

# Digital Innovation Hub

## POLIRURAL

František Zadražil



POLIRURAL

# Why Innovation Hub?

Gateway to the project's innovations



- A space for
  - publishing results
  - interaction
  - learning
  - development and testing
- Tools
  - Content Management System
  - Forum and blogs
  - Science Shop
  - Maps
  - etc.

**hub.polirural.eu**

Wh

Gatev



PoliRural\_webinars - PDF 13MB

- 💡 PoliRural Webinar #1: "Action Oriented Foresight for Rural Development"
- See recording on YouTube channel



🔗 <https://youtu.be/m66wjhqLbg0>

- 💡 PoliRural Webinar #2: "Semantic Explorer: A Text Mining Tool for Smart

# SCIENCE SHOP

Are you a practitioner and do you look for students who help you to find a solution? Or are you a student and you are looking for ideas or tasks for your research? Then you are in the right place! This Science Shop gives practitioners and students the opportunity to do a community-based research. Tell us about your research and we will do our best to help you to find exactly what you are looking for.

## I'm a practitioner

I'm looking for students who help me to find SOLUTION



## I'm a student

I'm looking for ideas/tasks for my RESEARCH

## Science Shop

Search

Categories

Recent Posts

Statistics

HOME

Categories

I am a practitioner - I'm looking for space to realize my ideas

10 Subcategories

0 Threads

I am a student- I am looking for ideas for my RESEARCH

11 Subcategories

# Pilot Web pages

The screenshot shows a web browser window for the Central Bohemian Region. The title bar reads "Central Bohemian Region - Czech Republic". The main content area features a large image of a historic building complex with red roofs and surrounding greenery. Overlaid text says "PILOT" and "CENTRAL BOHEMIAN REGION - CZECH REPUBLIC". Below this, a large green banner displays the text "Central Bohemian Reion". A map of the Czech Republic highlights the Central Bohemian Region in yellow. The page also includes sections for "INTRODUCTION" and "PRIORITY ISSUES". At the bottom, there is a cookie consent banner.

The Central Bohemian Region is the biggest region of the Czech Republic (according to the dimension - 10 929 km<sup>2</sup>/ 14 % of the Czech Republic - and population - 1 377 000 inhabitants/12,86 % of the Czech Republic). The Central Bohemian Region has no natural center (as other regions), but for this region the natural center is the capital city.

INTRODUCTION

PRIORITY ISSUES

Introduction

The Czech pilot will be managed by NUVIT z.ú. (Partner), with support from Network of Local Action Groups (Associates), LAG Šedlčansko (Associates), Ministry of Regional Development (Associates), CCS5 (Partner), Czech University of Life Sciences (Partner) and Czech-Moravian Association of Agricultural Entrepreneurs (Associates). Rural peripheral parts of the region are attractive places to live because of the beautiful landscape and relatively easy accessibility of the capital, but the generational renewal is coming along slowly across these areas and the whole region suffers by demographic decreasing.

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## Presentation of the project's pilot regions

The screenshot shows three windows illustrating the project's pilot regions. The top window is a browser showing a "PROGRESS BAR" with five colored segments: NEEDS GATHERING (green), POLICY MATCHING (green), POLICY EVALUATION (green), FUTURE OUTLOOK (light grey), and MISSION ORIENTATION (light grey). Below the bar is a navigation menu with tabs: NEEDS GATHERING, POLICY MATCHING, POLICY EVALUATION, FUTURE OUTLOOK, MISSION ORIENTATION, BEST PRACTICES, and OTHER. The middle window shows a map of the Czech Republic with the Central Bohemian Region highlighted in yellow. The bottom window shows a detailed map of the Central Bohemian Region with specific areas highlighted in red, labeled "Útvary podzemních vod - základní vrstvy". Both the middle and bottom windows have a "Layer manager" sidebar on the right.

