

The “Hub”

The GeoSmartCity Hub and Services

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Overview of Presentation

What problems does the Hub solve

What is the the Hub

What does the Hub do

Next steps, further work

The Hub: a **manageable** geospatial platform

Feature rich

- «All the» geospatial FLOSS components
- Supports multiple data infrastructures

Robust

- Solid integration

Scalable

- Can be extended to support larger volumes

Manageable

- Easy to update, maintain, separation of applications from data

FLOSS

Useful (rather than Exciting?)

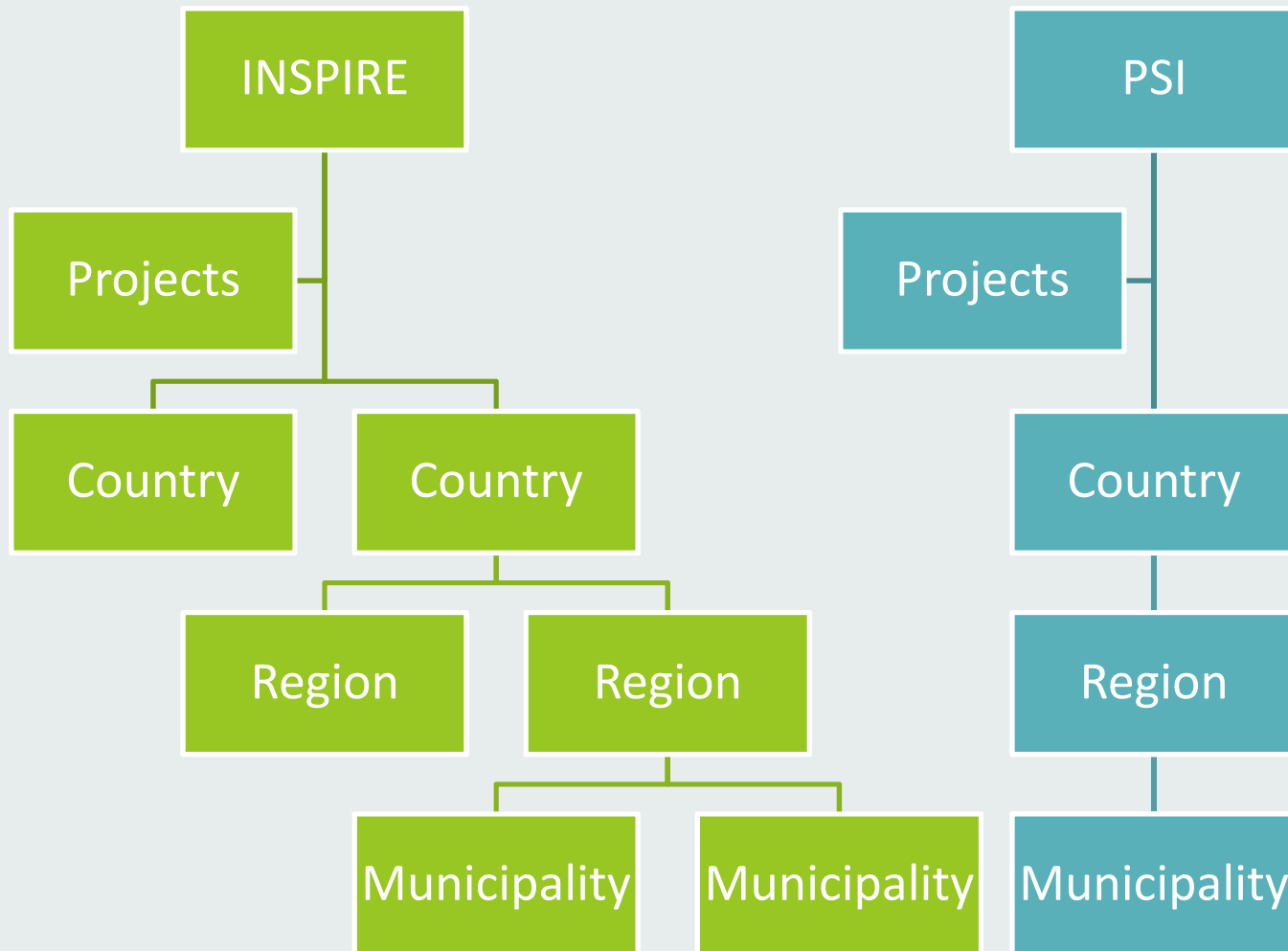
2016: Mostly, people still just want «a map»

30 years on, most GIS needs are
about making and sharing maps

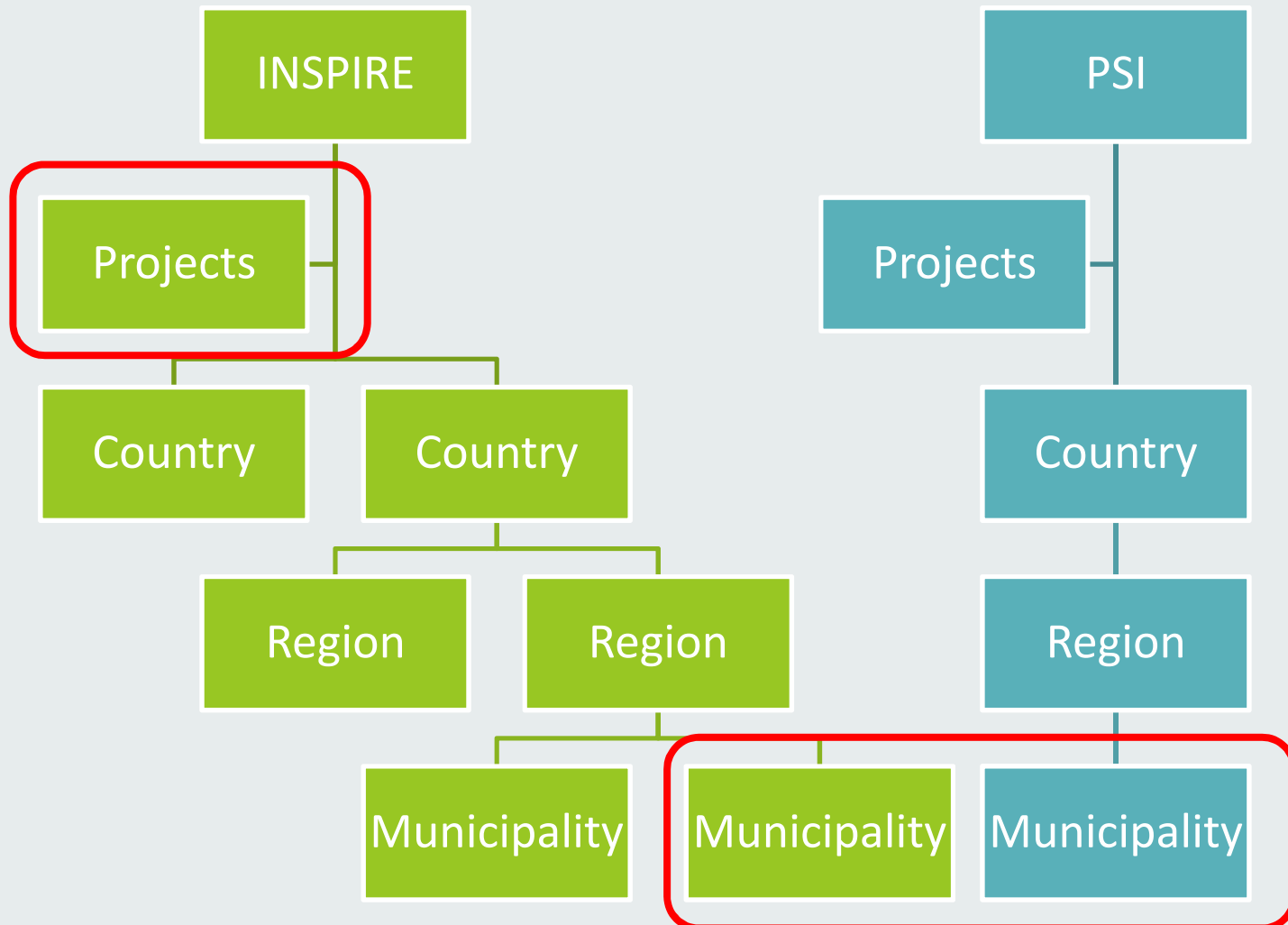
The reality of INSPIRE is dawning on Europe

It didn't stop with the transposition
of the directive into law... Action
must follow

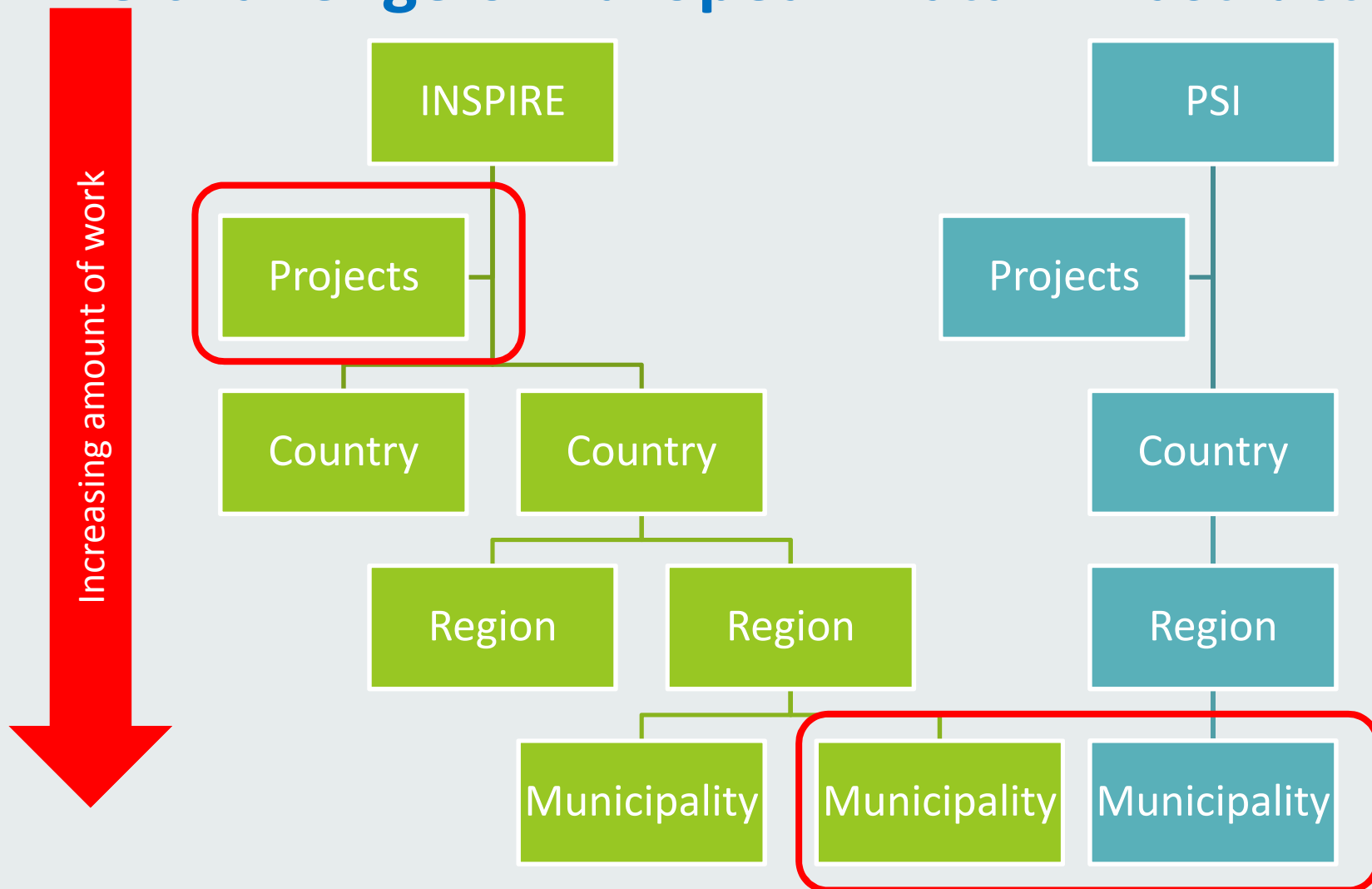
The challenge of European Data Infrastructures



