Launch Event – RI: Tools for Enterprises and Stakeholders, 13th September 2017, Rimini (Italy)

LIVING LABS

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OBJECTIVES

- What does Living Lab concept mean... → Short theory
- How could be Living Lab implemented in
  - global level... → ENoLL
  - European level... → CentraLab project
  - cross-border level... → Pilot activities of CentraLab project
  - national level… → Wirelessinfo Living Lab
- Any concrete example… → Smart Points of Interest

HISTORY OF LIVING LABS

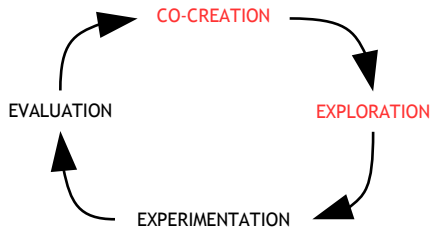
- LL concept was developed in the Massachusetts Institute of Technology (MIT Media Lab) in 2003
- Authors: William J. Mitchell, **Kent Larson**, and Alex Pentland
- Research: to study people and their interaction with new technologies in a living environment
- Original function of methodology: an user-centered methodology for prototyping, validating and refining complex solutions in multiple and evolving real life contexts

LIVING LAB

- Ecosystem for experimentation and co-creation with real users in real life environments → User-driven approach
- Essential principle = **Strong cooperation of researchers, developers, policy makers and end users on solving common problems (from idea via research, development and testing to real market) in the real world**
- End users are directly involved into research and development

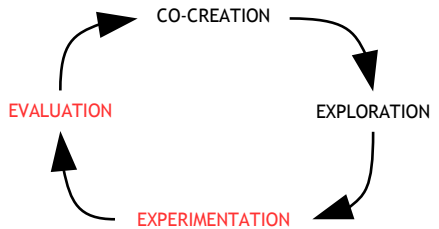
LL ACTIVITIES

- **Co-creation**: co-design by users and producers – diversity of views, constraints and knowledge sharing
- **Exploration**: engage stakeholders (especially end users) for discovering emerging scenarios, usages and behaviors through live scenarios in real or virtual environments (e.g. virtual reality, augmented reality, mixed reality)



LL ACTIVITIES

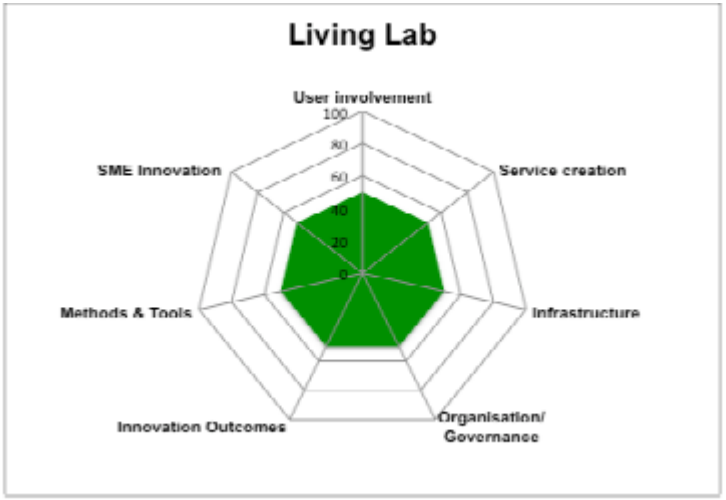
- **Experimentation**: implementing live scenarios within communities of users, including collecting and analyzing data for evaluation activity
- **Evaluation**: assessment of concepts, products and services according to socio-ergonomic, socio-cognitive and socio-economic criteria



LL INDICATORS

(FROM ALCOTRA INNOVATION PROJECT: LIVING LABS DEFINITION, HARMONIZATION CUBE INDICATORS & GOOD PRACTICES)

- User involvement
- Service creation
- Infrastructure
- Organization / Governance
- Innovation outcomes
- Methods and Tools
- SMEs Innovation



