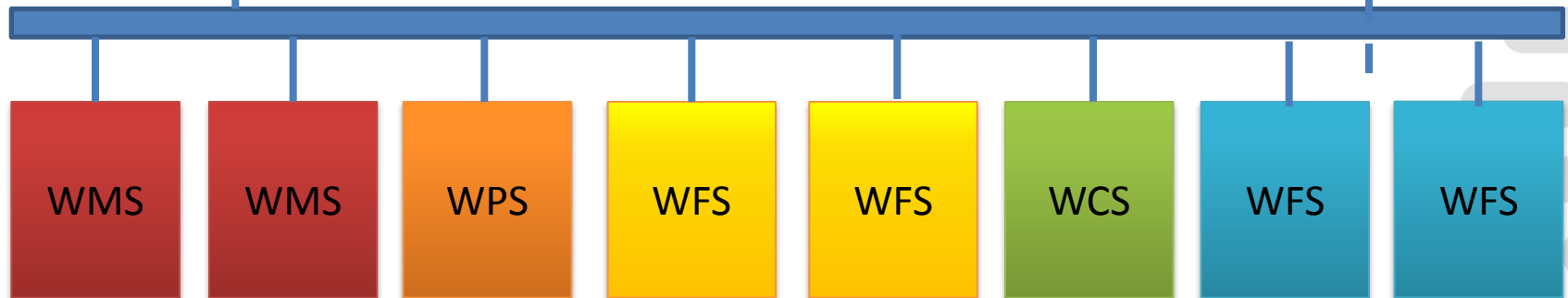
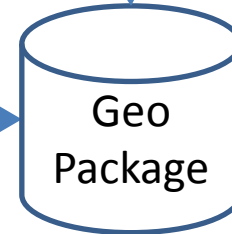
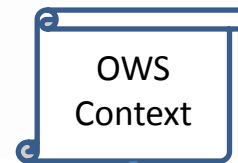
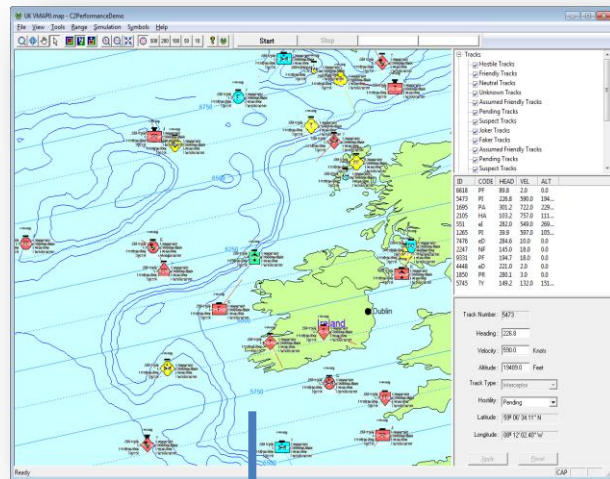
- $\geq -3.00 < -1.00$
- $\geq -1.00 < 1.00$
- $\geq 1.00 < 3.00$
- $\geq 3.00 < 5.00$
- $\geq 5.00 < 7.00$
- $\geq 7.00 < 9.00$
- $\geq 9.00 < 11.00$
- $\geq 11.00 < 13.00$