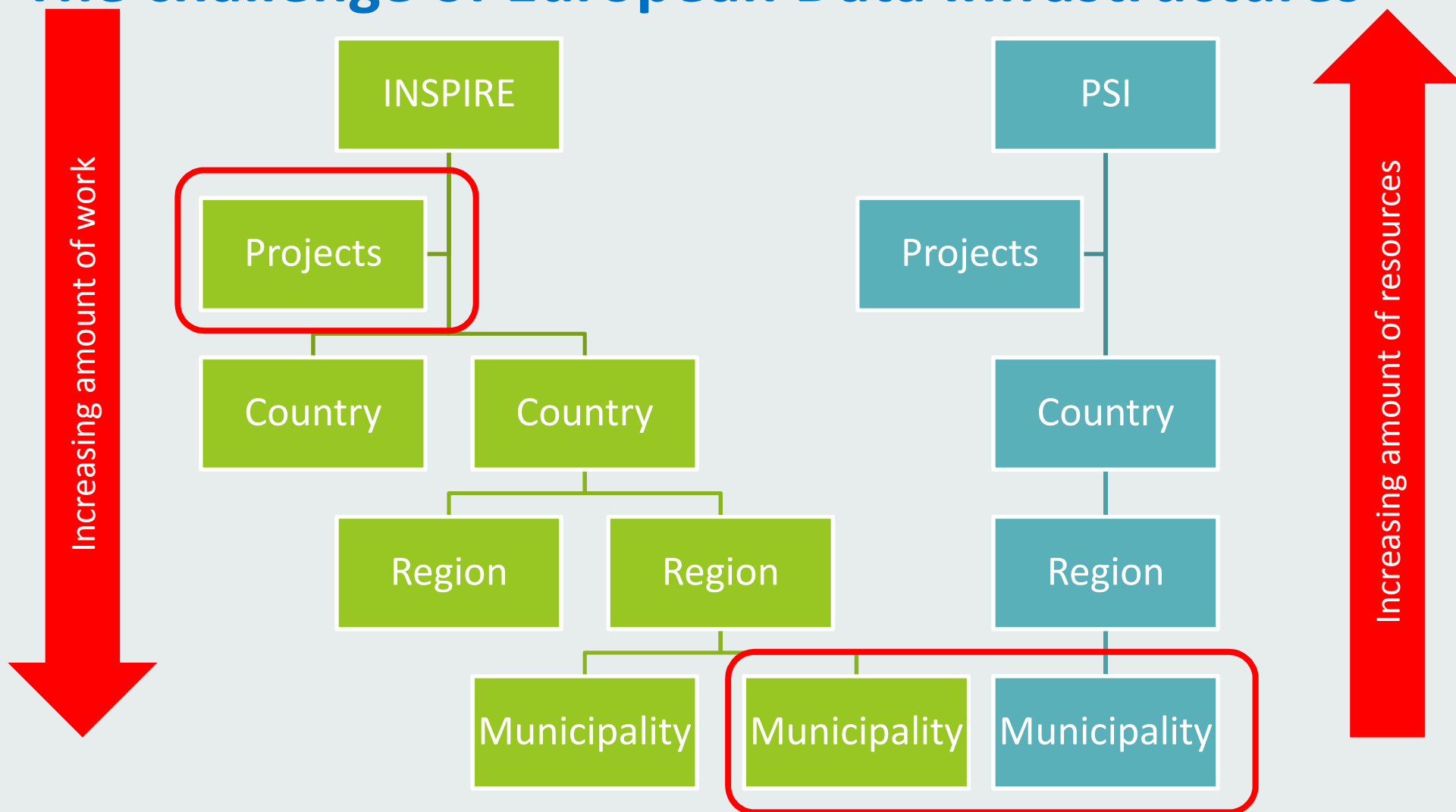
The challenge of European Data Infrastructures



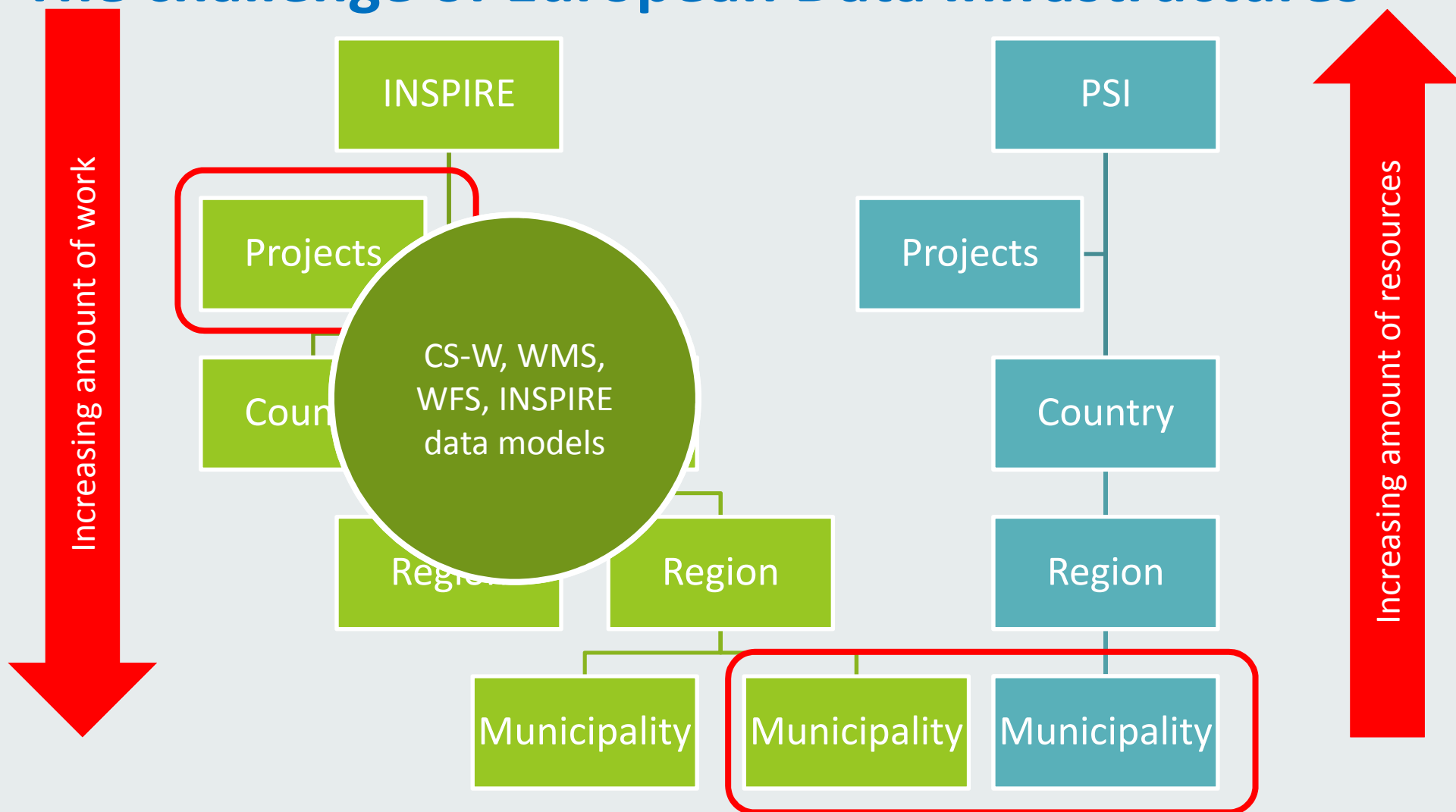
The challenge of European Data Infrastructures



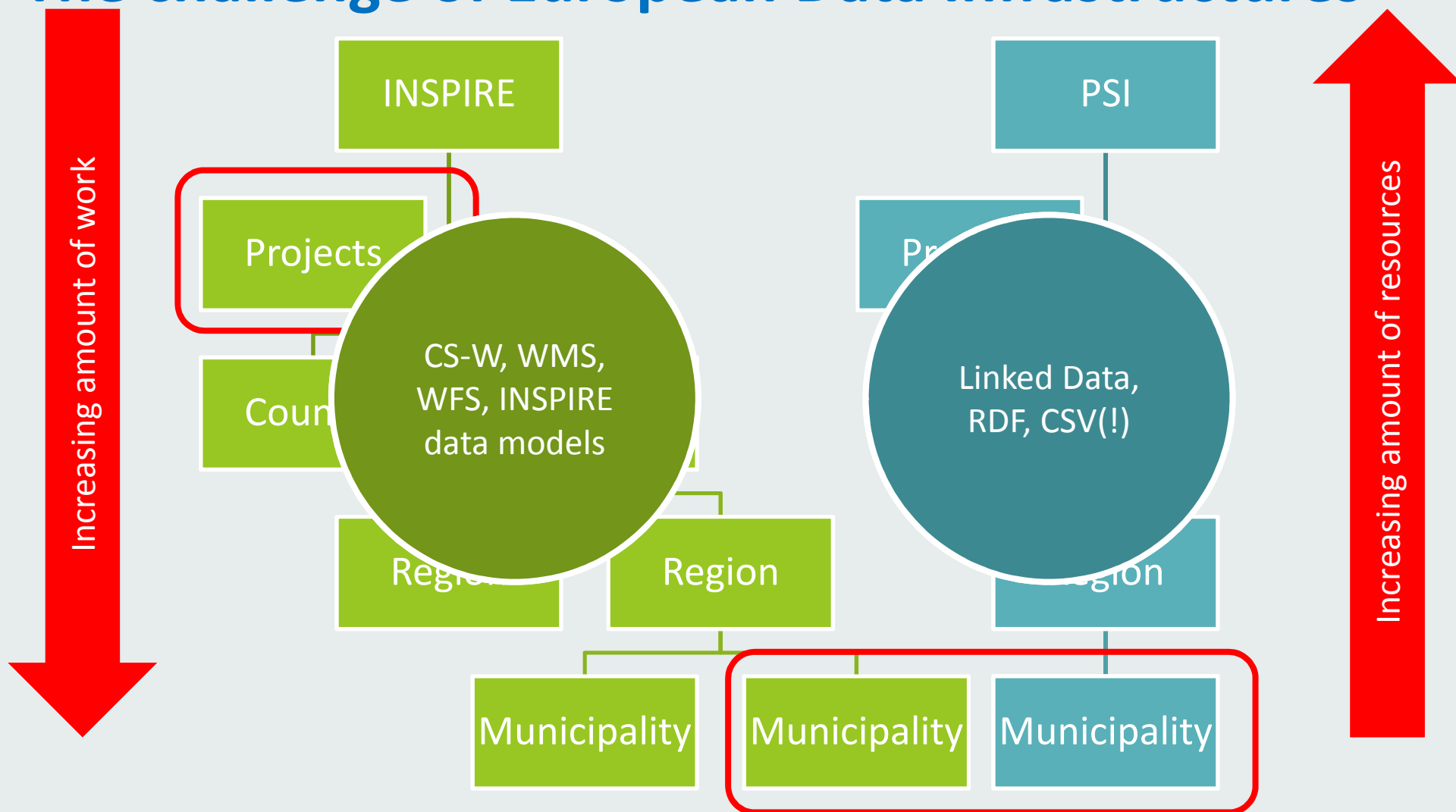
The challenge of European Data Infrastructures