PROGRESS BAR

NEEDS GATHERING POLICY MATCHING POLICY EVALUATION FUTURE OUTLOOK MISSION ORIENTATION

NEEDS GATHERING POLICY MATCHING POLICY EVALUATION FUTURE OUTLOOK MISSION ORIENTATION BEST PRACTICES OTHER

n-czech-republic

OPPORTUNITIES

O1.01 High density/network across the region

reconnection local

city of railway to the capital

Útvary podzemních vod - základní vrstvy

Layer manager

Filter:

base layers

OpenStreetMap

Map center

Land Use Map of the Czech Republic

Scale to 1:5000000

Opacity

Topographic map Czech

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# DIH Applications

**POLIRURAL Best Practices Atlas - SEMEX**

Default

Country Entrant type Gender Activity type

BURKĀNCIEMS LTD  
Madona county, Vidzeme Region, Latvia

SAARA KUKKONEN  
Hämeenkylä, Pajala-Hame region, Finland

JAKUB DVORSKY  
Lidov, Slovakia

JUTTA HONGISTO  
Nottala Village, Hollola, Pajala-Hame, Finland

KAISA TUOMINEN  
Lahden kaupunki, Pajala-Hame region, Finland

YIA  
Poland

TRAJCE CRVENOV  
Tirane, Shkodra, Macedonia

SA  
City region

**POLIRURAL Home Regional foresight Text mining System dynamics Policy options explorer Rural attractiveness explorer**

Comparing rural attractiveness Exploring dynamics Exploring impact

In the so-called 'disc visualization', each disc represents one region. On the time slider you can either have the visualization run from 2015 to 2040 on its own or you can select specific time steps (one time step = 3 months/0.25 years). Also here, the colour of the disc represents the RAI value at each time step. The direction of the arrow (up, straight, down) shows how the value of rural attractiveness has changed compared to the previous time step.

**Rural attractiveness index of regions in 2015.0**

Region	RAI Value (%)	Change Direction
Apulia	55.47%	Up
Central Bohemia	47.81%	Up
Central Greece	57.16%	Up
Golice	39.67%	Up
Georgelia	46.79%	Up
Hame	34.94%	Up
Monaghan	45.12%	Up
Segovia	24.31%	Up
Vidzeme	46.60%	Up

Disc visualization for the project regions and its evolution over time.

