



European
Commission



SEMIC 2018

Central Ontological Model of Base Registries Data in Slovakia

#SEMIC2018
@EU_isa2

Initiative supported by the ISA² Programme



Agenda

1. Key problems in public data
2. Linked Government Data
3. Semantic Interoperability Framework – 4L

Open data

4. LOD Slovakia 18/6 (#Graph4Jan) on Slovpedia





1) Key problems in public data

- Missing shared identifiers (data are everywhere), i.e. relationships between same entities in different systems
- Undesirable diversity in data formats, application frameworks, integrations, standards makes impossible to work with data as a whole
- Application integration of different data is limited, expensive and uneffective



Why Linked Government Data?

- Shared global identifiers of resources (URI) which can be active (dereferencing)
- Graph based data (better natural data representation and understanding)
- Standardized semantic representation of data shared across many domains and countries
- Machine readable data with semantics
- Powerful framework for public data (reference data, once and only principle, 5* Open Data)
- **ExtraBonus:** Semantic inference (inferred triples)





Semantic Interoperability Framework (4L)

Semantic Interoperability

LEVEL4

Explicit examples

LEVEL3

Application Profiles

Reference Data Definition

LEVEL2

Base Registries Ontological Mode

Core Vocabularies

LEVEL1

Valid URIs for public resources

Inference rules

Rudolf Yeti (Person) ...

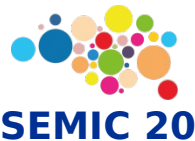
DCAT-AP-SK, CPSV-AP-SK ...

Person, Legal Subject, Public Service, ...

[https://data.gov.sk/...](https://data.gov.sk/)