USER PARTICIPATION

- Idea (visions) discussing
- Research methods (research methods such as action research, crowd sourcing, emphatic design, participatory design)
- Requirements definition
- Live scenarios (experiments)
- Testing and validation
- Methodology and tutorials co-creation
- Feedback and user experience providing (for updating, improvements and commercialization)
- Promotion and sharing experience

IMPACTS AND BENEFITS OF LL

- Integration of the users into the development process for ensuring highly reliable market evaluation
- Reduction of technology and business risks
- Living Labs are beneficial to SMEs, micro-organizations, and start-ups, since they can share resources without so much venture capital
- Large subjects have access to a broader base of ideas

LL SUMMARY

(BASED ON ALCOTRA INNOVATION PROJECT: LIVING LABS DEFINITION, HARMONIZATION CUBE INDICATORS & GOOD PRACTICES)

- Who? - Stakeholders (accent on end users)
- What? - Innovations (products, services, business models, technologies, data...)
- How? - Cooperation on innovation process (multi-method co-creation)
- Where? - Real life environment (with use virtual reality)

ENOLL

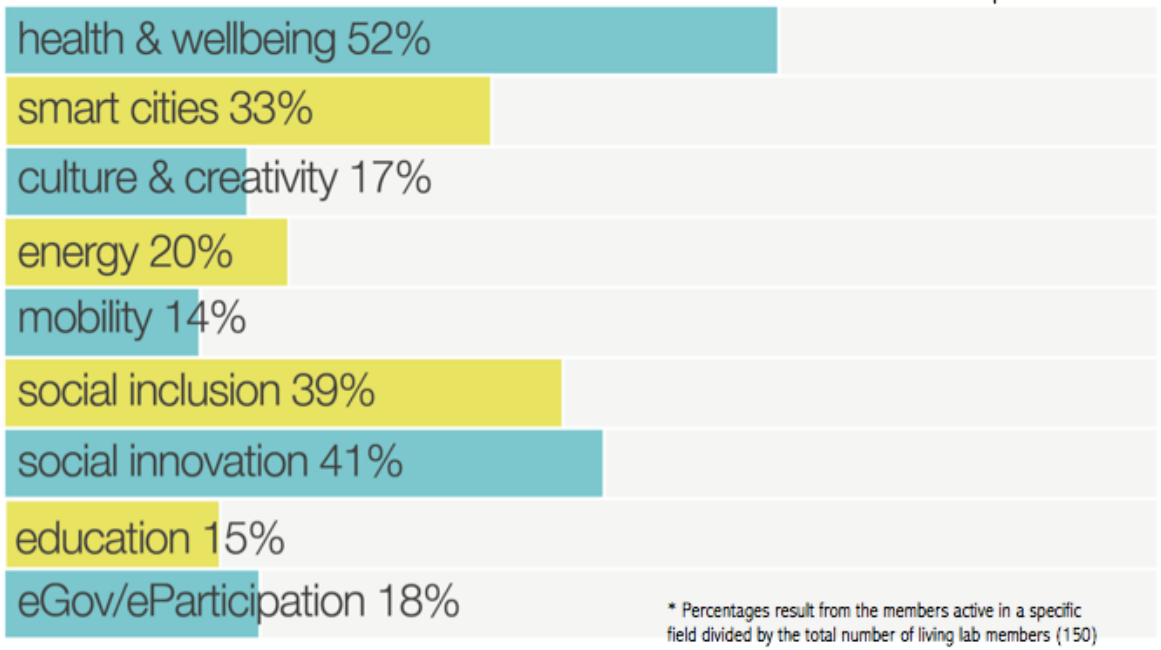
- European Network of Living Labs
- Launched in December 2006
- Non-profit association
- Brussels (Belgium)
- Web: openlivinglabs.eu
- **OpenLivingLab days** event
- Publications: **Introducing ENoLL and its Living Lab community**, **Citizen-Driven Innovation Handbook**