Metadata Attributes XZ OC Legend Total Tide

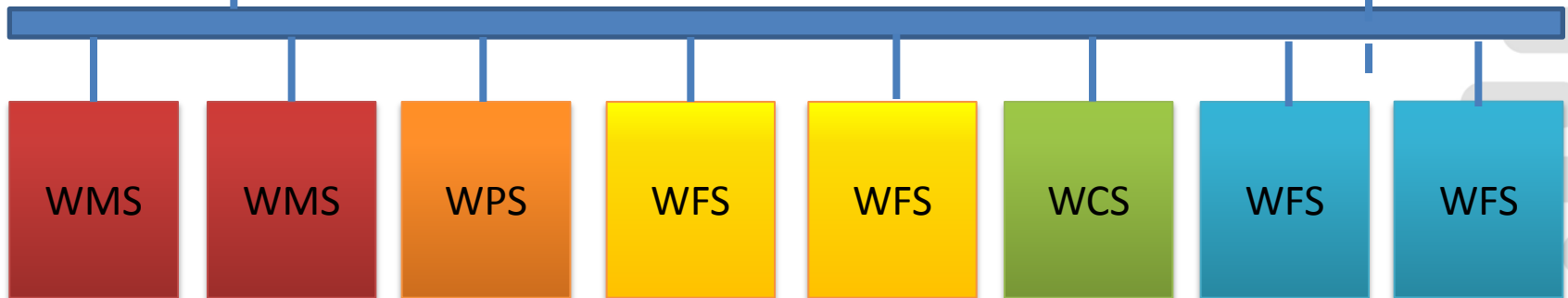
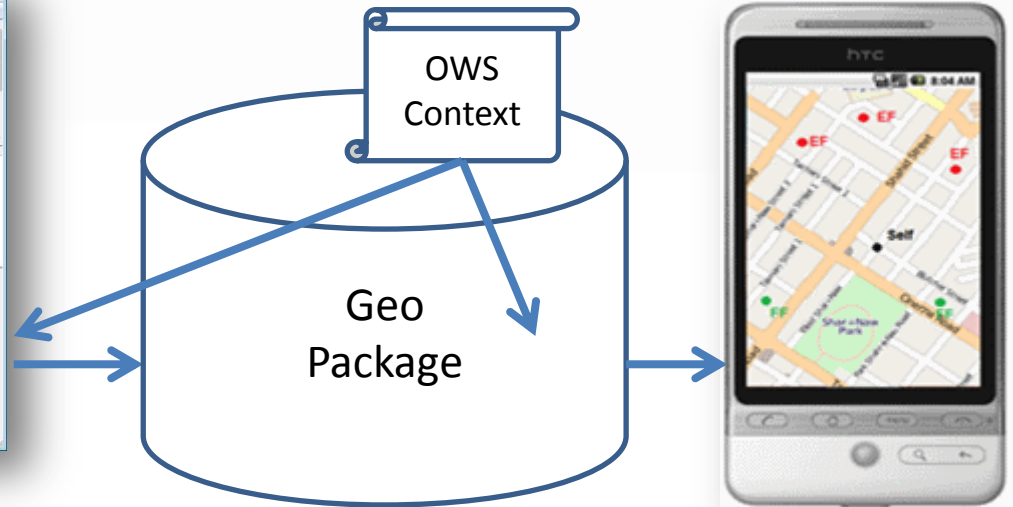
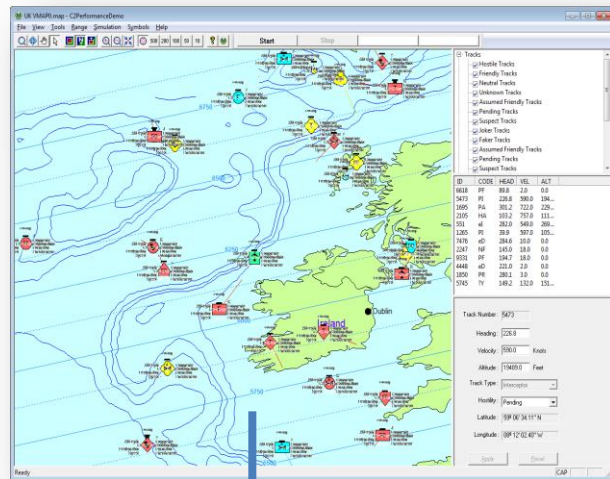




Context could provide the 'recipe' for a GeoPackage.



Context could reference content in geo-package as well as on-line (alternatives)





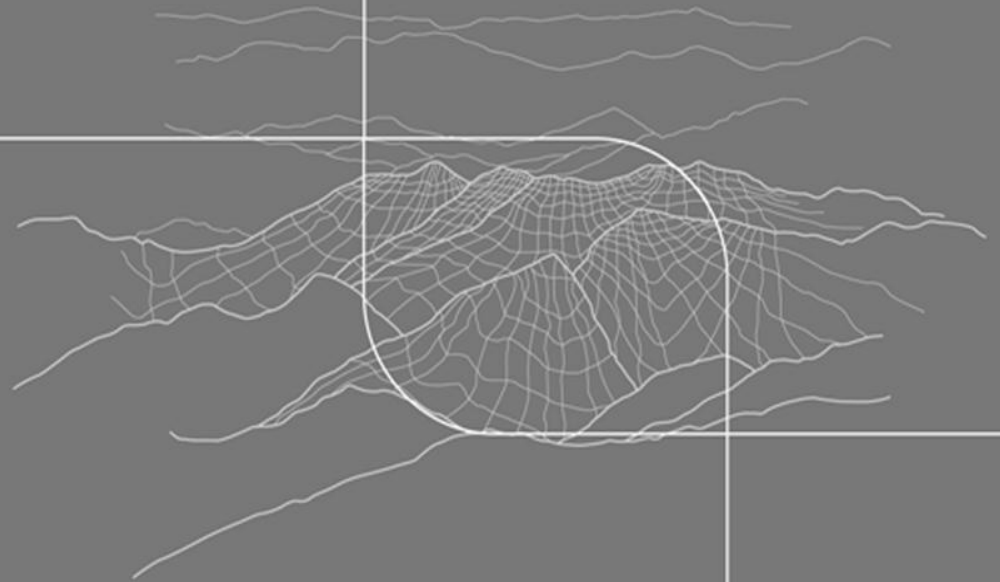
### Only effective way to allow multiple technologies to interoperate

- **Services**

- In complex environments (e.g. Disaster Management allows all users to collaborate)
- See OWS Demonstration Videos
- <http://www.opengeospatial.org/ogc/programs/ip>

- **Views**

- Shared Views are a critical evolution of the Standards. At present sharing between technologies is hard.
- The Ability to exchange these in an open standards way (OWS Context and GeoPackage) is critical.
- (OWS-9 Results Videos coming Soon showing OWS Context and GeoPackage)



# Questions

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