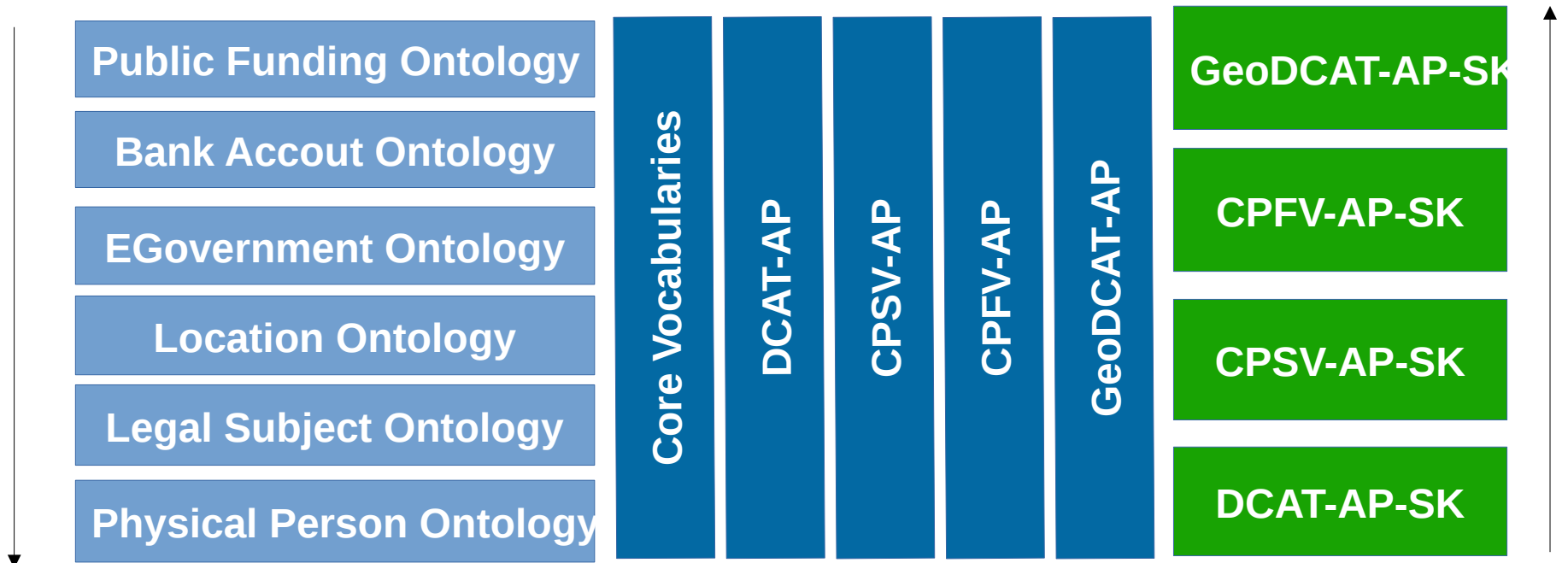


#SEMIC201

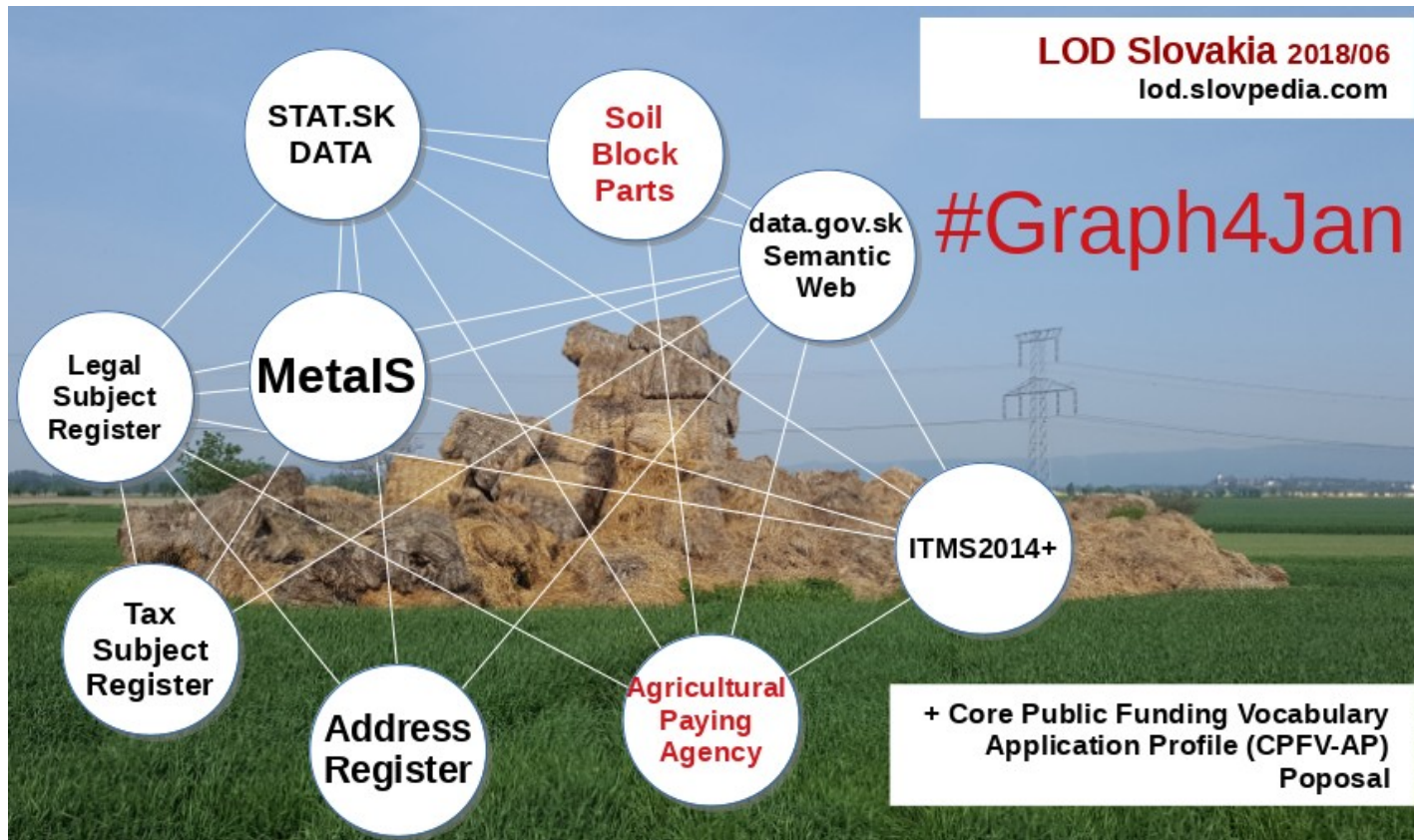




National Knowledge (Ontological Model + Application profiles)



