

Multiscale Exploration of Spatial Statistical Datasets A Linked Data Mashup Approach

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Problem Statement

- Number of statistical datasets is growing rapidly
- Exploration tools analyze only **individual** data sources and have an **unexciting** scenario
 - Input: Sparql endpoint
 - Output: Visualization of its datasets
- **Not open** for reusability and difficult to extend provided functionality

Objectives

- **Exciting** scenario:
 - Input: address(es)/location(s)
 - Output: datasets of **multiple** sources relating to the input
- **Open mashup platform**
 - Support data integration from different datasets
 - Openness and reusability

List of endpoints



Digital agenda for Europe

Open Government Wien

census 2011 RESULTS

6000 locations

60k locations

Use Google Geocoding API

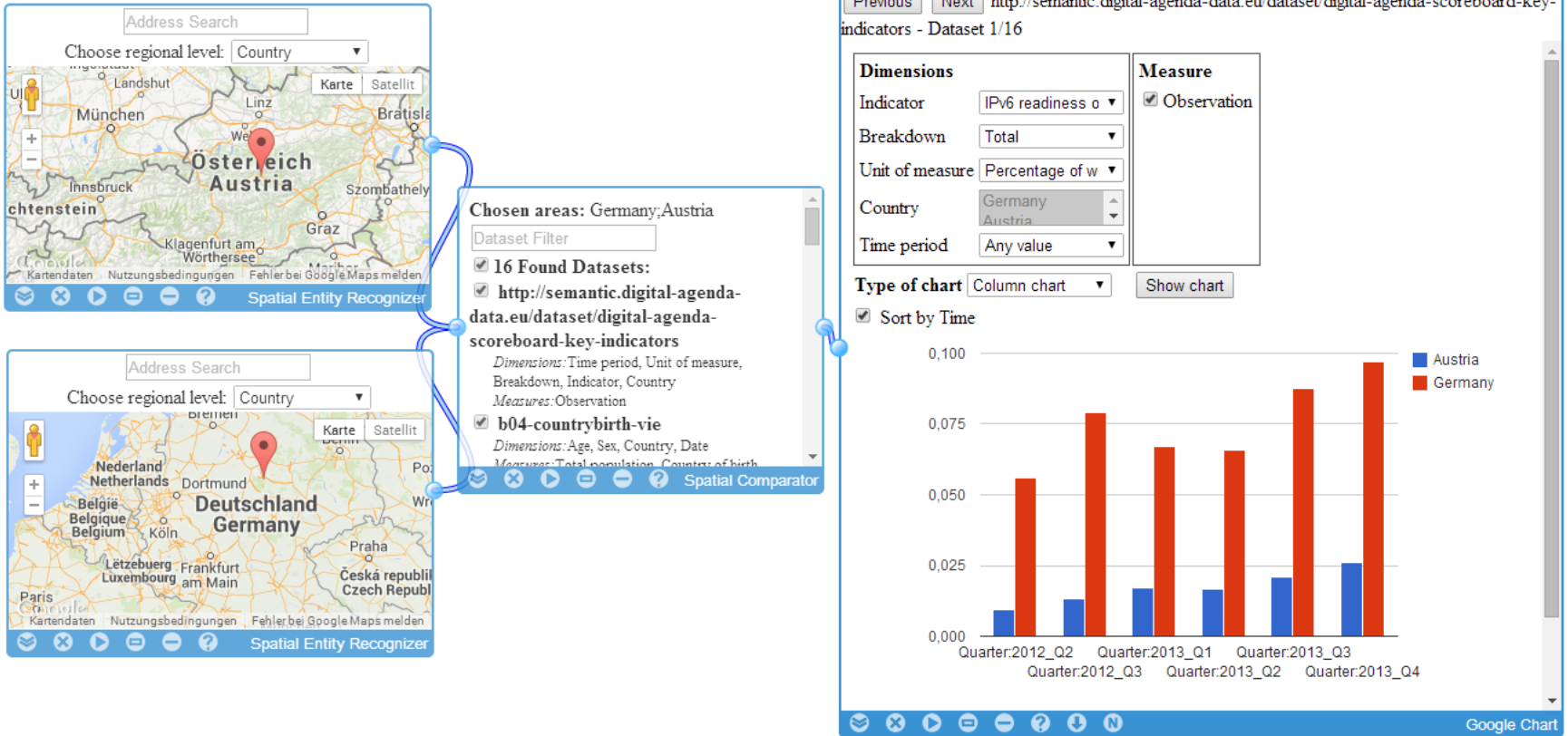
<https://developers.google.com/maps/documentation/geocoding/>