ENOLL - THEMATIC AREAS

ENoLL AREAS OF WORK

ENoLL Members are active in the following thematic areas:*

ENoLL combines vertical specialization domains (health, smart cities, creativity, education) with horizontal and territorial specializations



* Percentages result from the members active in a specific field divided by the total number of living lab members (150)

ENOLL

- ~400 LLs
- ~170 active members
- 20 EU countries
- 5 continents

CENTRALAB PROJECT

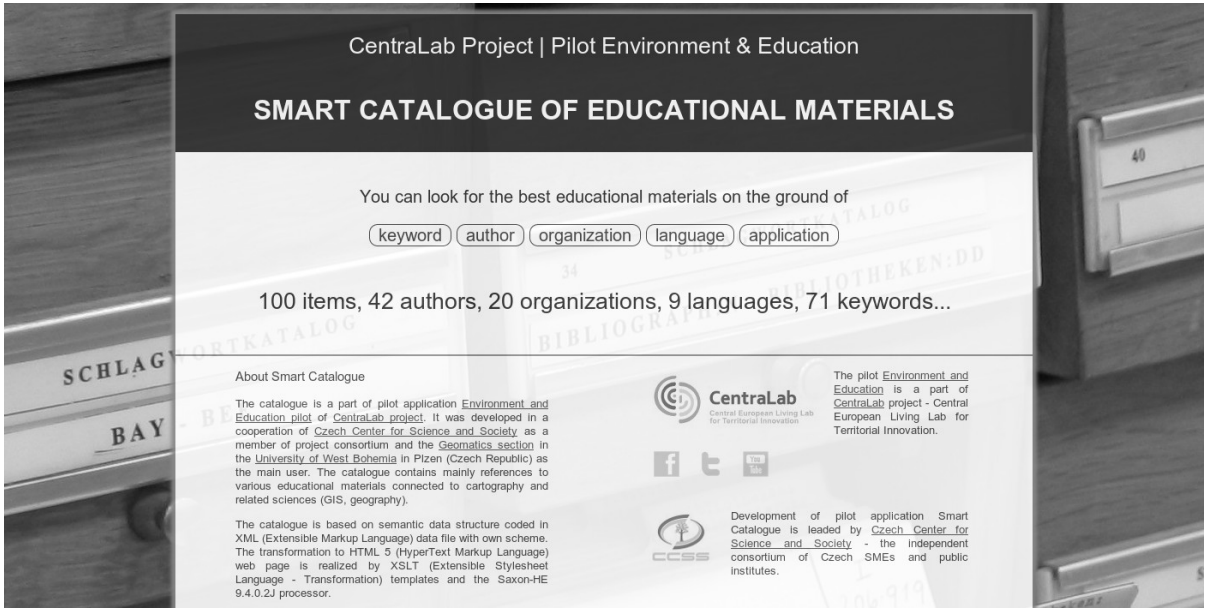
- Central European Living Lab for Territorial Innovation
- 2011-2014
- 10 Project partners from 8 EU countries
- Lead Partner: E-zavod (Slovenia)
- Follow MedLab project
- Transfer the LL approach and methodology to meet the needs and objectives of Central European regions
- Exchange of best practices between two of the more peripheral zones of European Territorial Cooperation

