

INSPIRE: The ESRI Vision

Tina Hahn, GIS Consultant, ESRI(UK)

Miguel Paredes, GIS Consultant, ESRI(UK)

Overview

- Who are we?
 - Introduction to ESRI Inc. and ESRI(UK)
 - Presenters
- ArcGIS
- The ESRI Solution to INSPIRE
 - Components
 - Standards
 - Quality
- Sample Scenarios
- Summary

Introduction to ESRI Inc and ESRI (UK)

- ESRI is the **world leader** in GIS (geographic information system) modelling and mapping software and technology
- Global company founded in 1969
- 350,000 customers in 150 countries worldwide
- ESRI UK – 300 specialist staff with over 4,300 clients in the UK
- ESRI UK has an extensive track record of delivering enterprise solutions that make businesses more **efficient and effective** through the better use of geographic information

Presenters

About us

Tina Hahn

GIS Consultant,
ESRI (UK)
thahn@esriuk.com

Miguel Paredes

GIS Consultant,
ESRI (UK)
mparedes@esriuk.com

Our presentation

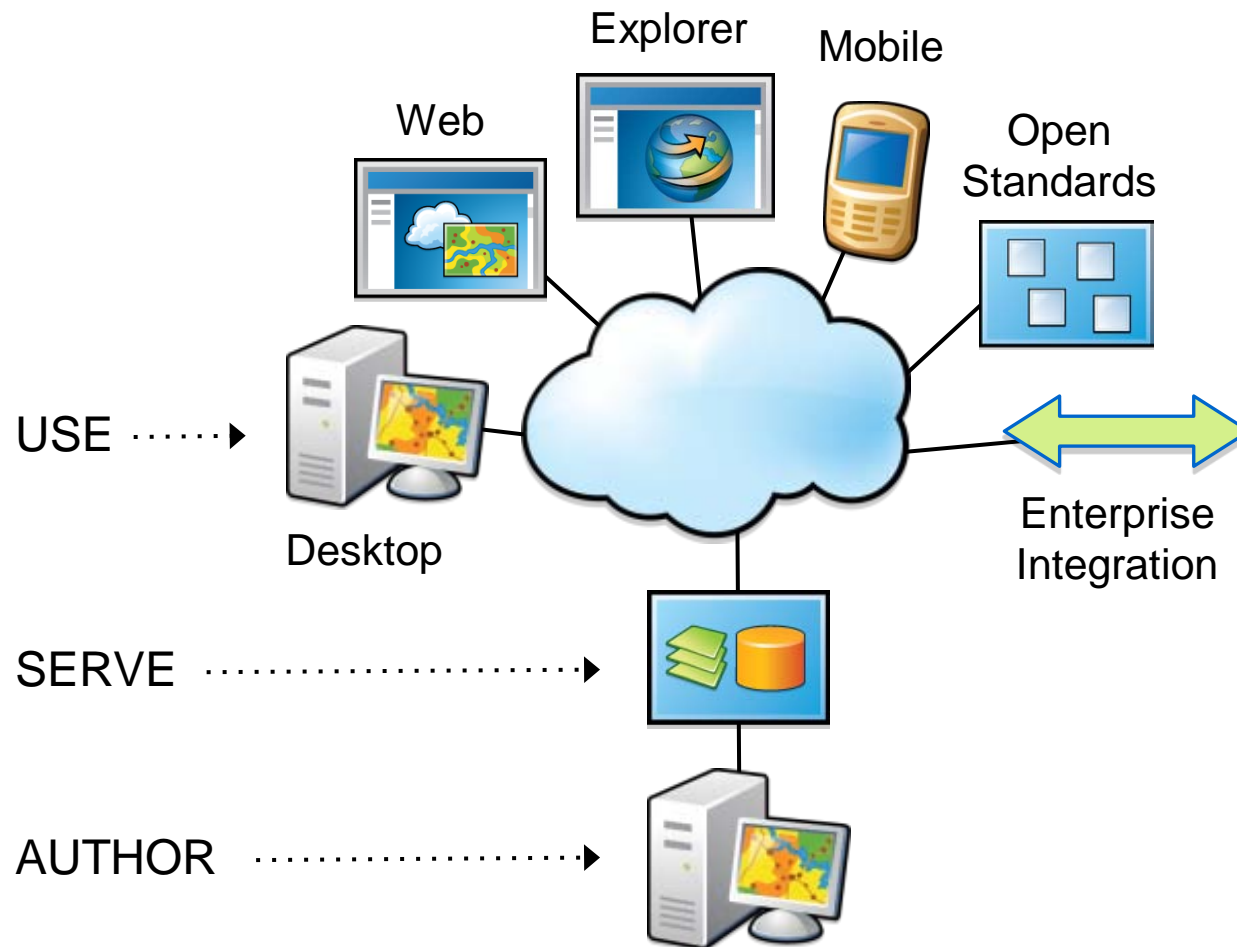
ESRI Solution for INSPIRE:

- Components
- Standards
- Interoperability
- Quality

Our objectives

Present to you a brief introduction to the ESRI solution for INSPIRE; what is it made of; how are standards implemented; and why it is an excellent alternative for implementing INSPIRE compliant SDI.