OpenDataCommunities.org
Open Access to Local Data



Example

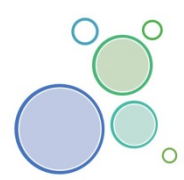


The dashboard consists of several components:

- Spatial Entity Recognizer (Top Left):** A map of Austria with a red pin. The interface includes an "Address Search" field, a "Choose regional level: Country" dropdown, and a "Spatial Entity Recognizer" label.
- Spatial Entity Recognizer (Bottom Left):** A map of Germany with a red pin. The interface includes an "Address Search" field, a "Choose regional level: Country" dropdown, and a "Spatial Entity Recognizer" label.
- Spatial Comparator (Middle):** A central panel titled "Chosen areas: Germany;Austria". It contains a "Dataset Filter" field and lists "16 Found Datasets":
 - <http://semantic.digital-agenda-data.eu/dataset/digital-agenda-scoreboard-key-indicators>
Dimensions: Time period, Unit of measure, Breakdown, Indicator, Country
Measures: Observation
 - [b04-countrybirth-vie](#)
Dimensions: Age, Sex, Country, Date
Measures: Total population, Country of birth
- Configuration Panel (Top Right):**
 - Dimensions:** Indicator: IPv6 readiness o, Breakdown: Total, Unit of measure: Percentage of w, Country: Austria, Time period: Any value.
 - Measure:** Observation.
 - Type of chart:** Column chart.
 - Sort by Time.
- Chart (Bottom Right):** A grouped bar chart comparing IPv6 readiness between Austria (blue) and Germany (orange) across four quarters. The y-axis represents the percentage of readiness, ranging from 0.000 to 0.100.

Quarter	Austria	Germany
Quarter:2012_Q2	~0.010	~0.055
Quarter:2012_Q3	~0.015	~0.080
Quarter:2013_Q1	~0.018	~0.065
Quarter:2013_Q2	~0.020	~0.085
Quarter:2013_Q3	~0.025	~0.095
Quarter:2013_Q4	~0.028	~0.100

<http://linkedwidgets.org/MashupPlatform.html?id=MashupSpatialDataComparator>



Thank you very much for your attention!

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Compare Bus, Tram, and Metro

Run

Dimension
Year: from 2007 to 2012

Measures

- All measures
- Number of passengers (million)
- Number of seats
- Average speed (km/h)
- Number of stops
- Number of buses
- Number of lines
- Line length (km)
- Stop distance (m)
- Line length in daytime (km)
- Line length in night (km)

Bus Vehicle

Run

Dimension
Year: from 2007 to 2012

Measures

- All measures
- Number of passengers (million)
- Number of seats
- Average speed (km/h)
- Number of stops
- Number of sidecars
- Number of lines
- Line length (km)
- Stop distance (m)
- Line length in day (km)
- Number of engines

Tram Vehicle

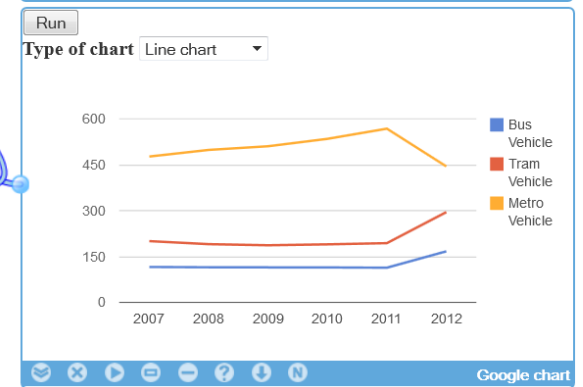
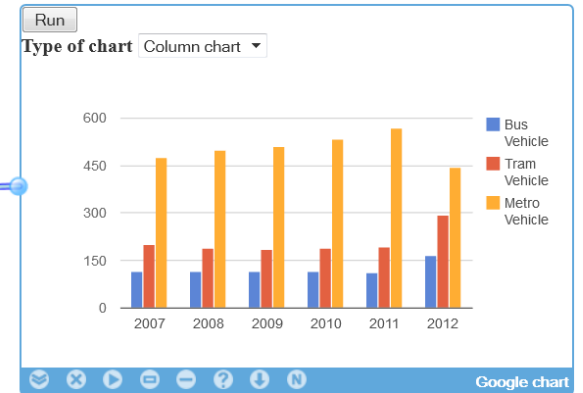
Run