CENTRALAB PILOTS

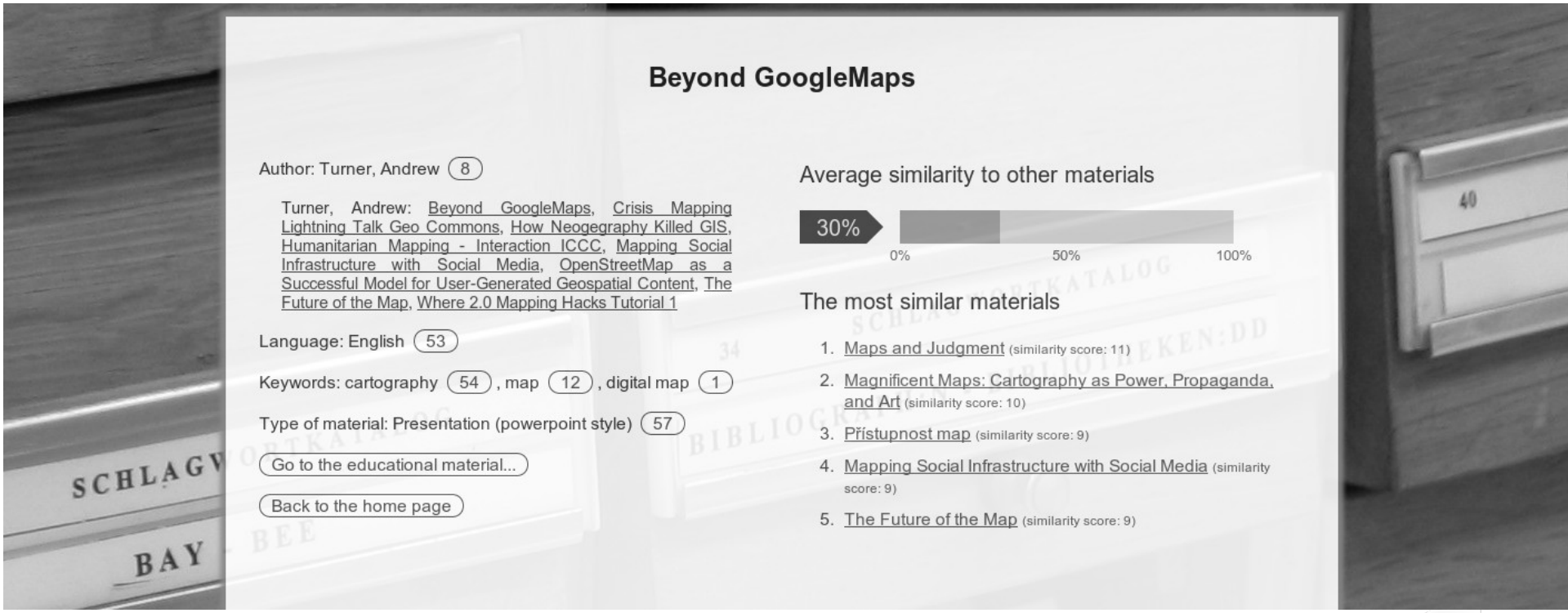
- Climate change (intelligent public lighting in Trento)
- Eco-tourism (social web app for Gorenjska)
- eHealth (supporting mobility of disabled people, Piemonte)
- Energy efficiency
- Environment and education
- Media and creativity
- Micro-SME networks
- Mobility (e-car mobility, Vorarberg)
- Rural development (Smart procurement environment)
- Waste management

ENVIRONMENT AND EDUCATION PILOT

- CCSS; Corvinno Technology Transfer Centre, Technical University of Kosice
- Linked Data and open web standards
- Public participation



ENVIRONMENT AND EDUCATION PILOT



WIRELESSINFO – CZECH LIVING LAB

- Members of WIRELESSINFO association (founded in 2003)
  - SMEs (4)
  - University
- Close cooperation with local and regional authorities and research institutes (so-called external members)
  - UWB
  - CCSS
  - Liberec Region; cities Olomouc, Telč, Znojmo
  - Forest Management Institute (public body)

WIRELESSINFO – CZECH LIVING LAB

- Focus on geoinformation technologies, spatial data and their implementations in various domains (agriculture, agrotourism, land management, water management, forestry, risk management...)
- Goals of WIRELESSINFO
  - to coordinate activities in research
  - new development
  - testing and exploitations of new information systems and technologies for data collection and data transport on the market