LOD Slovakia 2018/06 (#Graph4Jan)





LOD Slovakia 2018/06 (#Graph4Jan)

Centrálny model údajov verejnej správy

Zdroj: Úrad podpredsedu vlády SR pre investície a informatizáciu
URI: <https://data.gov.sk/id/legal-subject/50349287>

► Dataset: Ontológia lokácie

Verzia: 2018-03-29 URI: <https://data.gov.sk/def/ontology/location/2018-03-29>

Distribúcia	Formát	Licencia	Status	Stiahnuť
https://data.gov.sk/def/ontology/location/2018-03-29.owl			Completed	

► Dataset: Ontológia verejného financovania

Verzia: 2018-05-10 URI: <https://data.gov.sk/def/ontology/public-funding/2018-05-10>

Distribúcia	Formát	Licencia	Status	Stiahnuť
https://data.gov.sk/def/ontology/public-funding/2018-05-10.owl			Completed	

► Dataset: Ontológia právneho subjektu

Verzia: 2018-03-29 URI: <https://data.gov.sk/def/ontology/legal-subject/2018-03-29>

Distribúcia	Formát	Licencia	Status	Stiahnuť
https://data.gov.sk/def/ontology/legal-subject/2018-03-29.owl			Completed	

► Dataset: Ontológia fyzickej osoby

URI: <https://data.gov.sk/def/ontology/physical-person/2018-03-29>

Distribúcia	Formát	Licencia	Status	Stiahnuť
https://data.gov.sk/def/ontology/physical-person/2018-03-29.owl			Completed	

DCAT-AP-SK

8-03-29 URI: <https://data.gov.sk/def/ontology/proc/2018-03-29>



LOD Slovakia 2018/06 (#Graph4Jan)

<https://data.gov.sk/def/ontology/location/SoilBlockPart>



rdfs:label

Soil Block Part

Diel pôdneho bloku

skos:altLabel

Cultural Land Part

Kultúrny diel

skos:definition

súvislá plocha obhospodarovanej poľnohospodárskej pôdy príslušného druhu pozemku v pôdnom bloku

rdf:type

[owl:Class](#)

rdfs:isDefinedBy

[loca:2018-03-29.owl](#)

rdfs:subClassOf

[dct:Location](#)

Core Location Ontology

[Centrálny model údajov verejnej správy](#)
[Ontológia lokácie](#)

[Centrálny model údajov verejnej správy](#)
[Ontológia lokácie](#)

[Centrálny model údajov verejnej správy](#)
[Ontológia lokácie](#)

[Centrálny model údajov verejnej správy](#)
[Ontológia lokácie](#)

[Centrálny model údajov verejnej správy](#)
[Ontológia lokácie](#)

[Centrálny model údajov verejnej správy](#)
[Ontológia lokácie](#)

[Centrálny model údajov verejnej správy](#)
[Ontológia lokácie](#)

[Centrálny model údajov verejnej správy](#)
[Ontológia lokácie](#)