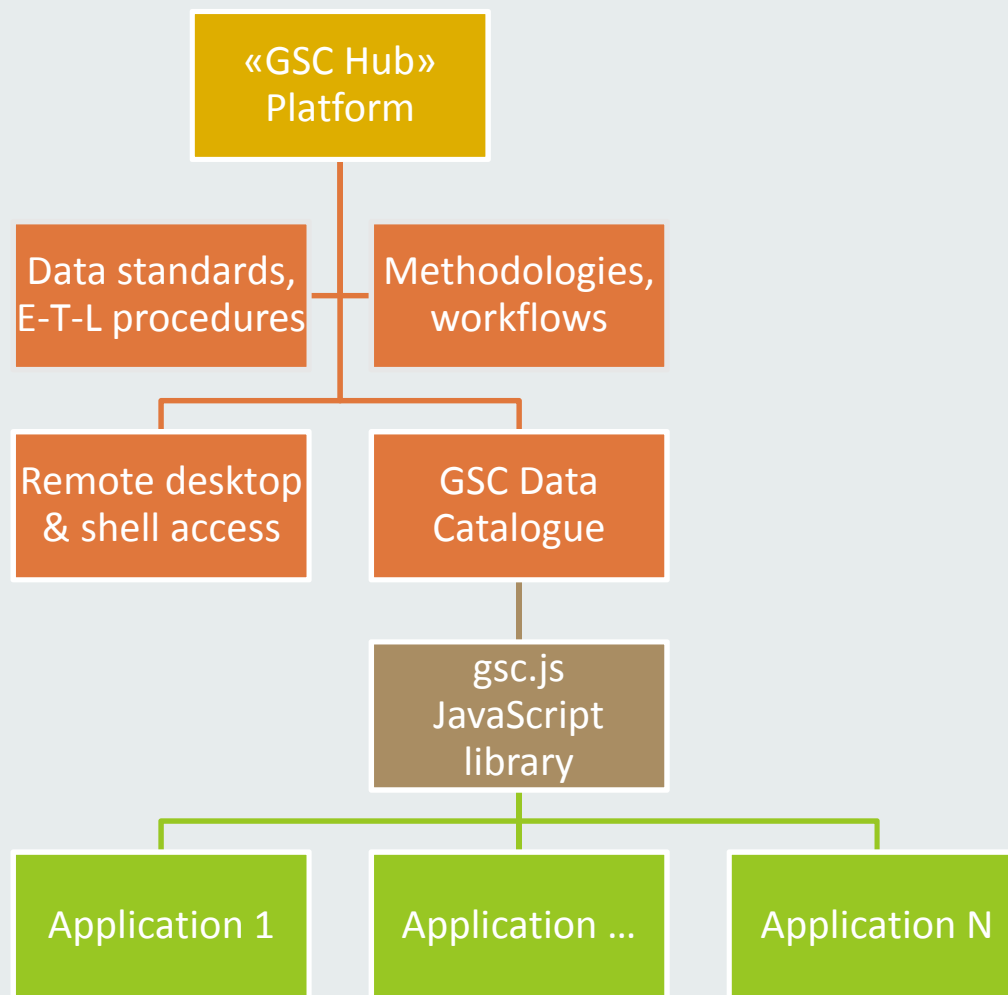
The challenge of European Data Infrastructures



The challenge of European Data Infrastructures

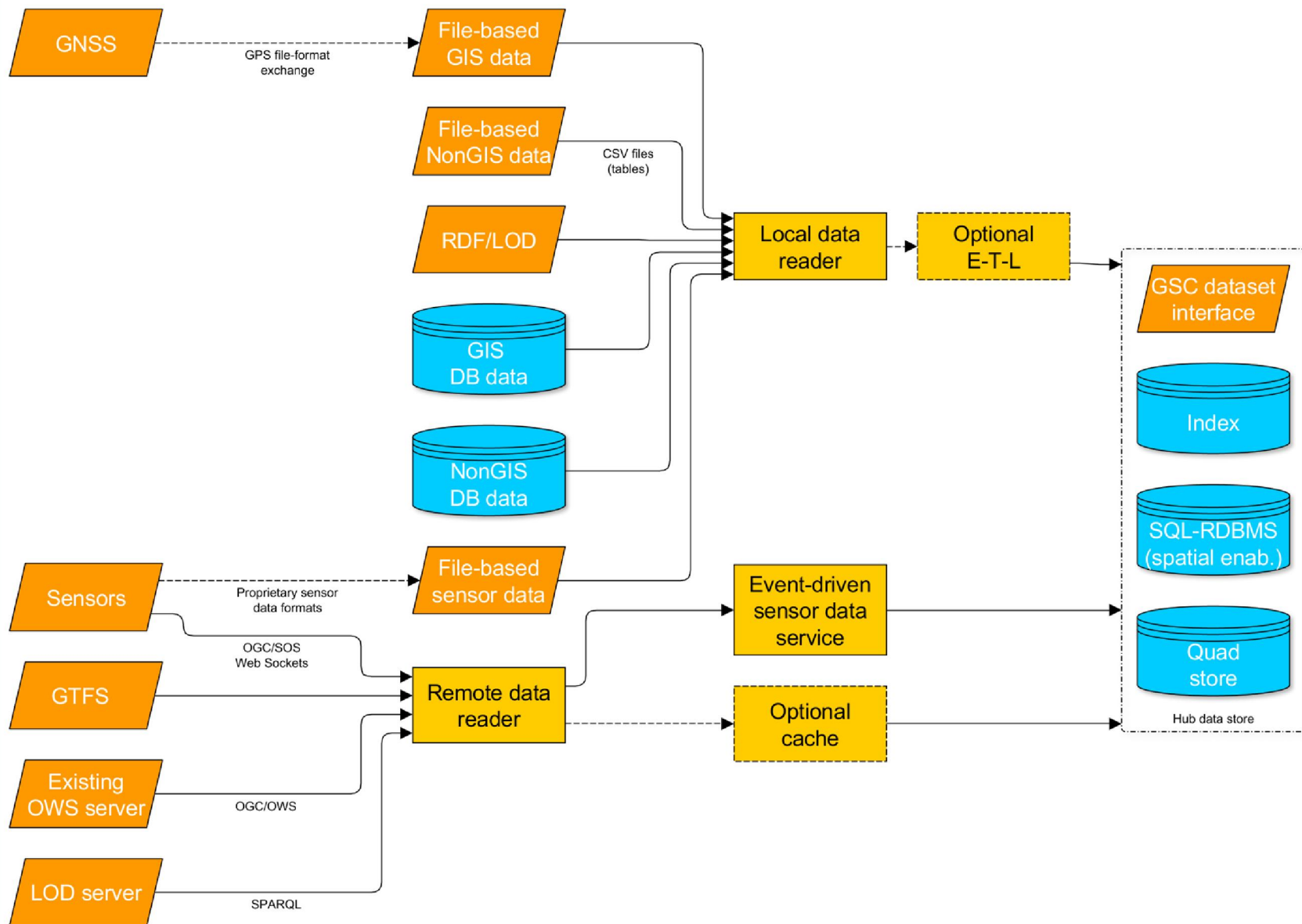


The parts of «the Hub»



Components in «the Hub»