ArcGIS



Meeting INSPIRE Requirements

■ Core Capabilities:

- Author INSPIRE-compliant geospatial data and metadata
- Serve INSPIRE-compliant Network Services
 - View Service, Download Service, Discovery Service
- Use INSPIRE-compliant geospatial services and data

■ Additional Capabilities:

- Secure access to geospatial services, content, and applications
- Create and apply license models for accessing geospatial services
- Define Quality-of-Service rules for geospatial services and monitor their health

COTS components to build INSPIRE solutions

Components that support Open Standards (OGC, ISO)

- **ArcGIS Desktop**
 - Manage INSPIRE data
 - Manage INSPIRE metadata
 - Includes support for Gemini2 (based on ISO 19115 & INSPIRE compliant)
 - Author INSPIRE web services
- **ArcGIS Server Standard Enterprise**
- **Geoportal extension**
 - INSPIRE Metadata & Discovery Services
- **INSPIRE Fusion Center** for ArcGIS Server
 - INSPIRE Data Models
 - INSPIRE View & Download Services
- **ArcGIS Server Client APIs** as base for a viewer
- **securityManager**
- **licenseManager**
- **serviceMonitor**

ESRI COTS components support open standards (ISO)

- ISO/TC 211 Geographic Information Standards
 - 19106:2004—Profiles
 - 19107:2003—Spatial Schema
 - 19128:2005—Web Map Server Interface
 - 19136:2007—Geography Markup Language
 - 19108:2003—Temporal Schema
 - 19109:2005—Rules for Application Schema
 - 19110:2005—Methodology for Feature Cataloging
 - 19111:2003—Spatial Referencing by Coordinates
 - 19112:2003—Spatial Referencing by Geographic Identifiers
 - 19113:2002—Quality Principles
 - 19114:2003—Quality Evaluation Procedure
 - 19115:2003—Metadata
 - 19139:2007—Metadata: XML Schema Implementation
 - 19118:2005—Encoding
 - 19119:2005—Services
 - 19123:2005—Schema for Coverage Geometry
 - 19125:2004—Simple Feature Access—Parts 1–2

ESRI COTS components support open standards (OGC)

- OGC
 - WMS (1.0.0, 1.1.0, 1.1.1, 1.3.0)
 - WFS (1.0, 1.1) WFS-T (1.1)
 - WCS (1.0.0, 1.1.0, 1.1.1)
 - CS-W (2.0.1, 2.0.2)
 - SLD (1.0)
 - KML (2.1, 2.2)
 - GML (3.1.1, 3.2.1)
 - GMLsf (1.0.0)
 - SFO (1.1)
 - SFS (1.1, 1.1.0, (NG)1.1, (TF) 1.1, (BG) 1.1)

ESRI solution for INSPIRE (1)

ArcGIS Desktop & Server

- **ArcGIS Desktop**
 - **Manage INSPIRE data**
 - Create, visualize, analyze
 - **Manage INSPIRE metadata**
 - Edit and validate INSPIRE metadata
 - Publish INSPIRE metadata in the Geoportal
 - **Author INSPIRE web services**
 - Create INSPIRE View and Download services

- **ArcGIS Server Standard Enterprise**
 - **Serving INSPIRE Data**

ESRI solution for INSPIRE (2)

Geoportal extension

■ INSPIRE Metadata

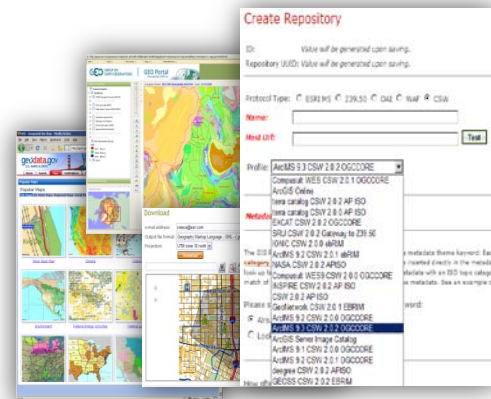
- Create, manage, publish, and store INSPIRE metadata

■ INSPIRE Discovery Services

- Provides complete support for the INSPIRE Discovery Services specification (OGC CSW ISO AP and additional required INSPIRE capabilities)

■ Other Geoportal functionalities

- Search and view geospatial resources
- View live map services
- Download data
- Distributed catalogs management
 - Directed and federated search
 - Harvesting
- Search and publish integrated with ArcGIS Desktop, search applications for ArcGIS Explorer, Flex API, ...