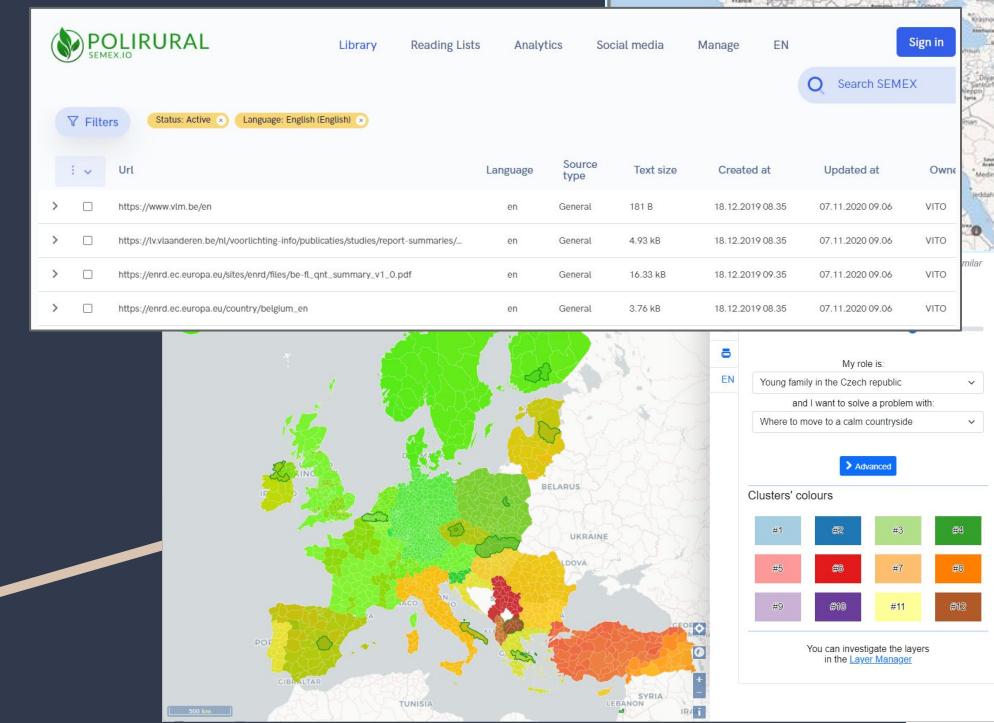
## Rural Attractiveness

SEMEX, POE

Atlas of Best Practices

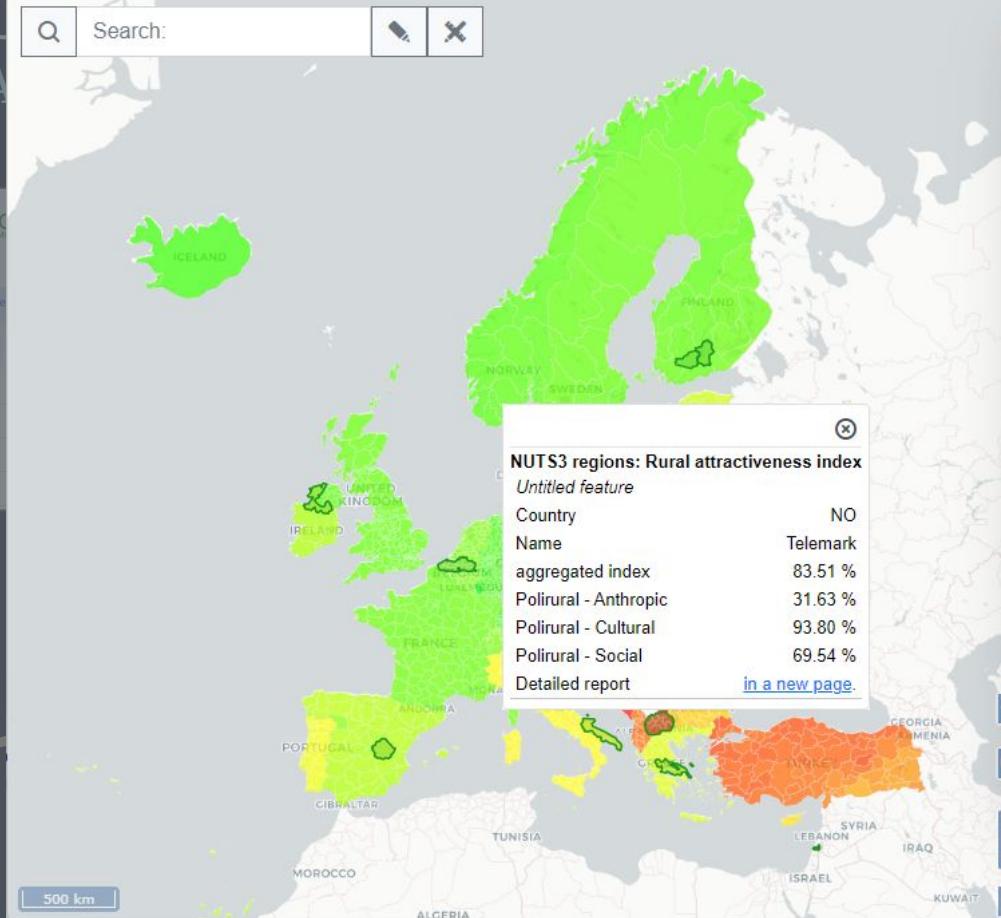
Groundwater & Meteo Sensors

etc.





Search:

**NUTS3 regions: Rural attractiveness index***Untitled feature*

Country	NO
Name	Telemark
aggregated index	83.51 %
Polarural - Anthropic	31.63 %
Polarural - Cultural	93.80 %
Polarural - Social	69.54 %
Detailed report	<a href="#">in a new page.</a>

## Regional Attractiveness

**Calculate****Index**

Ranking of attractiveness

Clusters  
Groups of similar regions

My role is:

Young family in the Czech republic

and I want to solve a problem with:

Where to move to a calm countryside

**Advanced**

## Attractiveness scale



least attractive

most attractive

You can investigate the layers  
in the [Layer Manager](#)

[Library](#)[Reading Lists](#)[Analytics](#)[Social media](#)[Manage](#)[EN](#)[Sign in](#) [Search SEMEX](#)

v1.0.0

## Semantic Explorer

Text Mining for Foresight and System Dynamics



**Semantic Explorer** (Semex.io) is a powerful tool based on text mining able to extract knowledge from unstructured data and communicate the results in the most effective way. It can provide useful insights to researchers involved in Foresight, SDM and other research activities that contribute to empower policymakers, in particular those involved in rural development. Specific functionalities have been developed to assist researchers and facilitators involved in these specific activities. The organization of working groups and training sessions shall lead to the co-creation of further text mining pipelines to be used by Polirural's partners. The aim is to produce replicable solutions to be used with similar stakeholders.