Dimension
Year: from 2007 to 2012

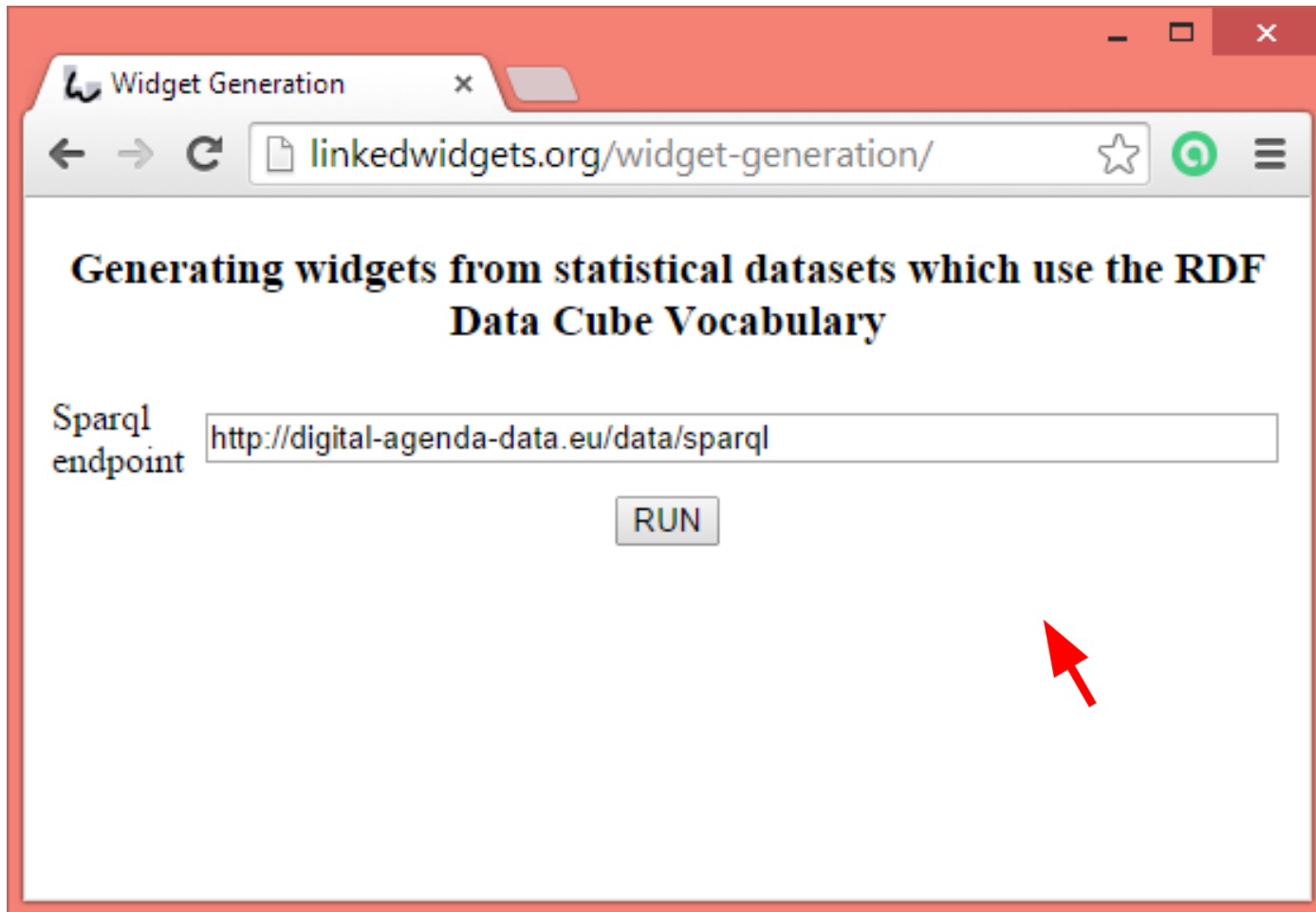
Measures

- All measures
- Number of passengers (million)
- Number of lines
- Line length (km)
- Average speed (km/h)
- Number of stops
- Number of sidecars
- Number of seats
- Number of engines
- Stop distance (m)
- Line length in day (km)