The pieces that make up the puzzle



Registry



CCGI
service

Sensor data
service

Query
service

Geocoding
service

Web map
service

Reporting
service

Routing
service

Analysis
service

Annotation
service

Business logic

Registry



Authentication
service

Metadata
service

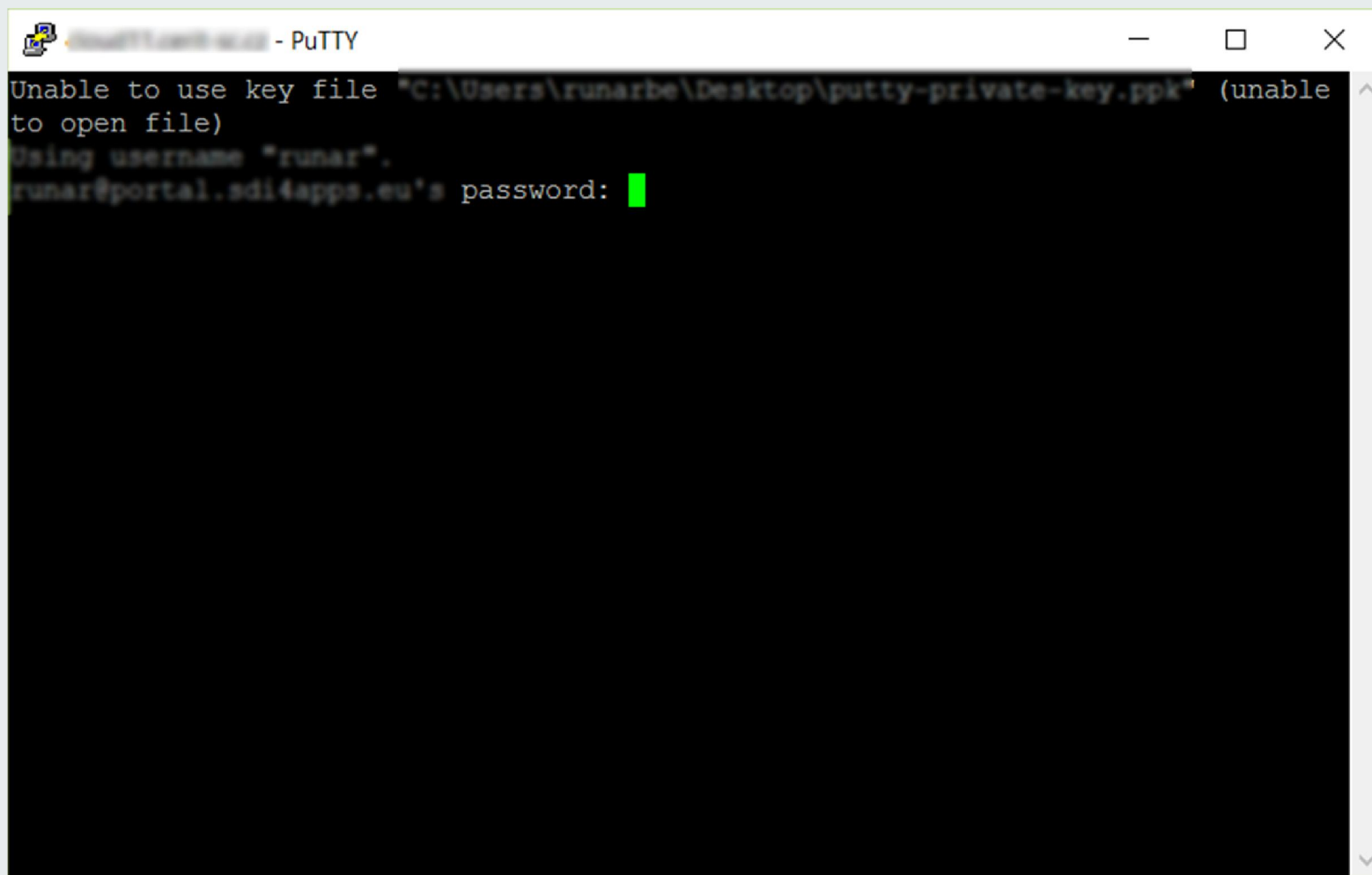
PURI
service

Data mgmt.
service

Indexer
service

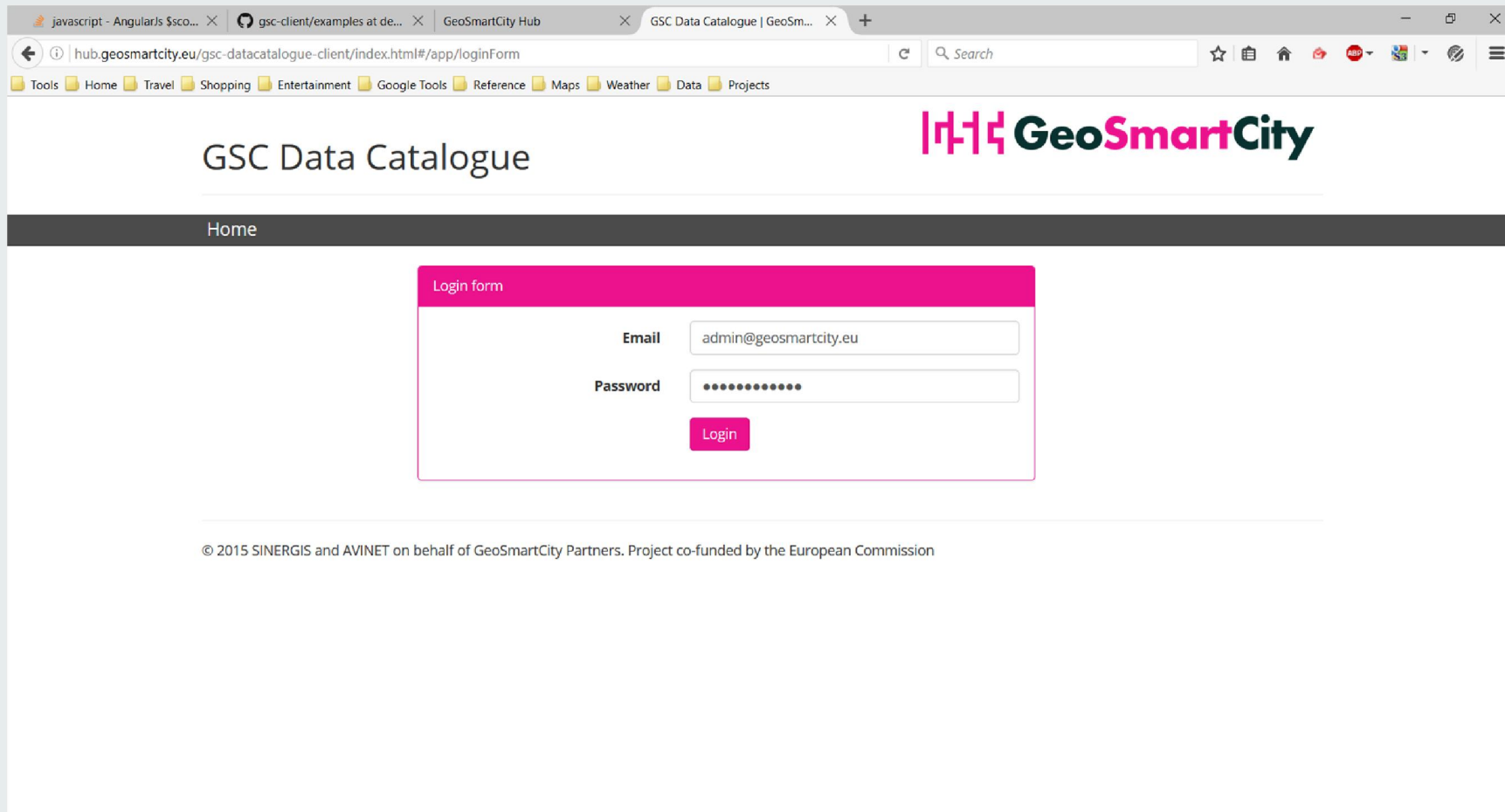
Admin functions

Hub user interface(s): IaaS



```
Unable to use key file "C:\Users\runarbe\Desktop\putty-private-key.ppk" (unable to open file)
Using username "runar".
runar@portal.sdi4apps.eu's password: 
```

Hub user interface(s): SaaS

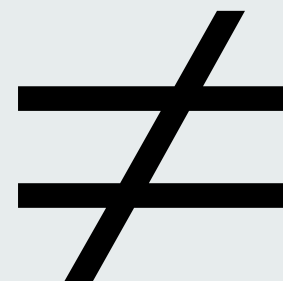
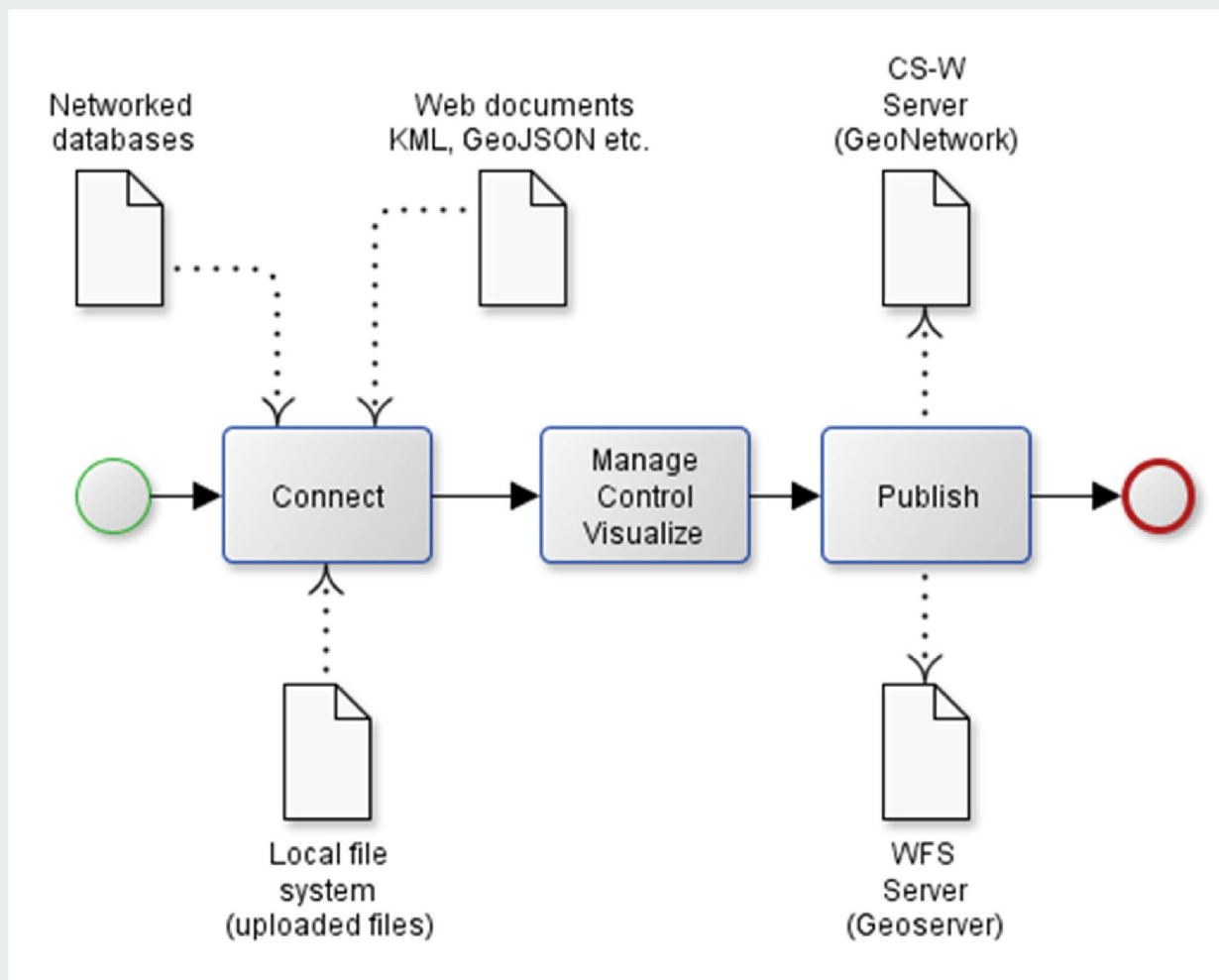


The screenshot shows a web browser window with the URL `hub.geosmartcity.eu/gsc-datacatalogue-client/index.html#/app/loginForm`. The page title is "GSC Data Catalogue". The header includes the GeoSmartCity logo and a navigation bar with links: Tools, Home, Travel, Shopping, Entertainment, Google Tools, Reference, Maps, Weather, Data, and Projects. The main content area features a "Login form" with the following fields:

- Email: `admin@geosmartcity.eu`
- Password: `.....`
- Login button

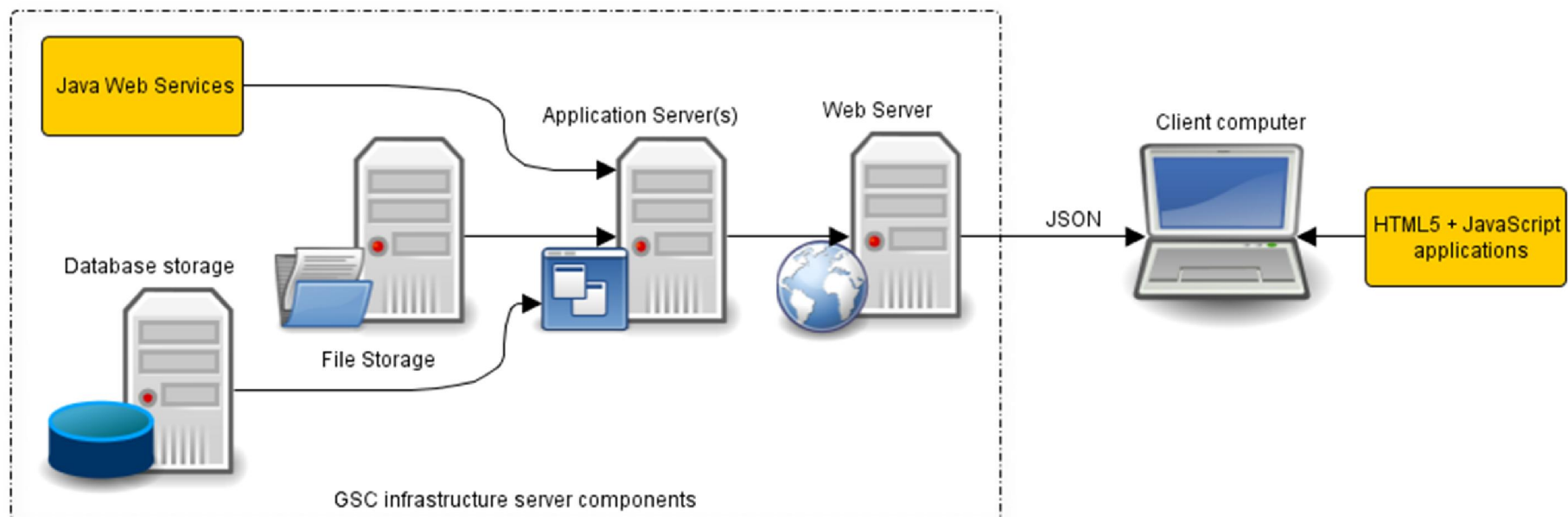
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A very common, recurring business case