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# DIH tools

Web portal & Content

Content Management System (CMS)



science shop

forum

news & blogs

# DIH geo-tools

geo-data publishing workflow



HSLayers-NG



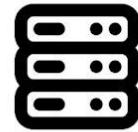
## Maps

- HSLayers
- open map apps library



## Geo-data publishing

- Layman service



## Metadata

- Micka catalogue

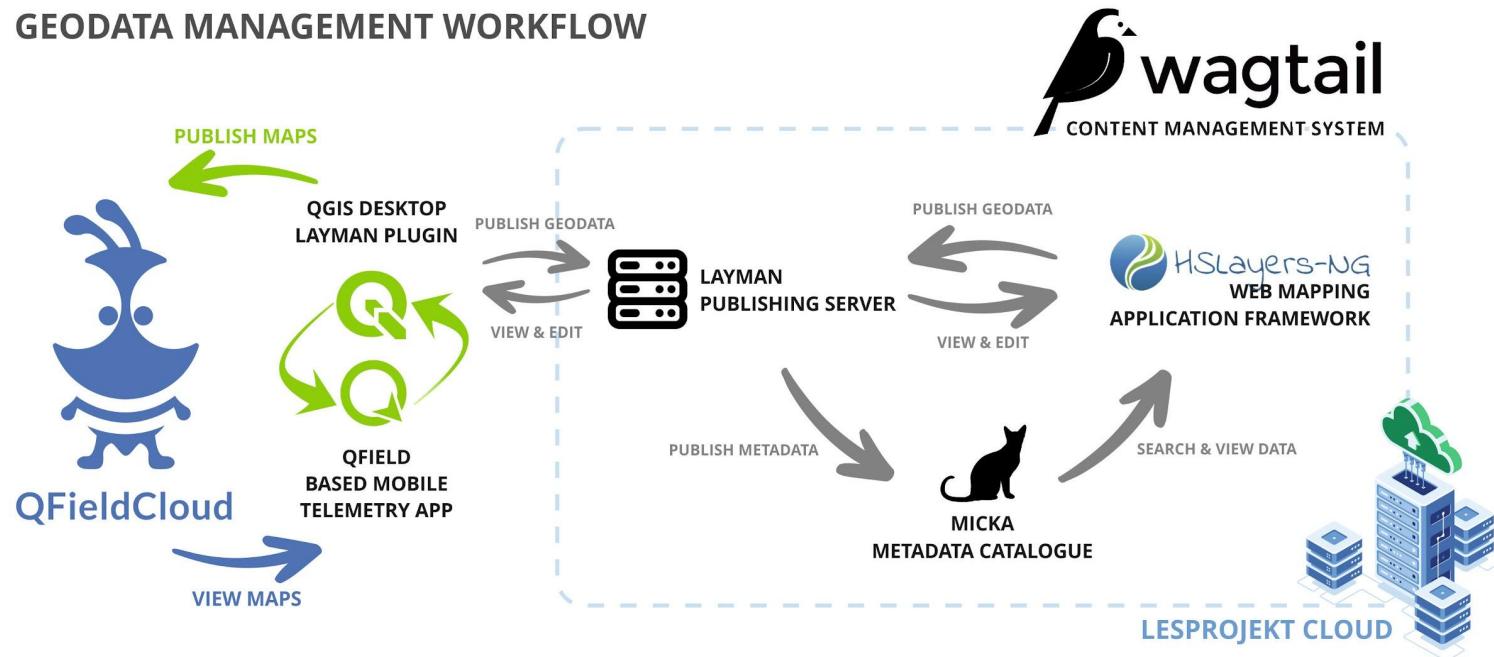


# Infrastructure

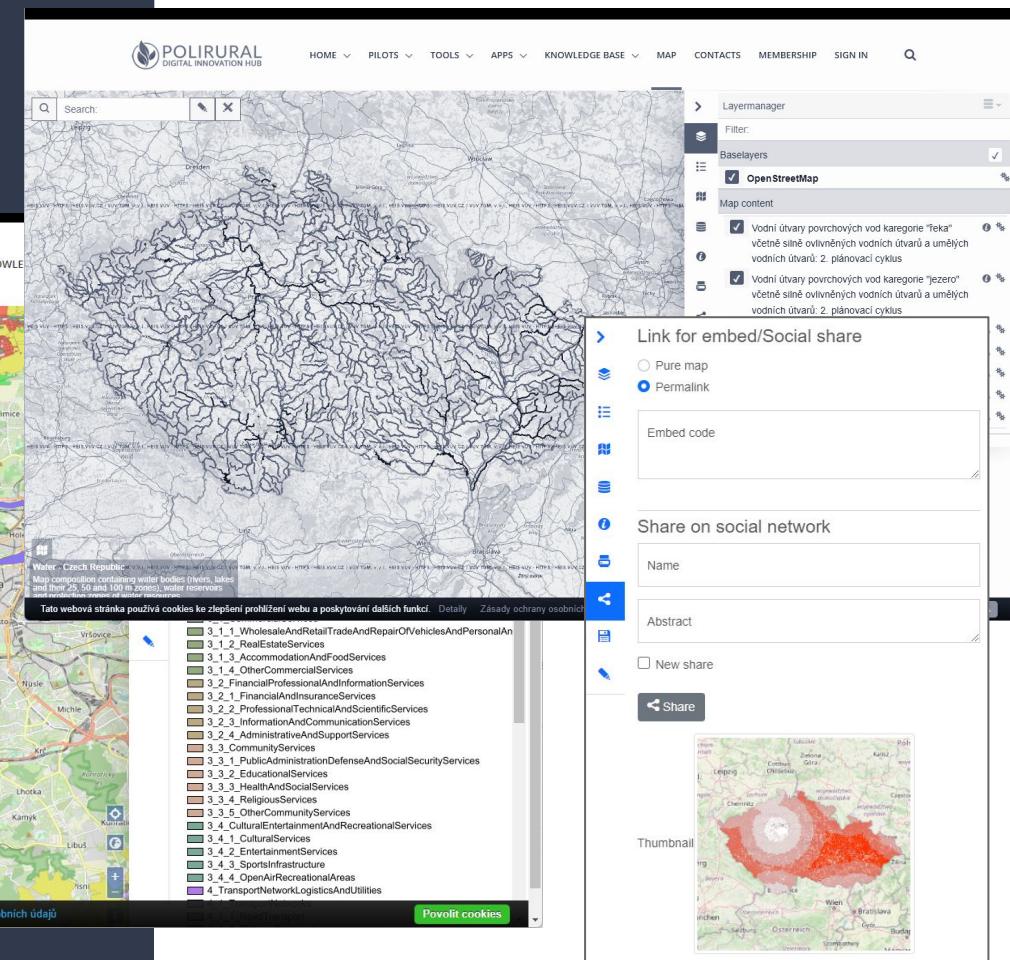
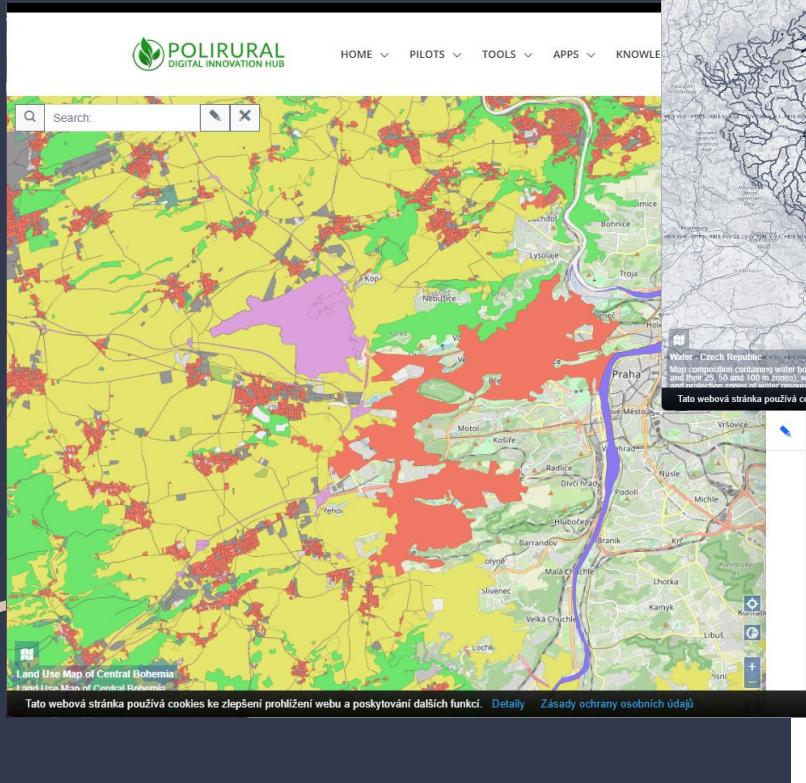
Liferay ➔ Wagtail