Metro Vehicle

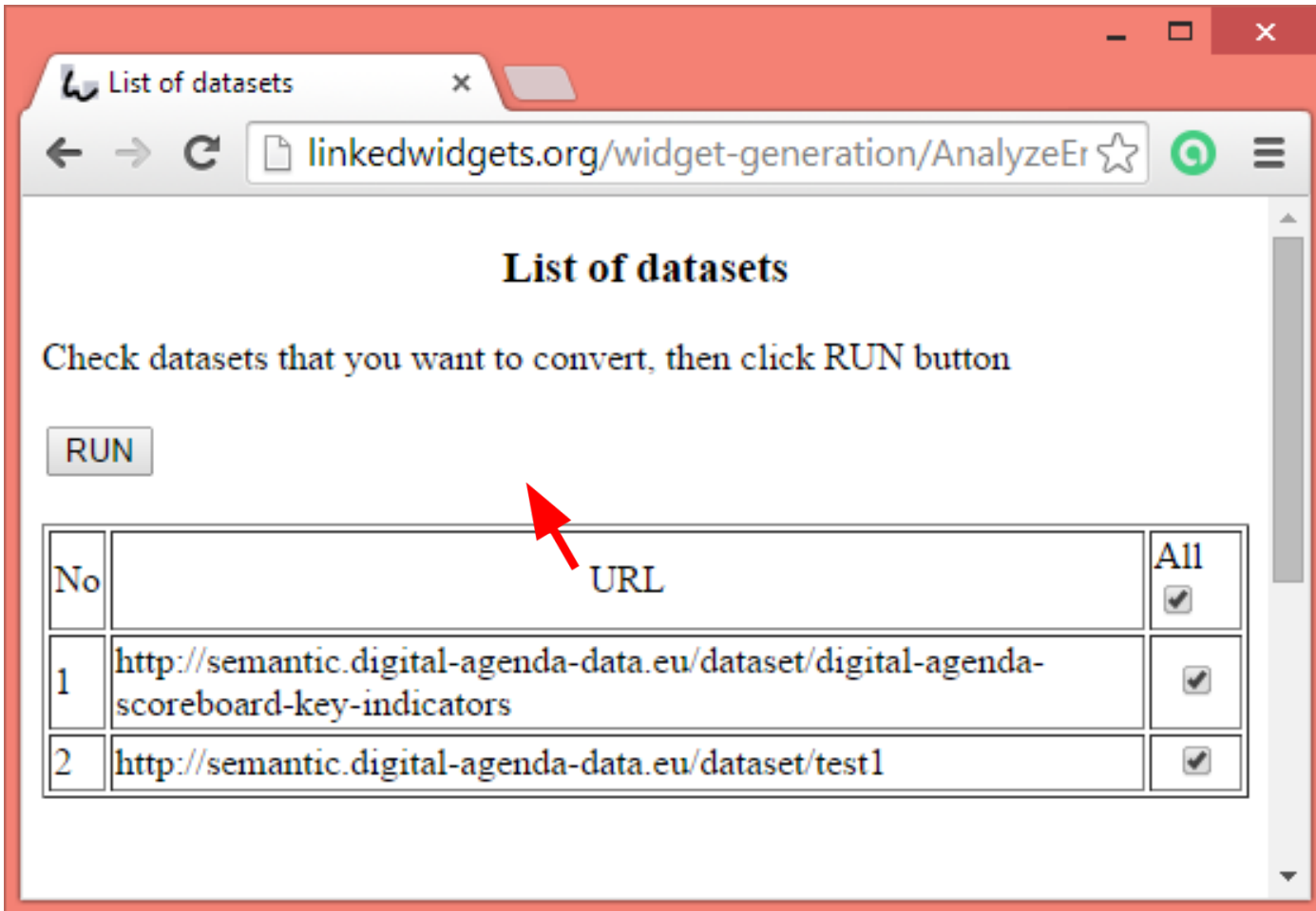


How to create widget



The screenshot shows a web browser window titled "Widget Generation" with the URL `linkedwidgets.org/widget-generation/`. The page content includes the heading "Generating widgets from statistical datasets which use the RDF Data Cube Vocabulary". Below this, there is a label "Sparql endpoint" next to a text input field containing the URL `http://digital-agenda-data.eu/data/sparql`. A "RUN" button is positioned below the input field. A red arrow points to the bottom right area of the page.

How to create widget



List of datasets

Check datasets that you want to convert, then click RUN button

RUN

No	URL	All
1	http://semantic.digital-agenda-data.eu/dataset/digital-agenda-scoreboard-key-indicators	<input checked="" type="checkbox"/>
2	http://semantic.digital-agenda-data.eu/dataset/test1	<input checked="" type="checkbox"/>

How to create widget