ESRI solution for INSPIRE (3)

INSPIRE Fusion Center Extension for ArcGIS Server

- **Extends the ArcGIS platform with core INSPIRE capabilities**
- **INSPIRE View Service Extension for ArcGIS Server**
 - Map generation & data source handling following the INSPIRE rules
 - Provides complete support for the INSPIRE View Service specification
- **INSPIRE Download Service Extension for ArcGIS Server**
 - Complex feature query and access following the INSPIRE rules
 - Provides complete support for the INSPIRE Download Service and INSPIRE Data Encoding specification
- **INSPIRE Annex Data Models as Enterprise Geodatabases**
 - Ready-to-use INSPIRE Data Models utilizing GDB technology
 - Provides complete support for the INSPIRE Annex I Data Model specifications

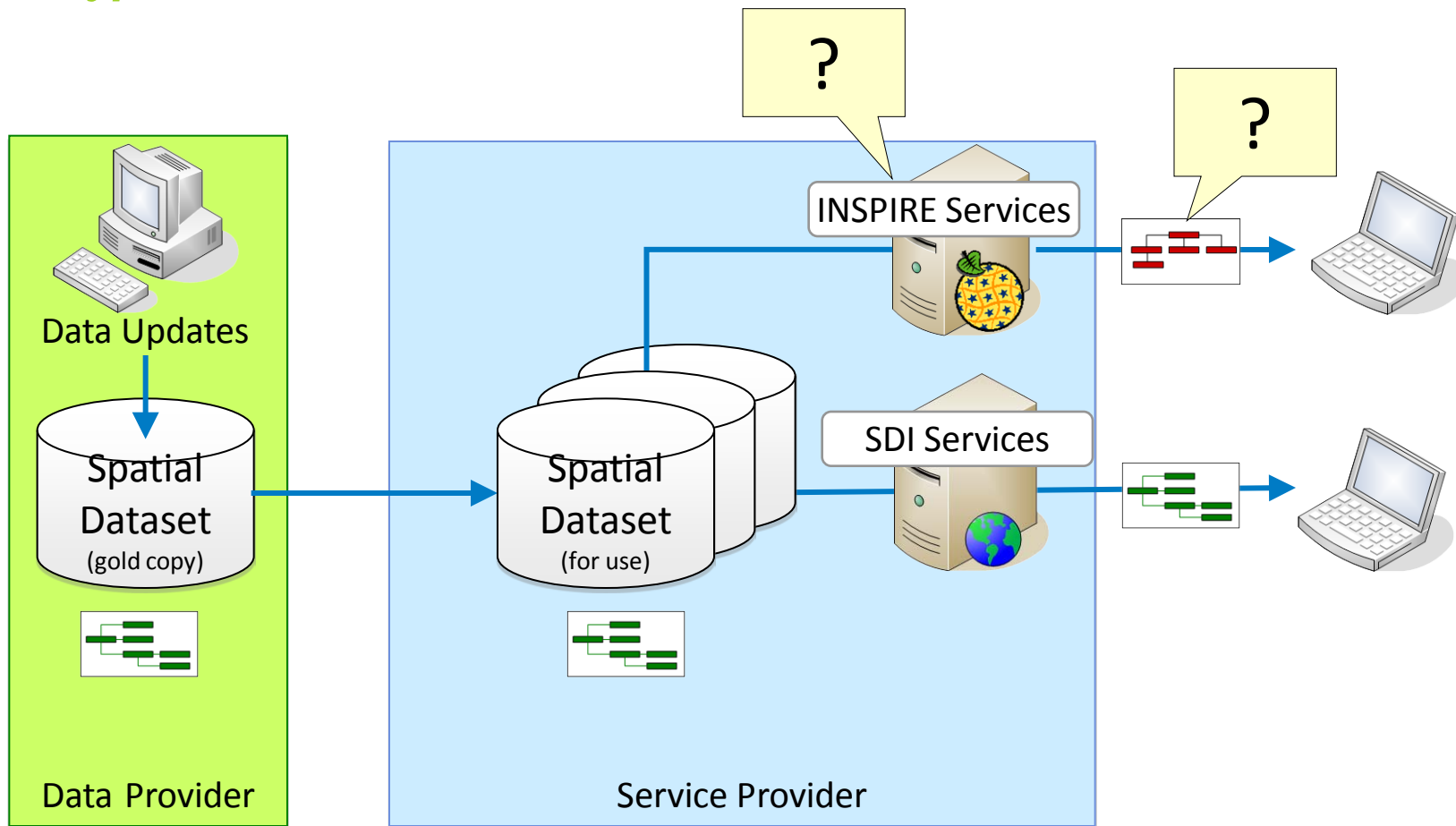
ESRI solution for INSPIRE (4)