QField integration

## GEODATA MANAGEMENT WORKFLOW

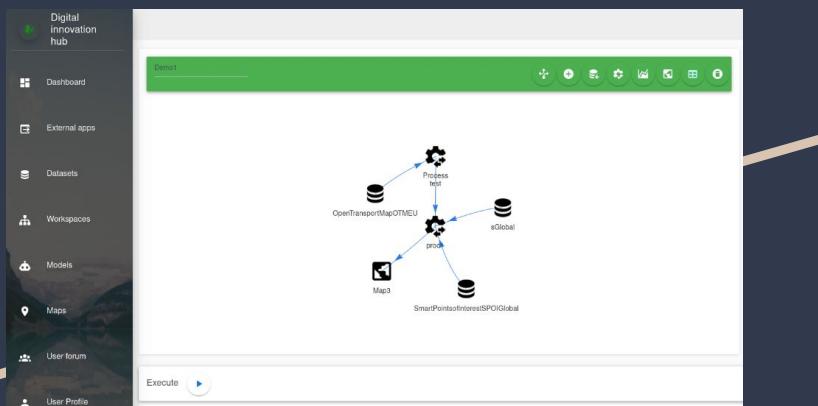


# DIH Maps



# DIH tools

development support



## JupyterHub



- live coding

## DIH Lab

- data science tasks modelling

## SensLog

- sensor management



File Edit View Run Kernel Tabs Settings Help

+ Filter files by name

/

Name	Last Modified
Untitled.ipynb	3 hours ago
Untitled1.ipynb	3 hours ago
Untitled2.ipynb	3 hours ago

Untitled2.ipynb Untitled1.ipynb Terminal 1 Python 3

```
[1]: import matplotlib.pyplot as plt

[5]: sizes = [1.35, 3.60, 2.25, 1.80]
      labels = 'Engineering', 'Manufacturing', 'Sales', 'Profit'

[6]: plt.pie(sizes,
            labels = labels)

plt.title('Cost breakdown of a $9 Item')
plt.axis('equal')

plt.show()
```

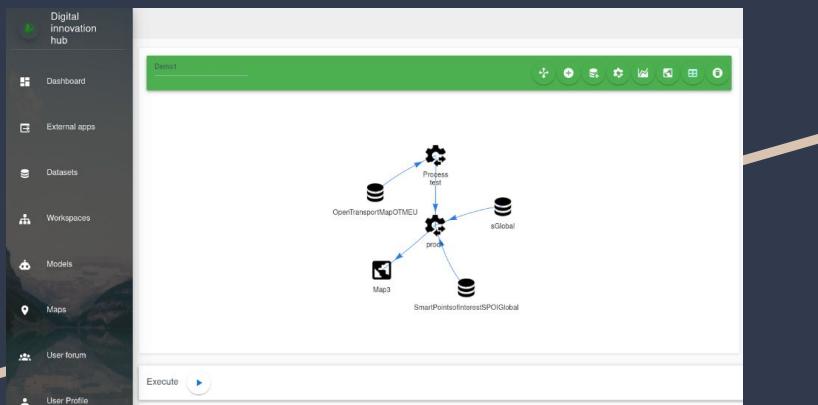
Cost breakdown of a \$9 Item

The pie chart illustrates the cost breakdown of a \$9 item. The segments represent the following proportions:

Category	Proportion
Manufacturing	3.60
Sales	2.25
Profit	1.80
Engineering	1.35

# DIH tools

development support



## JupyterHub



- live coding

## DIH Lab

- data science tasks modelling

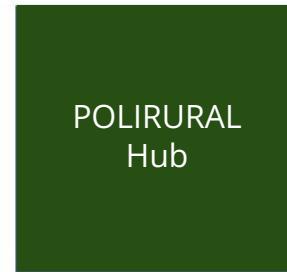
## SensLog

- sensor management



# Infrastructure

APPLICATION



ABSTRACTION



PHYSICAL



Micka  
HSLayers NG  
SensLog  
Layman



# Q & A

[hub.polirural.eu](http://hub.polirural.eu)



**POLIRURAL**

[zadrazil@lesprojekt.cz](mailto:zadrazil@lesprojekt.cz)

Skype: fzadrazil