WIRELESSINFO – PROJECTS

- **AgriSensor** – design and development an integrated framework of dynamic cartographic visualization and modeling tools for agricultural applications based on wireless sensor networks information
- **COIN** – interoperability of agriculture data and their re-usage for decisions on the level of tactical planning on the farm (participation on ontology development for machinery sharing)

WIRELESSINFO – PROJECTS

- **AgriXchange** – efficient exchange of information leading to efficient business processes and adoption of new knowledge and technology (development of new data models and exchange formats)
- **SKIN** (Short supply chain Knowledge and Innovation Network) - systematization and bringing knowledge to practitioners, promote collaboration within a demand-driven innovation logic and provide inputs to policy makers

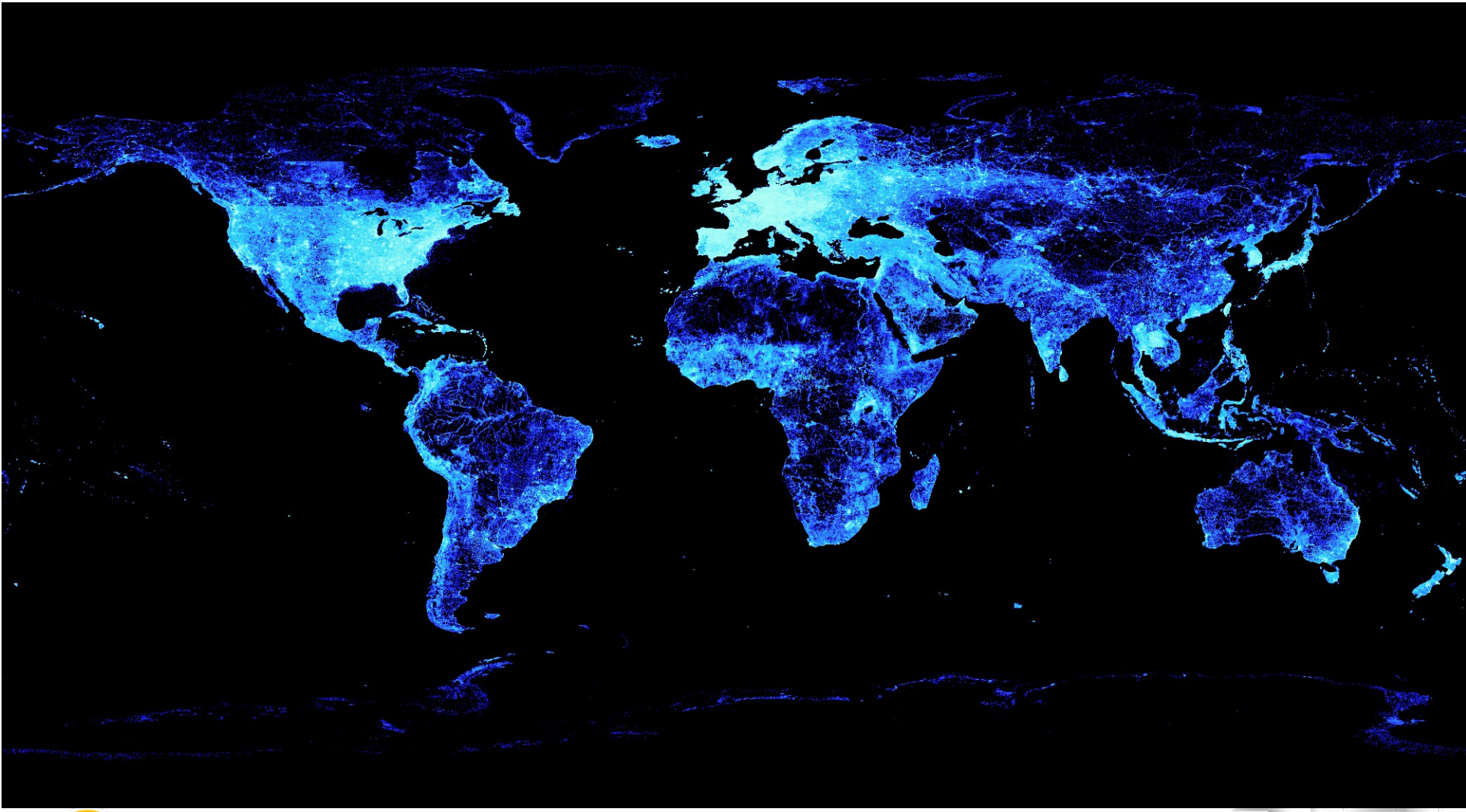
WIRELESSINFO – SUMMARY

- Following Living Labs principles
- Strong cooperation with stakeholders from an intitial idea to market
- Support of other initiatives (related to public participation) such open data and open content, Linked Data, standardization activities (OGC), data crowdsourcing, science shops, hackathons, Software as a Service activities, open innovations...