Additional Products

- **Provide Value-Add and Distinguishing Capabilities**
 - Works with Geoportal extension and/or ArcGIS Server/Desktop
- **securityManager**
 - Fine grained access policies and user management
 - Secured access to spatial data services, content and applications supporting INSPIRE Data Sharing
- **licenseManager**
 - Commercial/non-commercial license models with or without restrictions
 - Licensed access to spatial data services, content and applications supporting INSPIRE Data Sharing
- **serviceMonitor**
 - Monitor and report on the “quality” of service of geospatial services
 - Supporting the INSPIRE Quality-of-Service requirements of INSPIRE

Publication of Data in INSPIRE

A Typical Pattern

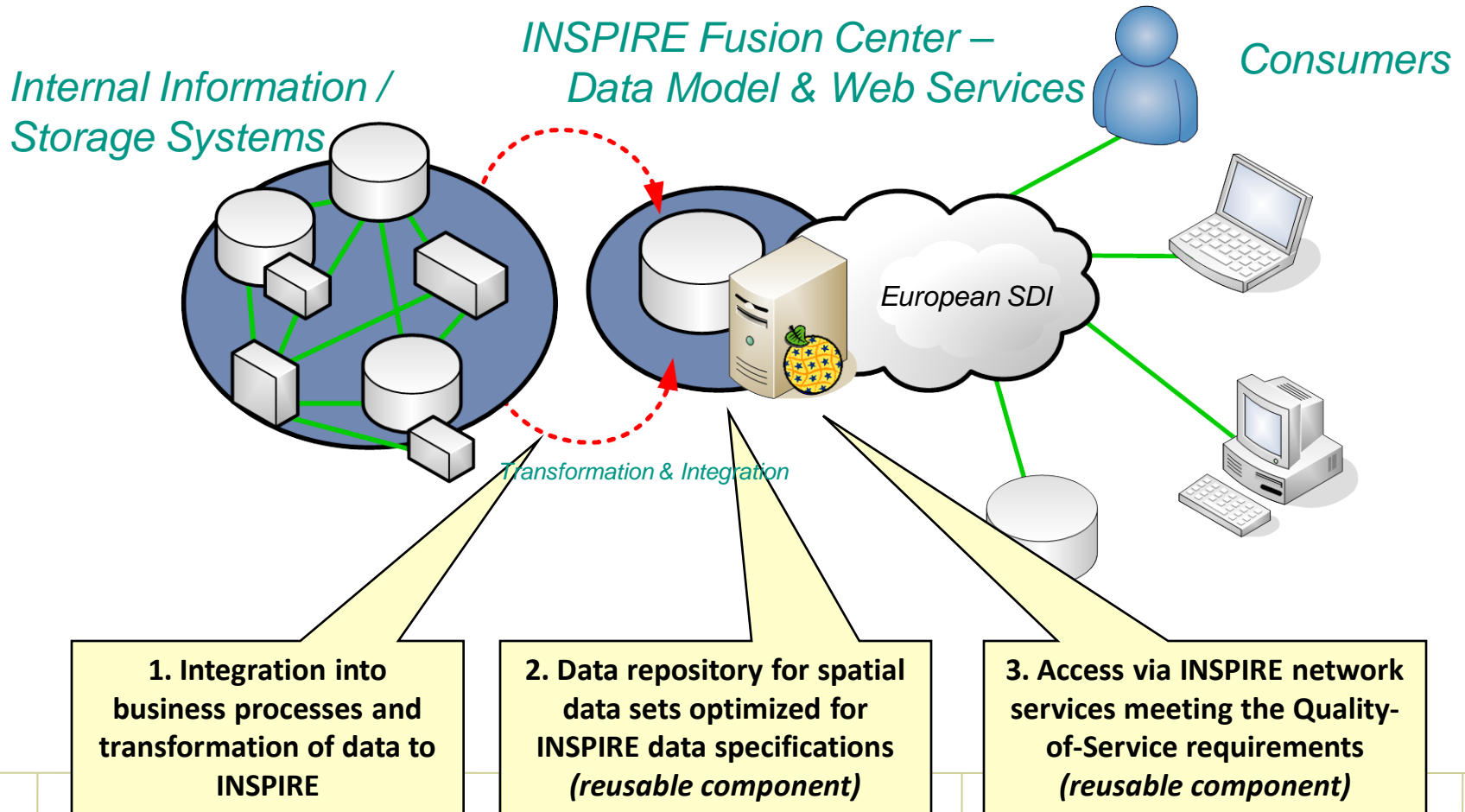