is rdf:type of

<https://data.gov.sk/id/agro/soil-block-part/SK0108508217-0101-1>

Inferred

<https://data.gov.sk/id/agro/soil-block-part/SK0108508217-0201-1>

Inferred

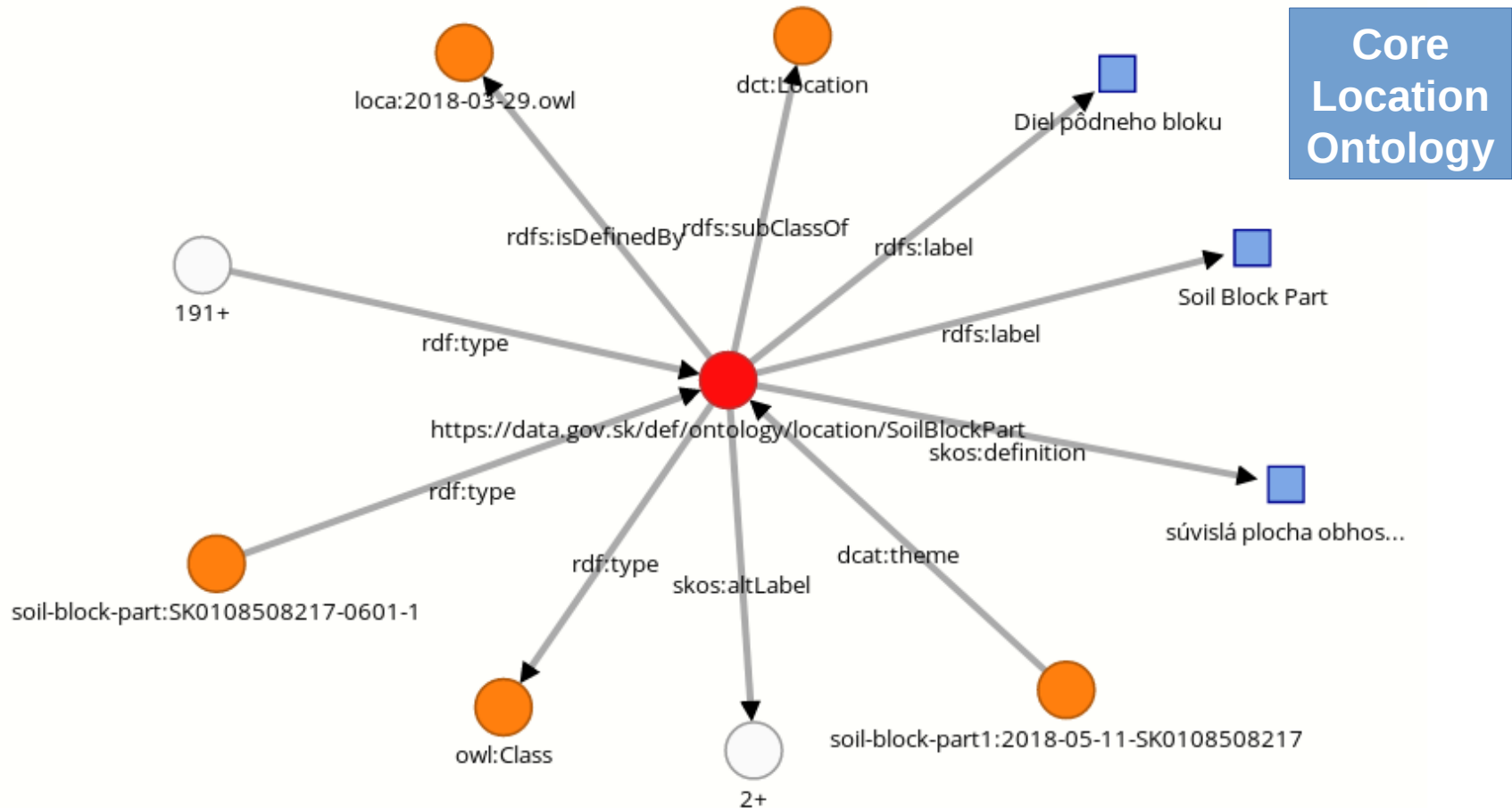
<https://data.gov.sk/id/agro/soil-block-part/SK0108508217-0301-1>