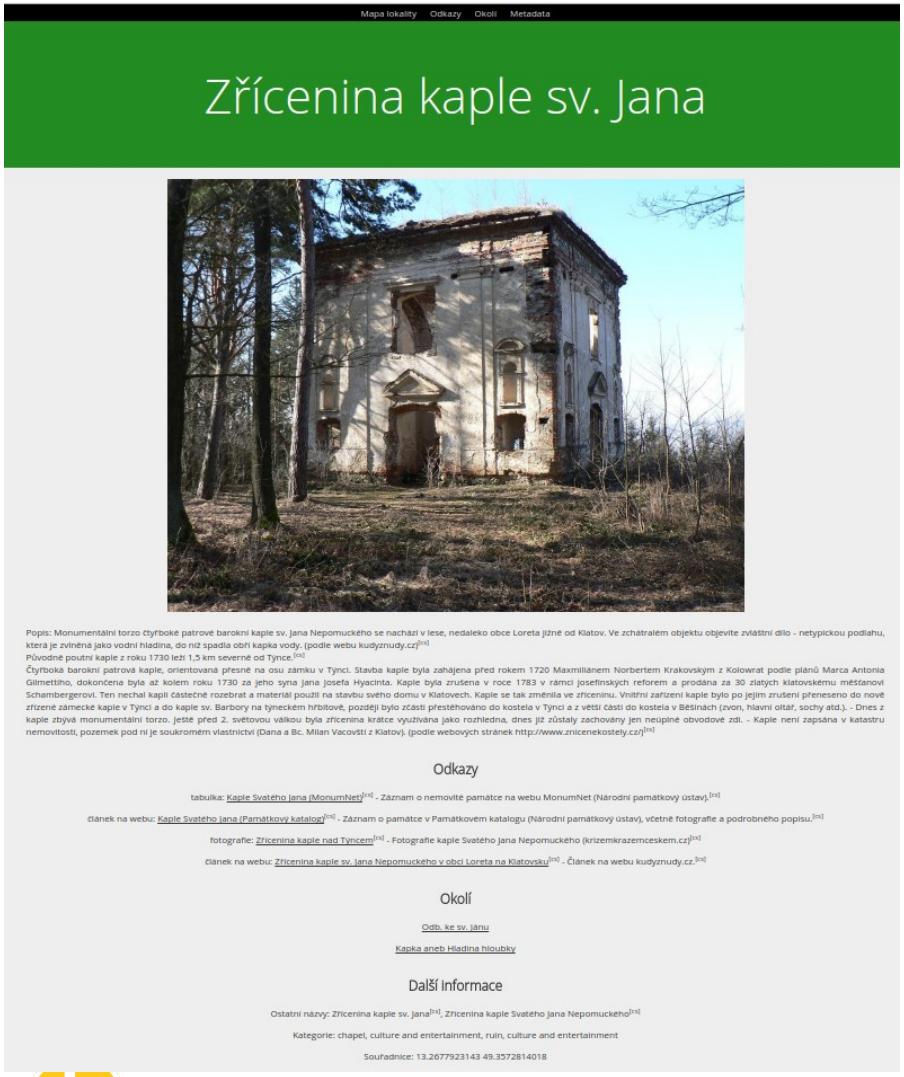
SMART POINTS OF INTEREST

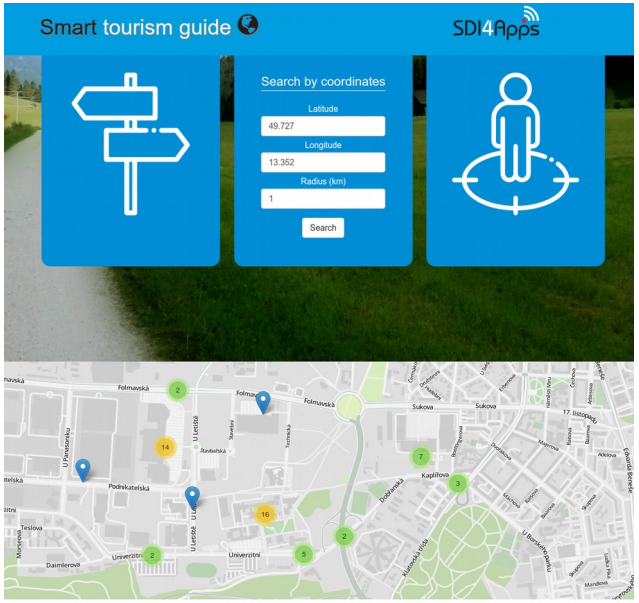
- The example of innovation developed and managed on the basis of LL approach
- Open global database of points of interest published as Linked Data
- 27 000 000 points
- Large group of data providers (from OSM, GeoNames.org to small local providers and students)
- Web page: gis.zcu.cz/spoi

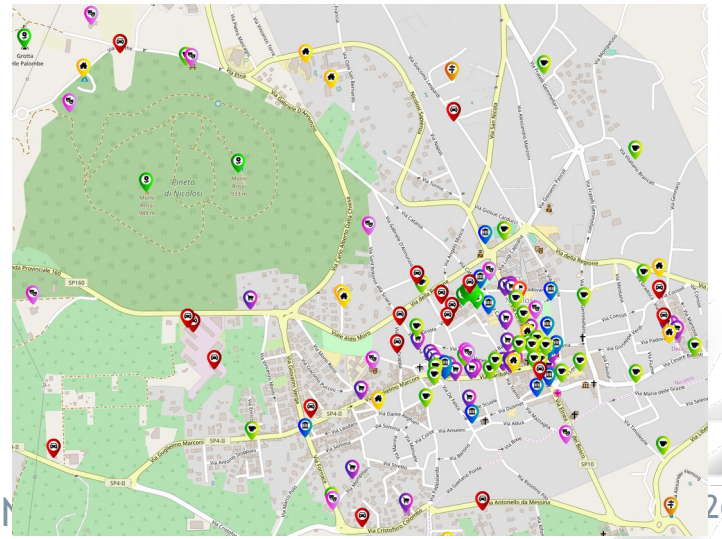
SMART POINTS OF INTEREST



APPS BASED ON SPOI







SPOI & LL INDICATORS

- User involvement (70)
  - Users add new points (SKIN project, Belluno...)
  - Users required new attributes to data model
- Service creation (100)
  - There is a lot of various services and apps (also developed by users)
- Infrastructure (25)
  - No specific LL infrastructure, but possibilities of co-creation (user editing functions) and high level of standardization and interoperability