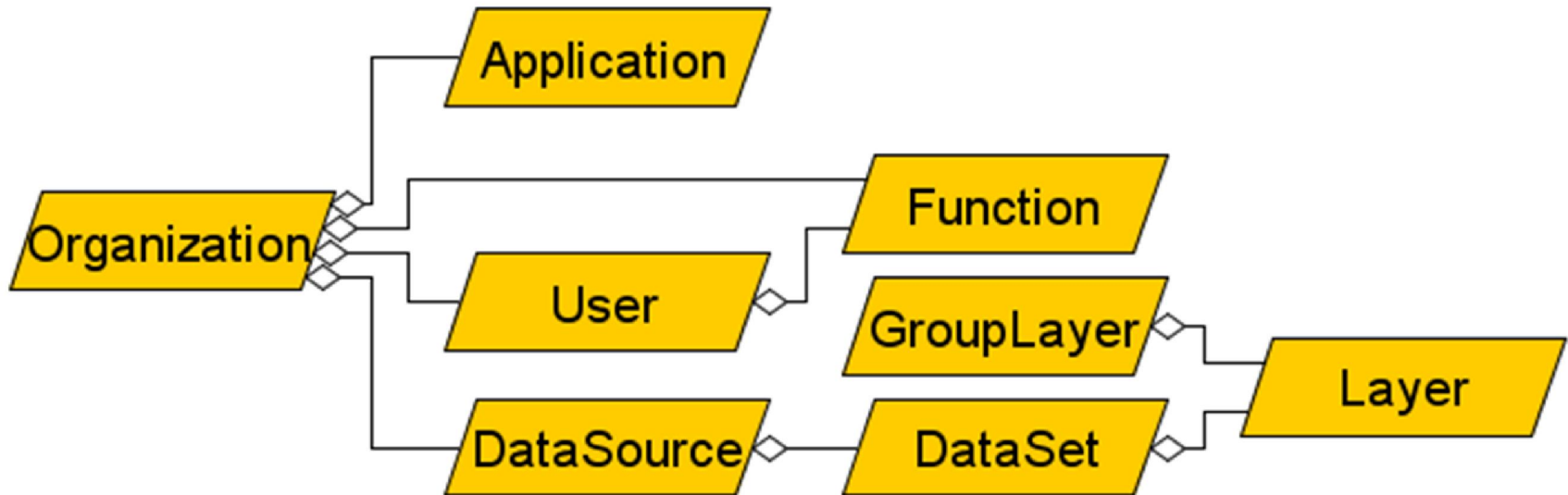
Metadata
Catalog

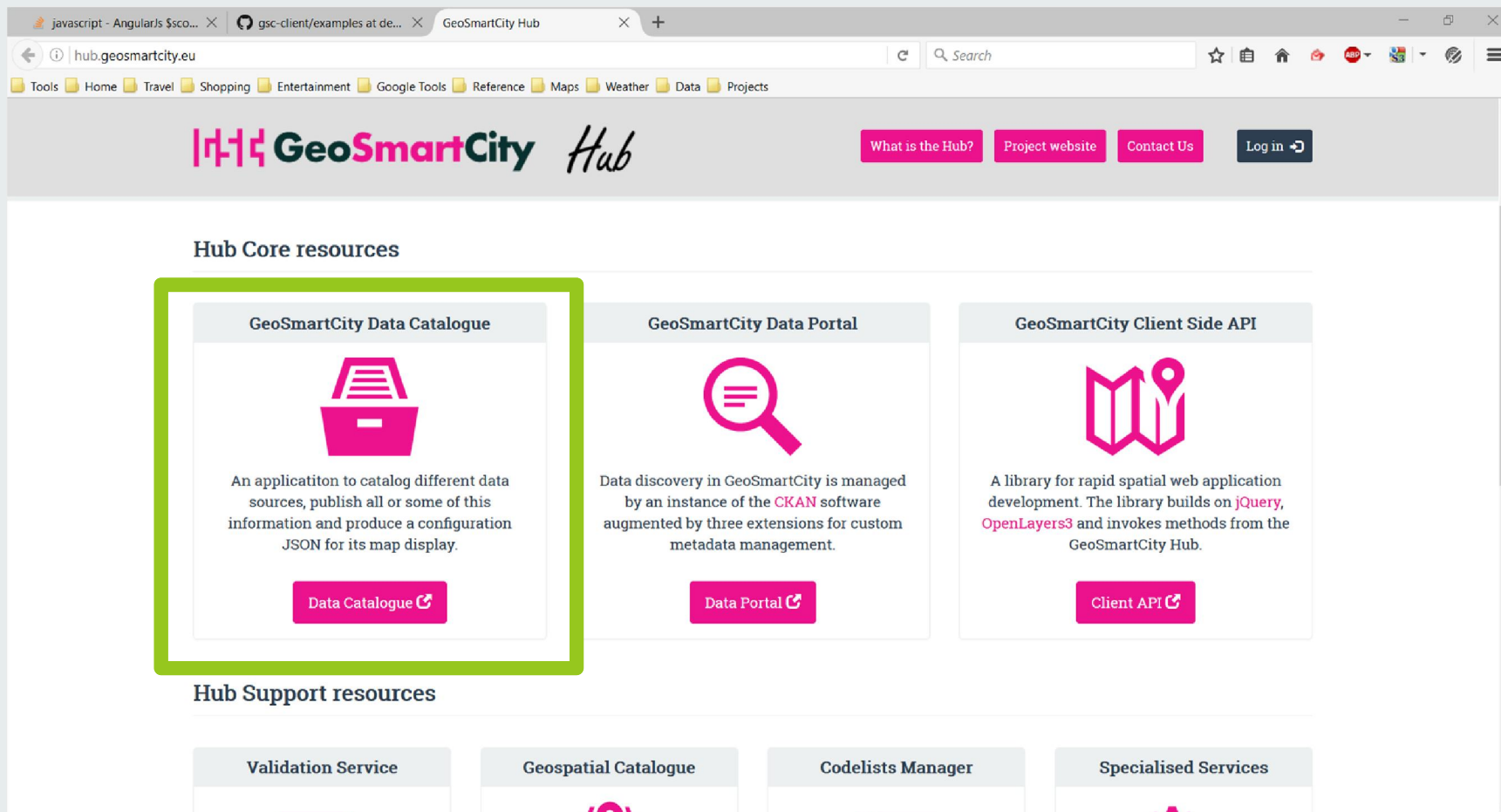
Implemented as a SoA solution



Loosely coupled, re-usable components
Communicating using open standards

Data types in the GSC Data Catalogue





The screenshot shows the GeoSmartCity Hub website. The browser address bar displays 'hub.geosmartcity.eu'. The website header includes the GeoSmartCity logo and the word 'Hub' in a script font. Navigation links include 'What is the Hub?', 'Project website', 'Contact Us', and 'Log in'. Below the header, the 'Hub Core resources' section is highlighted with a green border. It contains three cards: 'GeoSmartCity Data Catalogue' (with a pink icon of a box and a magnifying glass), 'GeoSmartCity Data Portal' (with a pink icon of a magnifying glass over a list), and 'GeoSmartCity Client Side API' (with a pink icon of a map and a location pin). Each card has a description and a pink button with an external link icon. Below the core resources is the 'Hub Support resources' section, which includes 'Validation Service', 'Geospatial Catalogue', 'Codelists Manager', and 'Specialised Services'.

Hub Core resources

GeoSmartCity Data Catalogue



An application to catalog different data sources, publish all or some of this information and produce a configuration JSON for its map display.

[Data Catalogue](#)

GeoSmartCity Data Portal



Data discovery in GeoSmartCity is managed by an instance of the **CKAN** software augmented by three extensions for custom metadata management.

[Data Portal](#)

GeoSmartCity Client Side API



A library for rapid spatial web application development. The library builds on **jQuery**, **OpenLayers3** and invokes methods from the GeoSmartCity Hub.

[Client API](#)

Hub Support resources

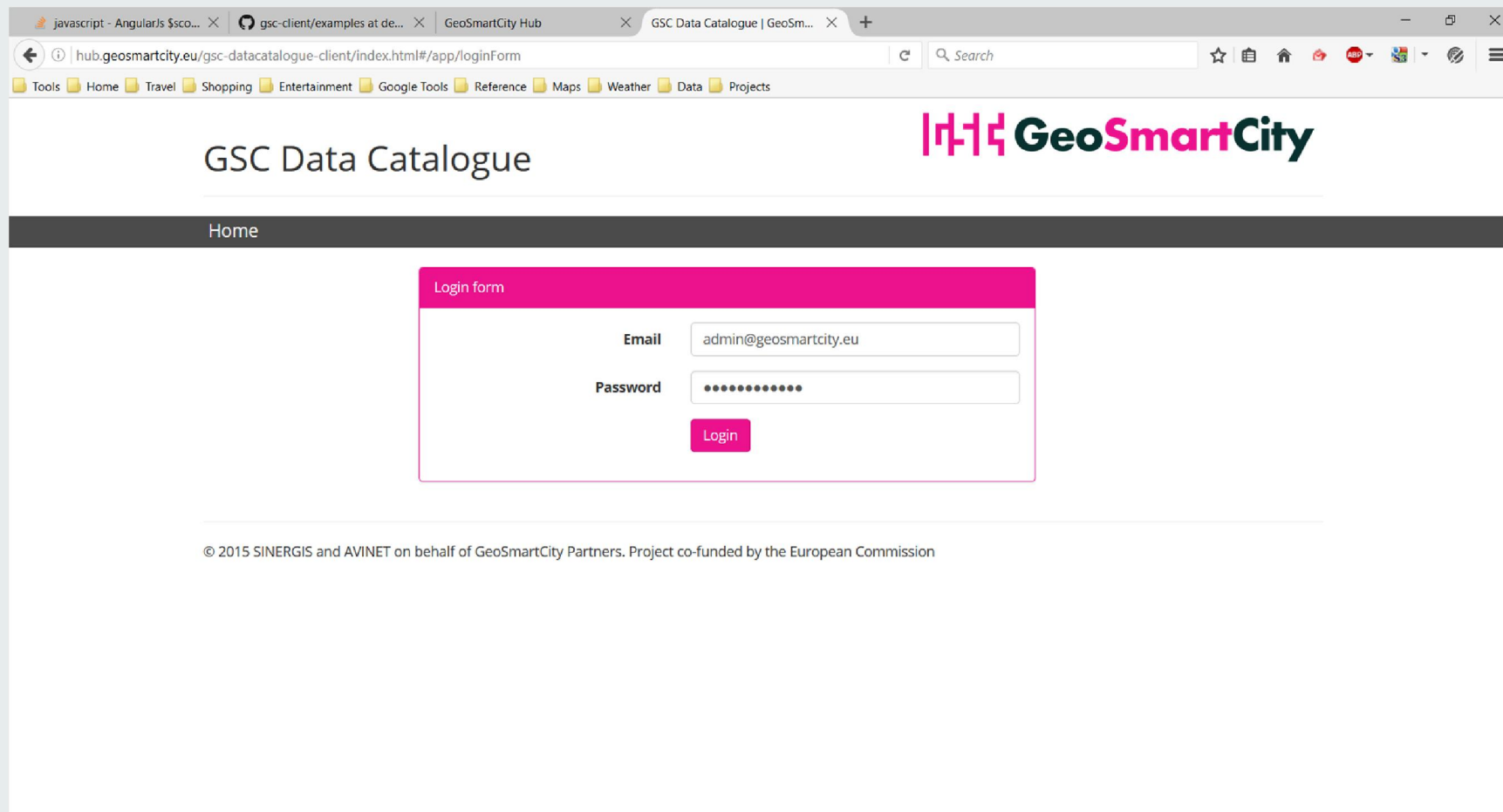
Validation Service

Geospatial Catalogue

Codelists Manager

Specialised Services

Authenticate



The screenshot shows a web browser window with the URL `hub.geosmartcity.eu/gsc-datacatalogue-client/index.html#/app/loginForm`. The page title is "GSC Data Catalogue" and the GeoSmartCity logo is in the top right. A navigation bar contains links: Tools, Home, Travel, Shopping, Entertainment, Google Tools, Reference, Maps, Weather, Data, and Projects. The main content area features a "Login form" with a pink header. The form includes an "Email" field with the value `admin@geosmartcity.eu`, a "Password" field with masked characters, and a pink "Login" button. At the bottom, a copyright notice reads: "© 2015 SINERGIS and AVINET on behalf of GeoSmartCity Partners. Project co-funded by the European Commission".

