Factors driving SDI

- **Explosion of geospatial data**: amount of data managed by corporations is growing (along with refinements in digitizing processes)

- **Maturity of geospatial technology** (standards in place)

- **Demand for instant access** to any available geospatial sources in a situational context of a user.

- **Interconnecting information silos** in government, in corporations in any organization or community
What is SDI

SDI = **Spatial Data Infrastructure**

![Diagram of SDI components](image)

**SDI evolution**

1. **Spatial data transfer standards**
   - data redundancy and numerous synchronization problems
   - ETL only

2. **Spatial data clearinghouses**
   - Sites through which a number of services related to spatial data can be accessed
   - implemented as a means to obtain “off-the-shelf” data
   - Less functional capabilities available
   - Data oriented
3. Spatial data infrastructures

- “technologies, policies, and people necessary to promote sharing of geospatial data through all levels of government, the private and non-profit sectors, and the academic community”

- Provide standardized access to different geodata providers through service oriented architecture

- Requires a registry or catalog of available services and Metadata

SDI evolution

4. Geoportals

- SDI frontend
- Web site that presents an entry point to geographic content on the Web
- Focus on user and user experience
- Includes tools for discovery of information sources and content and online access to Web-based services
**INSPIRE**= the European way of SDI

- Bringing data and services together through a Spatial Data Infrastructure
- Data remain with the organizations that collect them and maintain them
- Easy to discover and access data and services for users
- Adopting common standards and protocols
- Publish-Find-Bind pattern

Building bridges with SDI

<table>
<thead>
<tr>
<th>Organization A</th>
<th>Organization B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment A</td>
<td>eBusiness Service</td>
</tr>
<tr>
<td></td>
<td>authentication, authorization Service</td>
</tr>
<tr>
<td></td>
<td>Services WMS, WFS, CSW, WPS..</td>
</tr>
<tr>
<td></td>
<td>Data Formats: JPG, GML,..</td>
</tr>
<tr>
<td></td>
<td>Hosting Infrastructure</td>
</tr>
</tbody>
</table>

**Environment**

**Image**

- ![Diagram of INSPIRE](image)
- ![Diagram of Building bridges with SDI](image)
End-to-end SDI implementation

GeoMedia SDI solution
SDI clients

- Universal medium for any geospatial data
- Treat remote source same as local source
SDI server

GeoMedia WebMap

Create and configure "out of the box" web services with WebMap Publisher

- Generate Map (WMS)
- Manipulate Feature (WFS)
- Catalogue (CSW)
- Address Geocoding (OpenLS)
  - and Reverse Geocoding
- Generate Route (OpenLS) (Pro only)
- Coverage (WCS)
- KML publish and data server
- WCS (coverage) data server
GeoMedia WebMap Data consumed by standard OGC clients

1. Core configuration of Services in GeoMedia
2. Extending configuration via Publisher in Meta DB
3. Supply SDI Services
1. Create Service
2. Create Map Composition
3. Publish

GeoMedia WebMap Publisher

Publish metadata

Data consumer A
Data consumer B
Spatial extent
Theme
Coord.sys
Time stamp
GeoMedia SDI PRO
Catalogue and Search Solution

OGC CS-W Standard
GeoMedia Fusion Data harmonization

- **People**: competence and dedication. Market, industry and technology knowledge
- **Solutions**: One size doesn’t fit all. Products plus projects
- **Standards**: committed to industry standards and openness
- **Innovation**: distributed geospatial warehousing
- **End-to-End**: Intergraph is the only global geospatial software company providing professional services as part of its business model locally
Thank You