Inferred

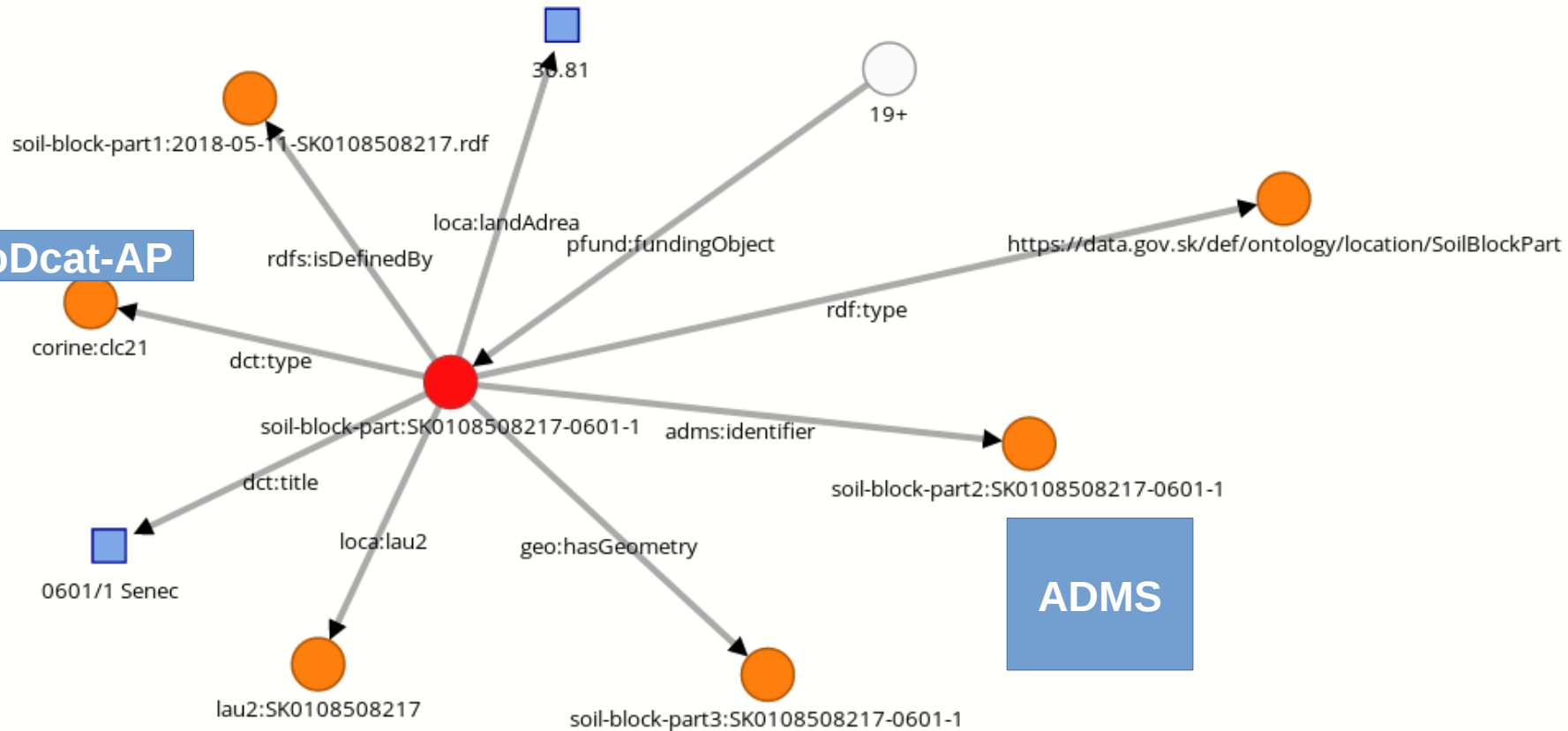
<https://data.gov.sk/id/agro/soil-block-part/SK0108508217-0301-3>

Inferred

LOD Slovakia 2018/06 (#Graph4lan)



LOD Slovakia 2018/06 (#Graph4Jan)





LOD Slovakia 2018/06 (#Graph4Jan)

<https://data.gov.sk/id/agro/soil-block-part/SK0108508217-6801-1>



dct:title 6801/1 Senec

[Register produkčných blokov a dielov produkčných blokov \(LPIS\)](#)

[Diely pôdnych blokov Senec](#)

loca:landAdrea 92.04

[Register produkčných blokov a dielov produkčných blokov \(LPIS\)](#)

[Diely pôdnych blokov Senec](#)

geo:hasGeometry



geo:hasGeometry

<https://data.gov.sk/id/geometry/agro/soil-block-part/SK0108508217-6801-1>

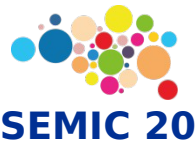
[Register produkčných blokov a dielov produkčných blokov \(LPIS\)](#)





Thank you for your attention

#SEMIC201





References

Central Ontological Model of Base Registers Data

<https://metais.finance.gov.sk/publicspace?pageId=24510900>

Slovakian data application profiles

<https://metais.finance.gov.sk/publicspace?pageId=23987267>

Explicit reference data examples

<https://metais.finance.gov.sk/publicspace?spaceKey=PS1&title=RD-1.0>

Slovpedia

<http://lod.slovpedia.com/>





European
Commission



SEMIC 2018

Miroslav Líška



<https://www.linkedin.com/in/miroslavliska/>



https://twitter.com/miroslav_liska

#SEMIC2018

@EU isa2

Initiative supported by the ISA² Programme