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hub.geosmartcity.eu/gsc-datacatalogue-client/index.html#/app/loginForm

Tools Home Travel Shopping Entertainment Google Tools Reference Maps Weather Data Projects

GSC Data Catalogue



Home

Login form

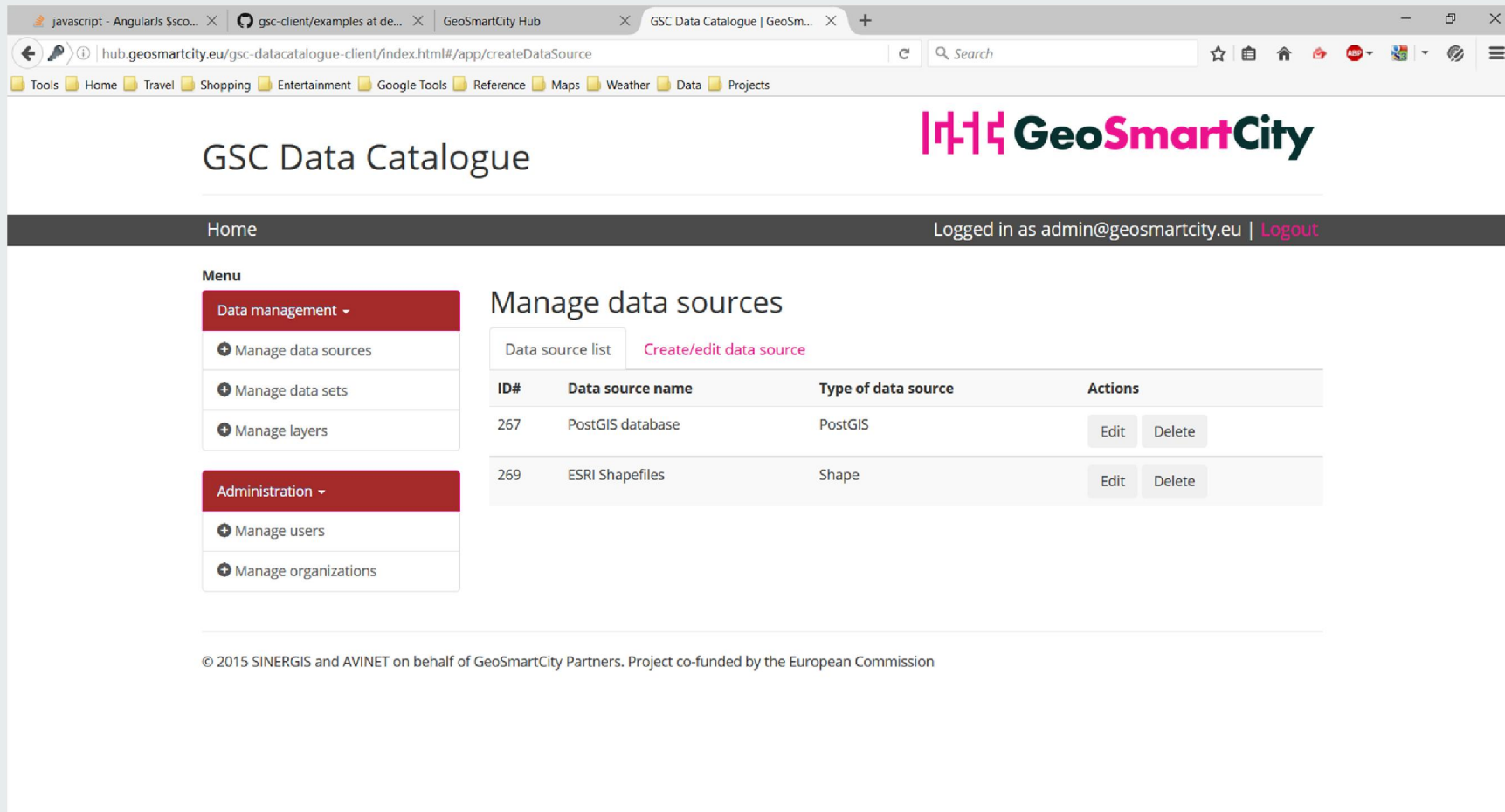
Email

Password

Login

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Manage data sources



The screenshot shows a web browser window with the URL `hub.geosmartcity.eu/gsc-datacatalogue-client/index.html#/app/createDataSource`. The page title is "GSC Data Catalogue". The user is logged in as `admin@geosmartcity.eu`. The main content area is titled "Manage data sources" and contains a table of data sources.

Menu

- Data management
 - Manage data sources
 - Manage data sets
 - Manage layers
- Administration
 - Manage users
 - Manage organizations

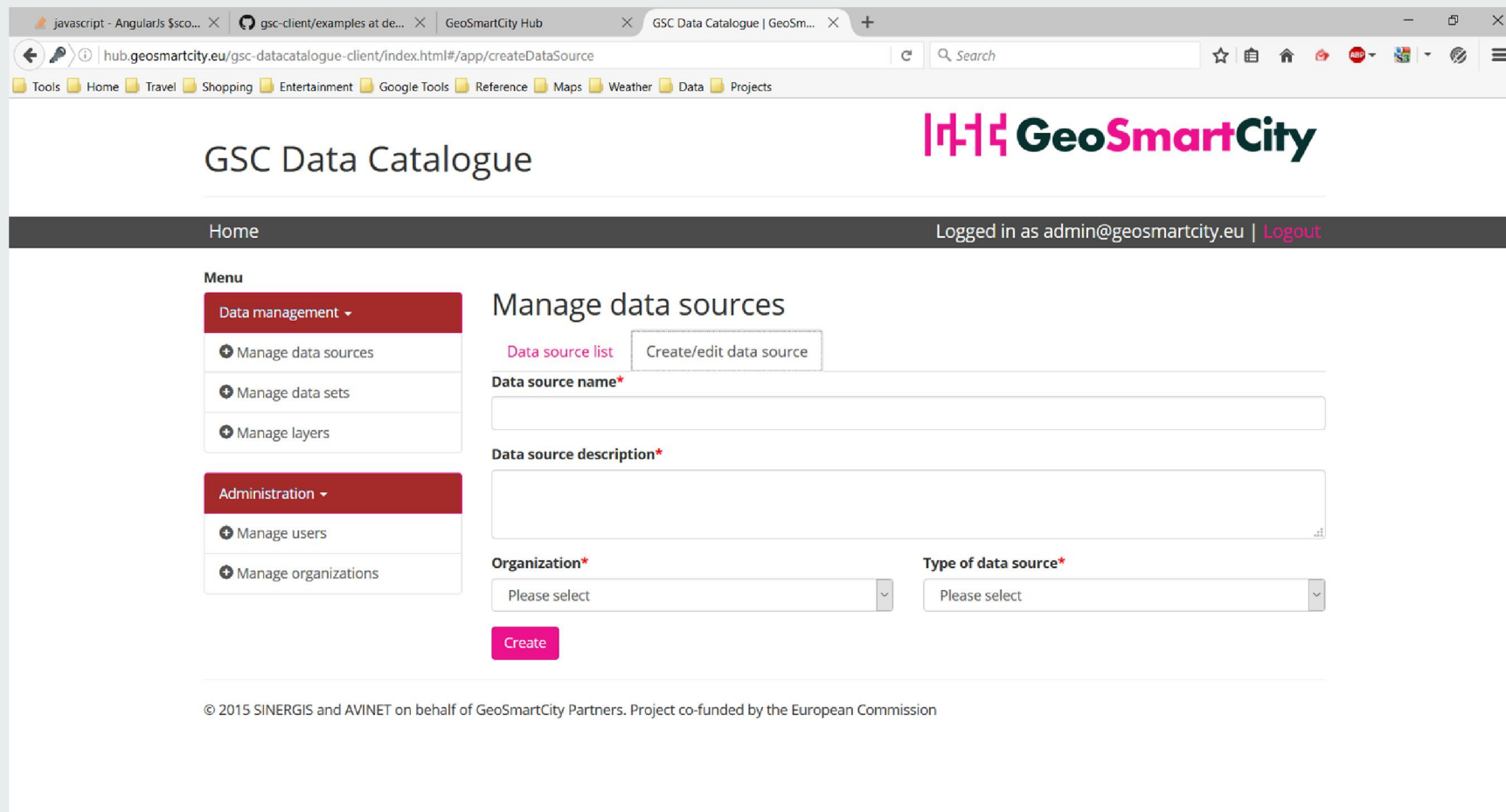
Manage data sources

Data source list [Create/edit data source](#)

ID#	Data source name	Type of data source	Actions
267	PostGIS database	PostGIS	Edit Delete
269	ESRI Shapefiles	Shape	Edit Delete

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Create/edit data sources



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hub.geosmartcity.eu/gsc-datacatalogue-client/index.html#/app/createDataSource

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GSC Data Catalogue

GeoSmartCity

Home Logged in as admin@geosmartcity.eu | Logout

Menu

Data management ▾

- Manage data sources
- Manage data sets
- Manage layers

Administration ▾

- Manage users
- Manage organizations

Manage data sources

Data source list Create/edit data source

Data source name*

Data source description*

Organization* Please select

Type of data source* Please select

Create

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Manage data sets

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hub.geosmartcity.eu/gsc-datacatalogue-client/index.html#/app/createDataSet

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GeoSmartCity

GSC Data Catalogue

Home Logged in as admin@geosmartcity.eu | Logout

Menu

- Data management ▾**
 - Manage data sources
 - Manage data sets**
 - Manage layers
- Administration ▾**
 - Manage users
 - Manage organizations