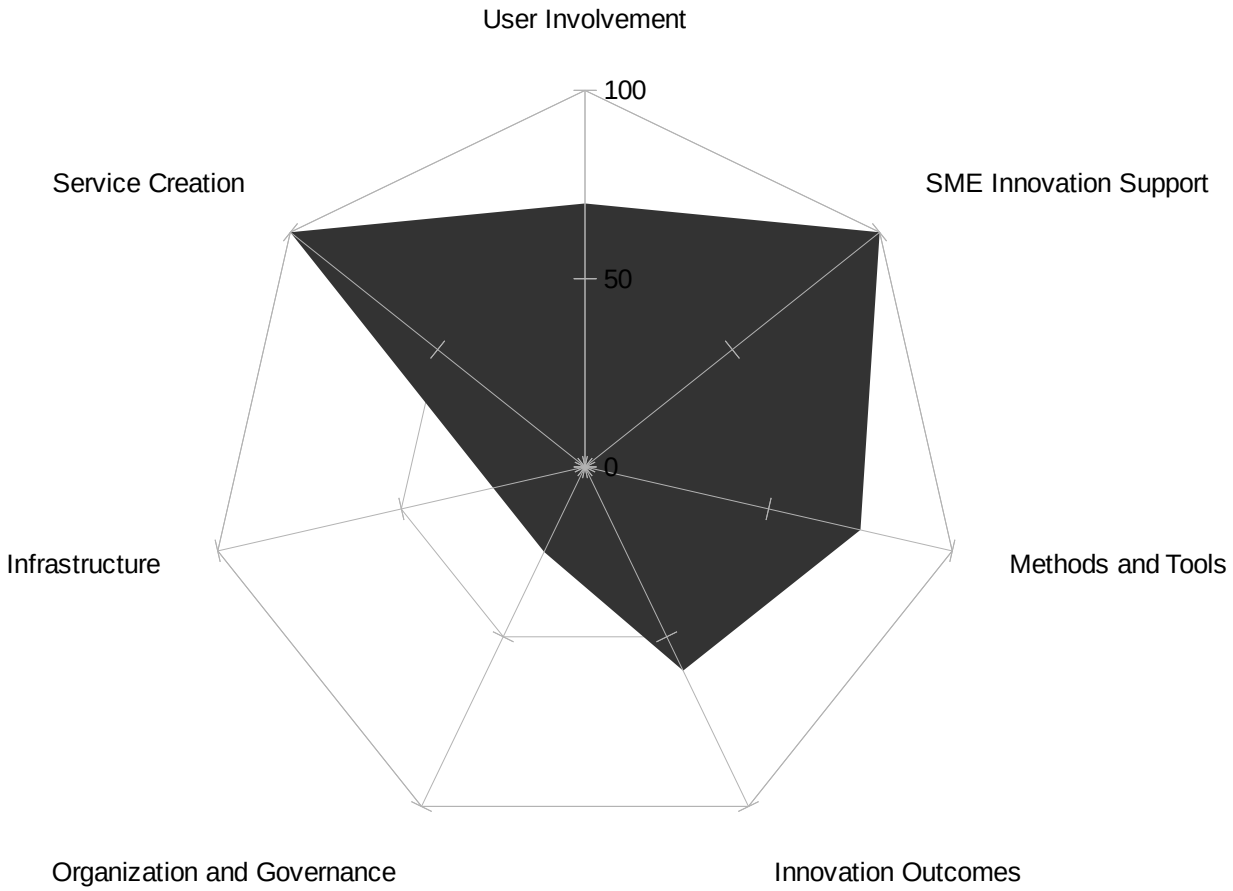
SPOI & LL INDICATORS

- Organization and Governance (25)
  - Business models are being developed (new stakeholders)
  - Cooperation with regions (Zemgale) or Local Action Groups (Pošumaví)
  - Project is funded to 2019
- Innovation Outcomes (60)
  - Target markets are specified (not for data, but for services and apps) – tourism, agriculture, risk management, transportation...

SPOI & LL INDICATORS

- Methods and Tools (75)
  - Methods and tools for participation (adding and editing data) are developed
  - Methodology in development
- SME Innovation Support (100)
  - SPOI is developed in close cooperation with SMEs (HSRS, BOSC)

SPOI & LL INDICATORS



THANK YOU FOR YOUR ATTENTION

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