Data & Service Provider may be the same organisation

Publication of data in INSPIRE

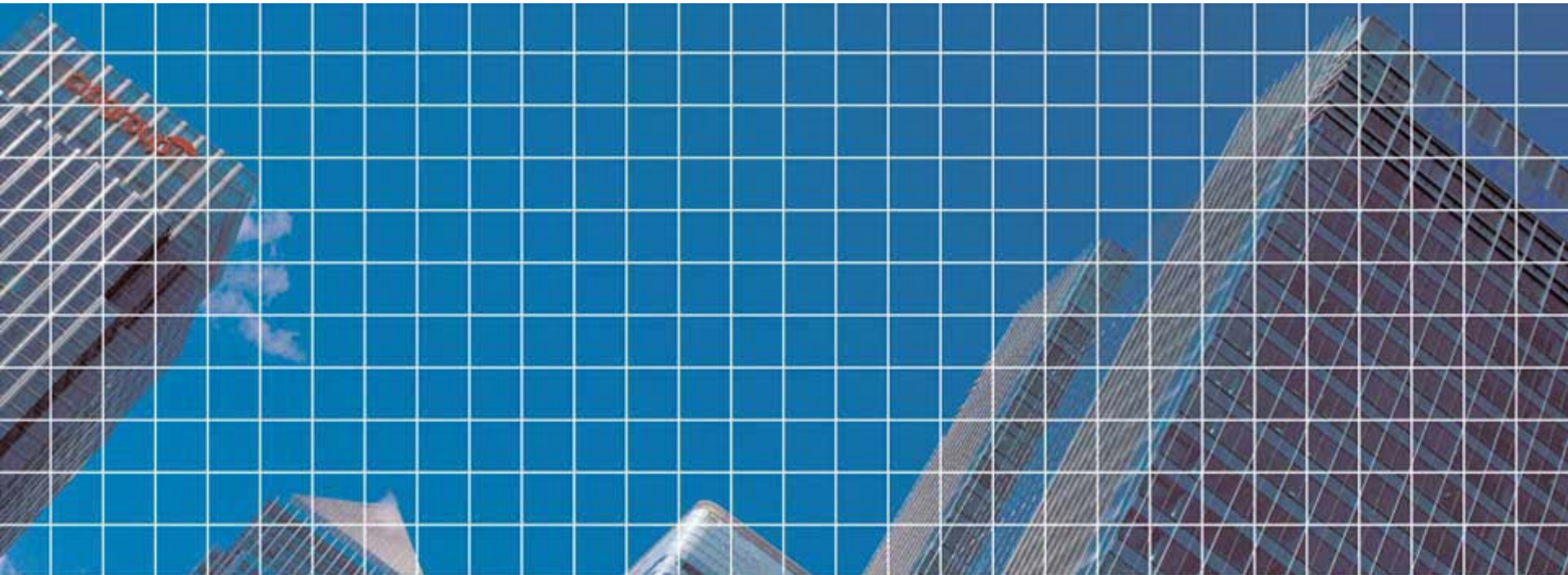
INSPIRE Fusion Centre

Three key tasks required for this solution pattern



Summary

- ESRI has a solution for INSPIRE
 - Flexible implementation via a collection of COTS components
 - Fits within a wide variety of infrastructures
 - Adheres to standards (ISO, OGC)
 - Delivers information and data in a secure, interoperable manner
-
- An excellent alternative for implementing an INSPIRE compliant SDI



Tina Hahn

Consultancy Services

Contact:

Suite 3/4, Great Michael House,
Edinburgh, EH6 7EZ

+44 131 561 1721

thahn@esriuk.com

Miguel Paredes

Technical Solutions Group

Contact:

Millennium House, Aylesbury, Bucks, HP21 7QG

+44 1296 745 500

mparedes@esriuk.com