Manage data sets

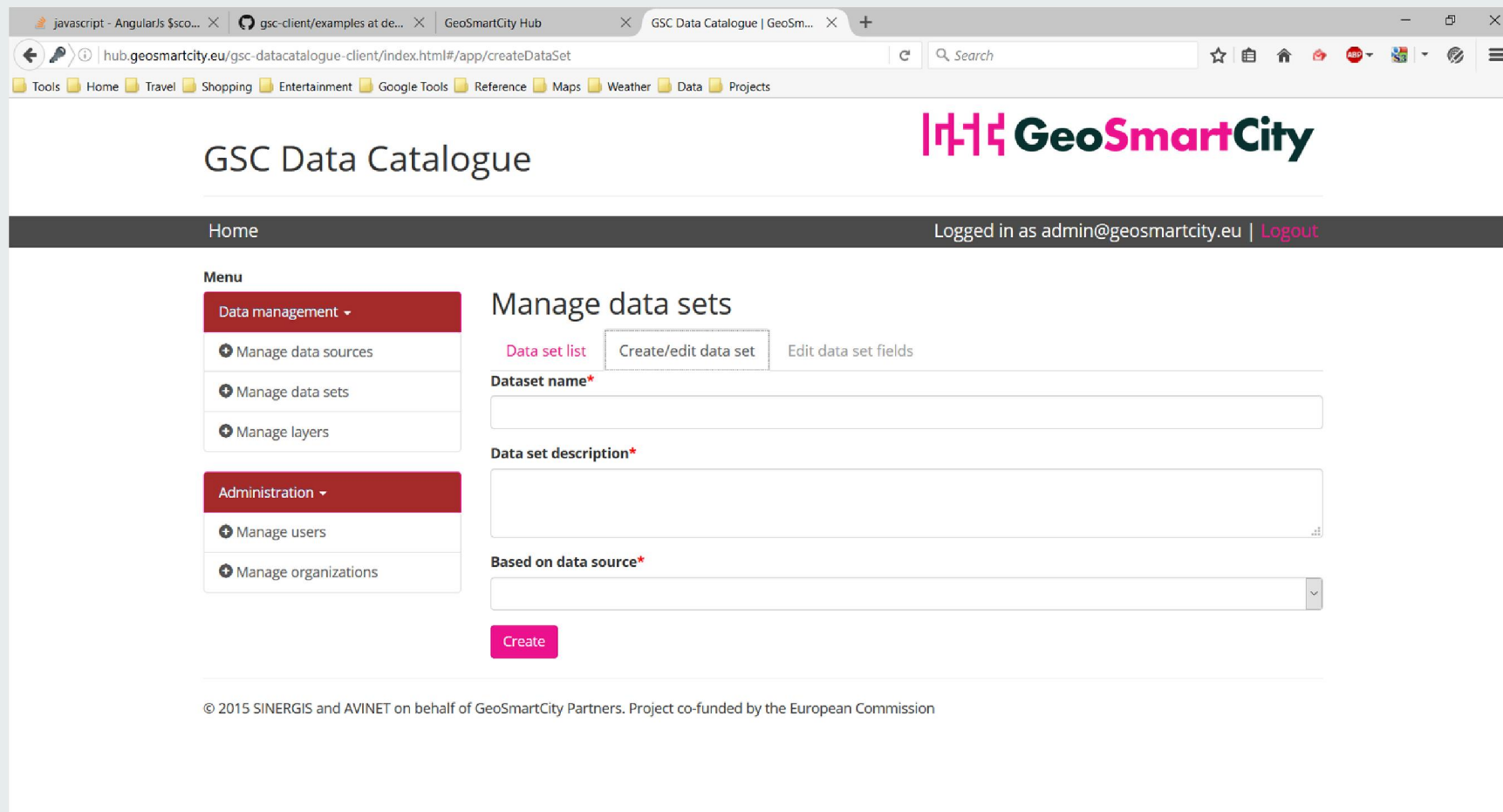
Data set list **Create/edit data set** Edit data set fields

Filter data sets by data source*

Please select a data source ▾

ID#	Data set name	Based on data source	Actions	
143	PostGIS table	PostGIS database	Edit	Delete
144	Shape data set	ESRI Shapefiles	Edit	Delete
145	edifici dset	Shape edifici hub	Edit	Delete
148	DatasetPostgisGEOSERVER	DSPostgisGEOSERVER	Edit	Delete
149	Dataset test Andrea shape	Test Andrea shapes	Edit	Delete
150	Dataset Andrea Postgis Example	DSPostgisGEOSERVERAndrea	Edit	Delete
151	My new dataset	ESRI Shapefiles	Edit	Delete

Create/edit data set



The screenshot shows a web browser window with the URL `hub.geosmartcity.eu/gsc-datacatalogue-client/index.html#/app/createDataSet`. The page title is "GSC Data Catalogue". The user is logged in as `admin@geosmartcity.eu` and can click "Logout".

Menu

- Data management**
 - Manage data sources
 - Manage data sets
 - Manage layers
- Administration**
 - Manage users
 - Manage organizations

Manage data sets

Buttons: Data set list, **Create/edit data set**, Edit data set fields

Dataset name*

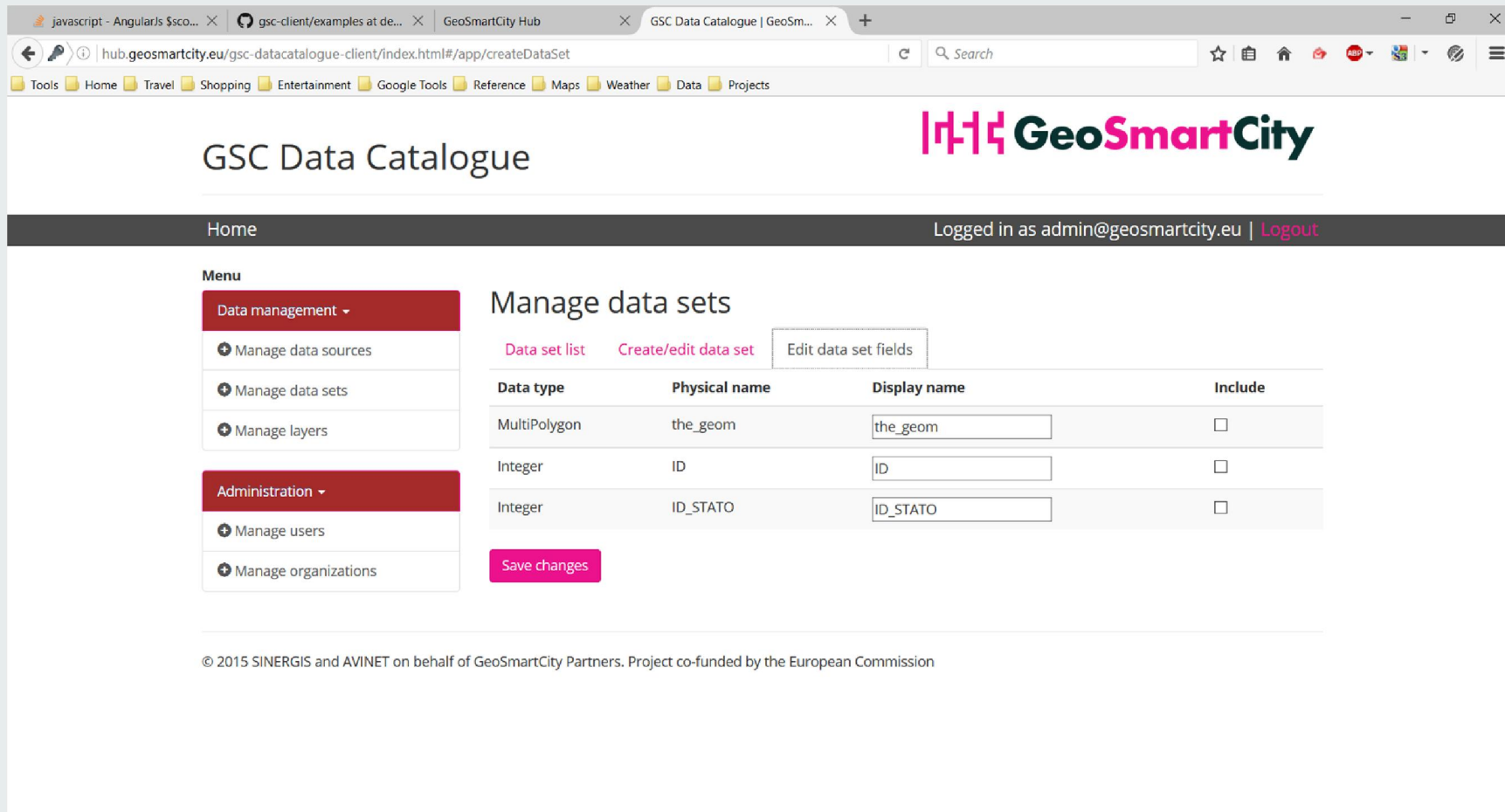
Data set description*

Based on data source*

Create

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Edit field aliases



The screenshot shows the GeoSmartCity GSC Data Catalogue interface. The browser address bar displays the URL: `hub.geosmartcity.eu/gsc-datacatalogue-client/index.html#/app/createDataSet`. The page title is "GSC Data Catalogue". The user is logged in as `admin@geosmartcity.eu` and can click "Logout".

The left sidebar contains a "Menu" with two main sections:

- Data management** (expanded):
 - Manage data sources
 - Manage data sets
 - Manage layers
- Administration**
 - Manage users
 - Manage organizations

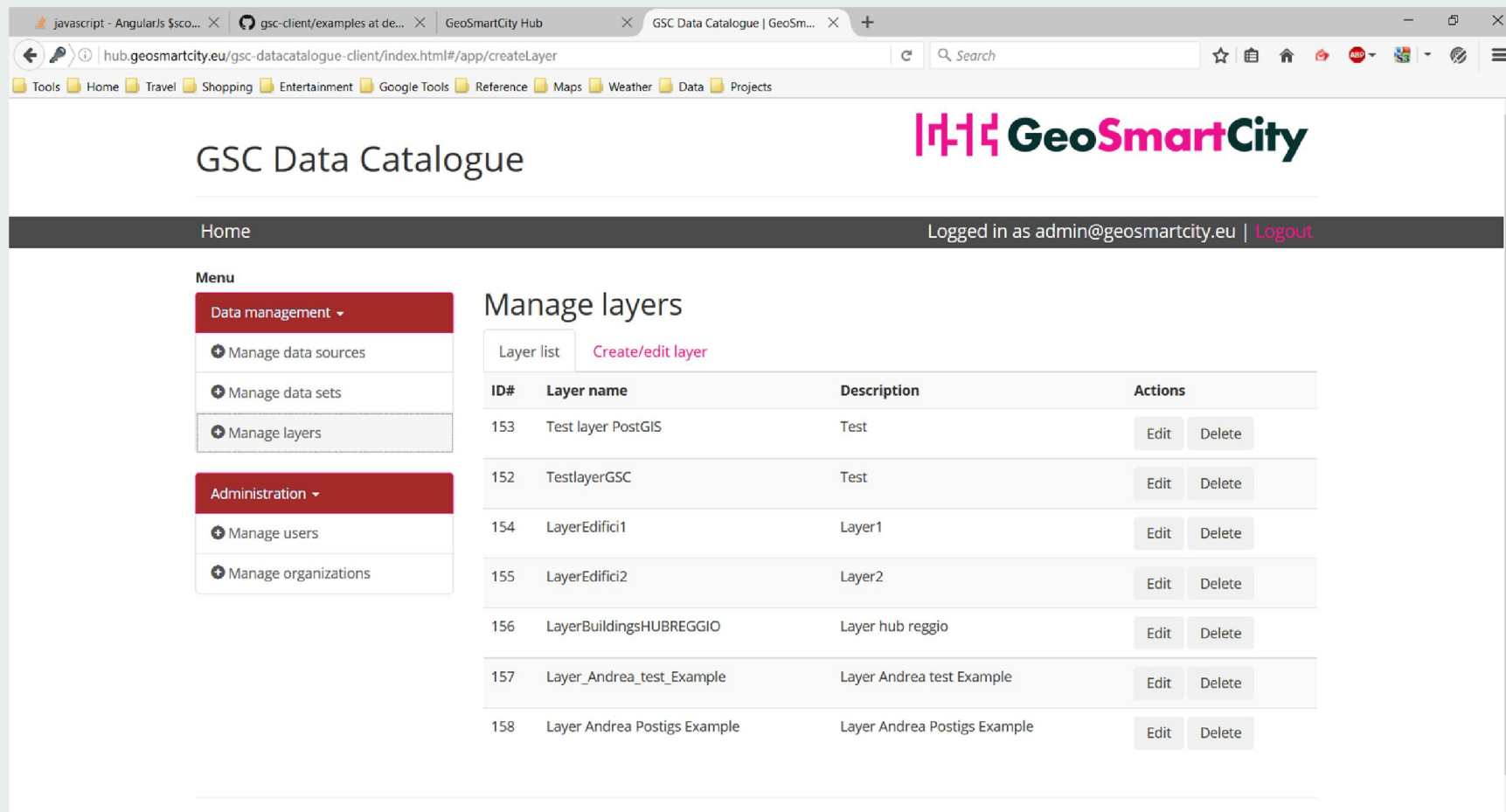
The main content area is titled "Manage data sets" and has three tabs: "Data set list", "Create/edit data set", and "Edit data set fields" (active). The active tab displays a table with the following data:

Data type	Physical name	Display name	Include
MultiPolygon	the_geom	the_geom	☐
Integer	ID	ID	☐
Integer	ID_STATO	ID_STATO	☐

Below the table is a "Save changes" button.

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Manage layer



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hub.geosmartcity.eu/gsc-datacatalogue-client/index.html#/app/createLayer

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Menu

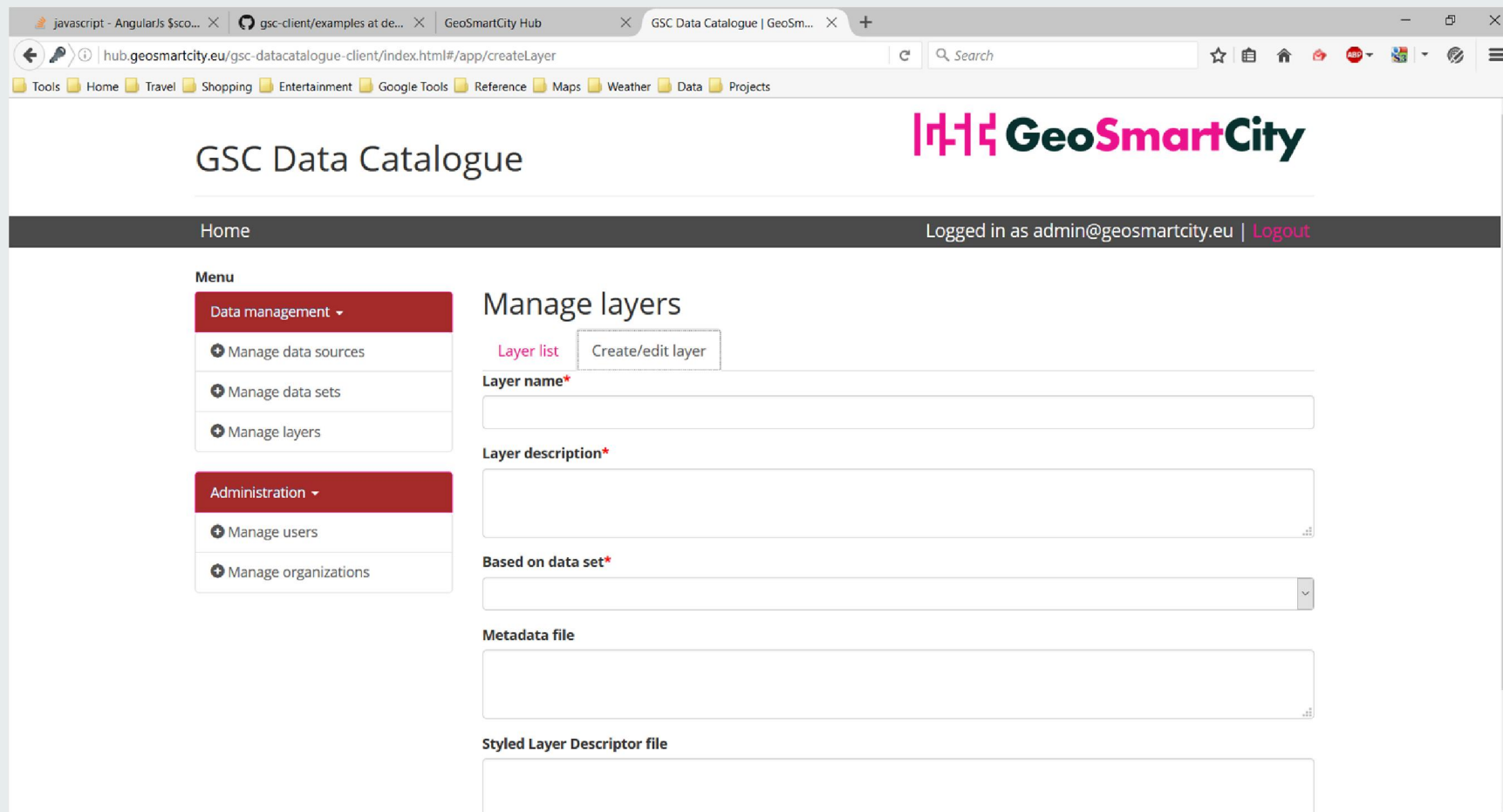
- Data management ▾
 - Manage data sources
 - Manage data sets
 - Manage layers
- Administration ▾
 - Manage users
 - Manage organizations

Manage layers

Layer list [Create/edit layer](#)

ID#	Layer name	Description	Actions
153	Test layer PostGIS	Test	Edit Delete
152	TestlayerGSC	Test	Edit Delete
154	LayerEdifici1	Layer1	Edit Delete
155	LayerEdifici2	Layer2	Edit Delete
156	LayerBuildingsHUBREGGIO	Layer hub reggio	Edit Delete
157	Layer_Andrea_test_Example	Layer Andrea test Example	Edit Delete
158	Layer Andrea Postigs Example	Layer Andrea Postigs Example	Edit Delete

Create/edit/publish layers



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hub.geosmartcity.eu/gsc-datacatalogue-client/index.html#/app/createLayer

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GSC Data Catalogue

Home Logged in as admin@geosmartcity.eu | Logout

Menu

Data management

- Manage data sources
- Manage data sets
- Manage layers

Administration

- Manage users
- Manage organizations

Manage layers

[Layer list](#) [Create/edit layer](#)

Layer name*

Layer description*

Based on data set*

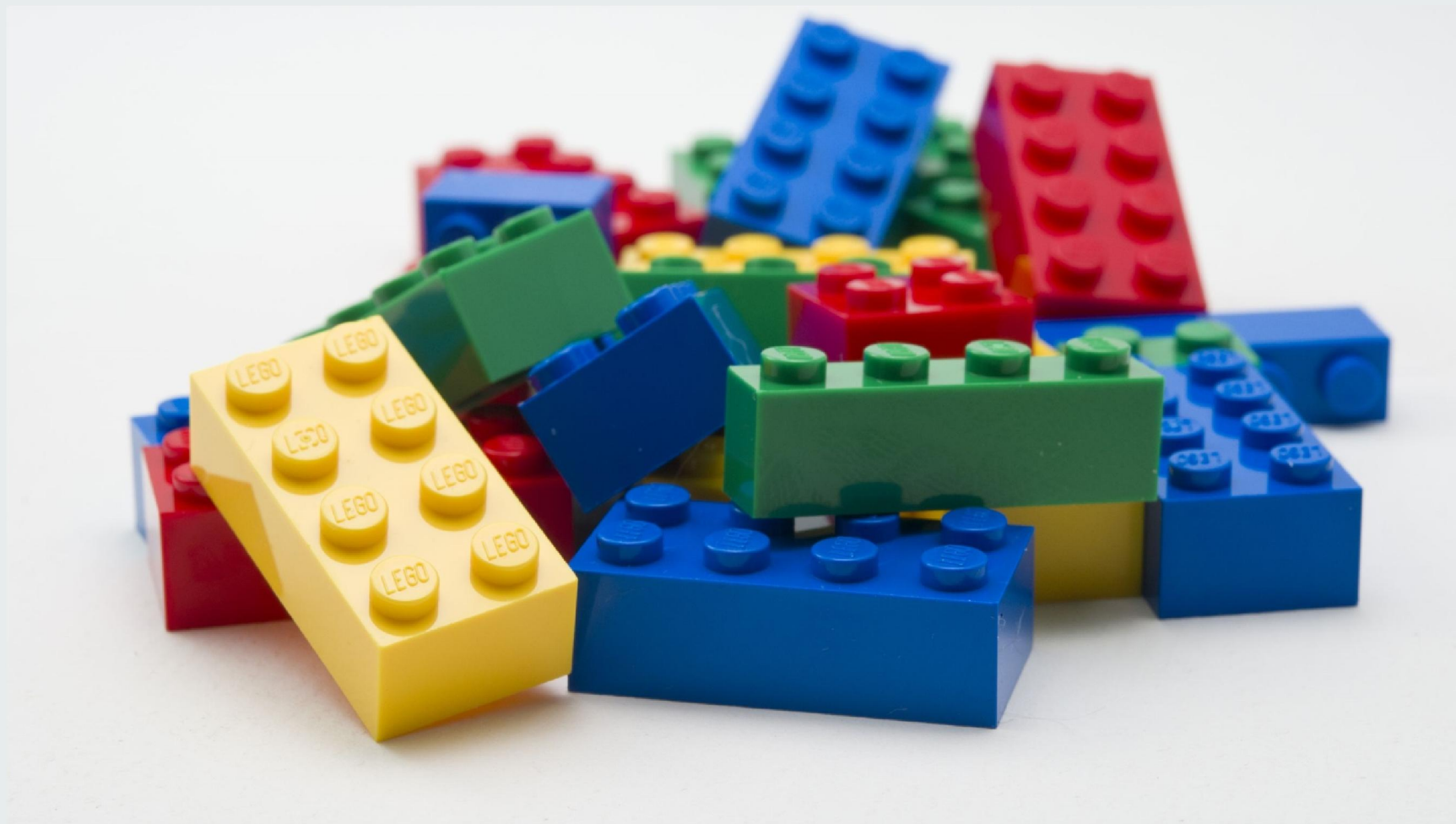
Metadata file

Styled Layer Descriptor file

JavaScript is a professional platform

Like it or not, JavaScript, with its
increasing number of extended APIs
is where «the action» is

Gsc.js: spatial «Lego» for rapid application



Next steps, further work

Are you interested in what we do – or do you think we're derailed and would like to have a laugh at us?

All what we build is on GitHub

- <https://github.com/gsc-dev>

Also, check out our project web site

- <http://www.geosmartcity.eu/>