



The Hungarian Presidency of the  
EU Strategy for the Danube Region



## 14th SG MEETING OF PA2

INSTITUTE FOR FOREIGN AFFAIRS AND TRADE  
Budapest, 13 July 2017

**DARLINGe- DANUBE REGION LEADING GEOTHERMAL ENERGY AND  
THEMATIC POLE 8**

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Mining and Geological Survey of Hungary



# DTP Capitalisation Strategy and Thematic Poles



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- To valorise and further build upon the knowledge resulting from projects working in a thematic field
- To fill knowledge-gaps by linking actors with complementary thematic specialisation, experiences, methodological approaches or geographical scope
- To increase the visibility of the projects and the programme and to ensure their impact on the policy making process at local, regional, national and European levels
- To strengthen strategic thematic networks in the Programme area
- To encourage the wider take-up of project outcomes from outside the DTP Programme area
- To contribute to the design and/or implementation of future transnational cooperation in the area

# Thematic Pole 8 projects



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## THEMATIC POLE 8 - SUSTAINABLE ENERGY

Three projects make up Thematic Pole 8 broadly focused on sustainable energy and contribution to the security of energy supply in the Danube region. The Thematic Pole, even though not the most homogeneous, it is driven by a strong will to bring about a real change in the energy sector in the Danube region. The three projects deal with real-time energy management including smart grids, management of deep geothermal resources to produce heating energy and management of biomass supply chain along the Danube.

**POLE LEADER CONTACT DETAILS:** the project **DARLINGe**, Mrs. Nádor Annamária, nador.annamaria@mfgi.hu / Geological and Geophysical Institute of Hungary (HU)



**3 791 343 euro**  
**13 partners from 6 countries**



**2 323 519 euro**  
**15 partners from 7 countries**



**2 525 760 euro**  
**15 partners from 6 countries**

# DARLINGe project area and main objectives



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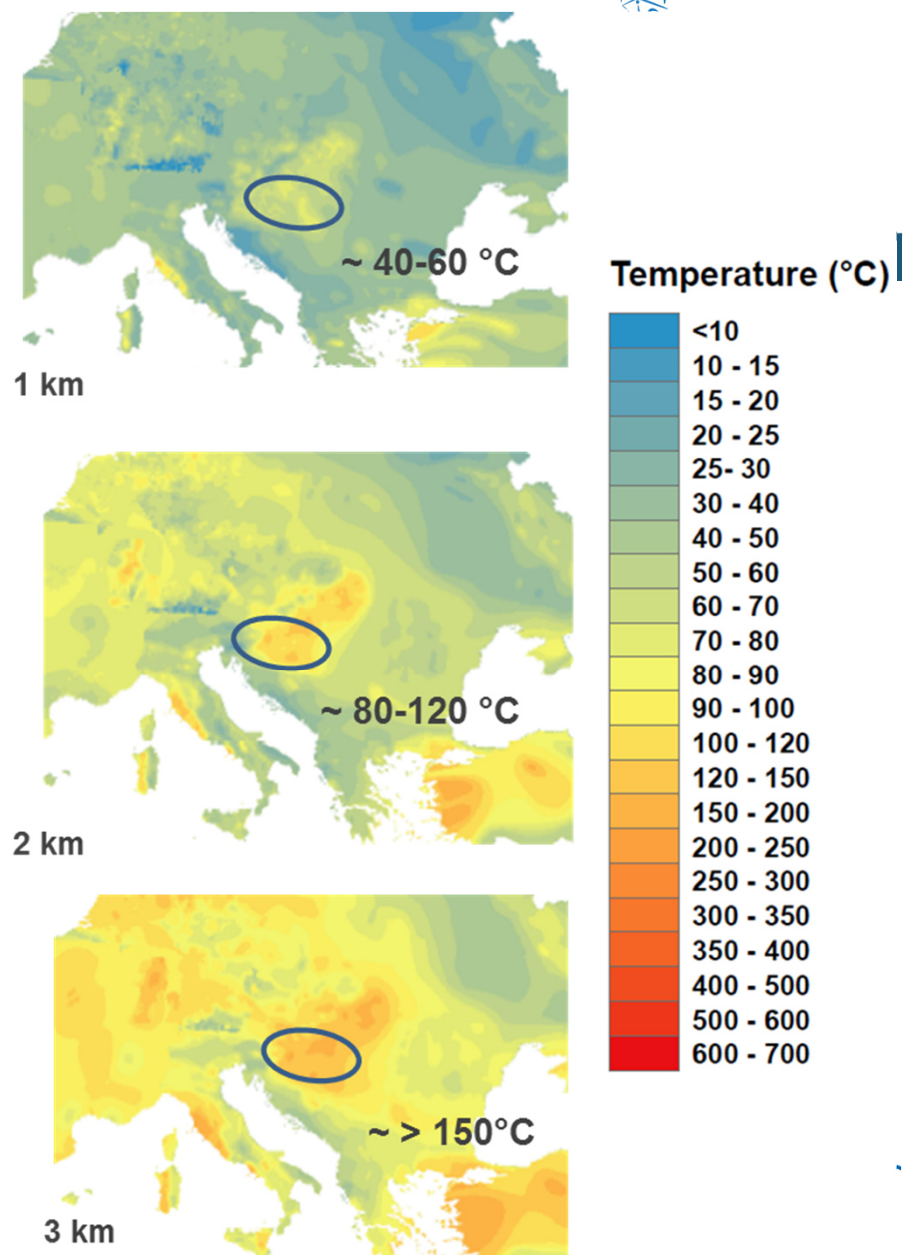
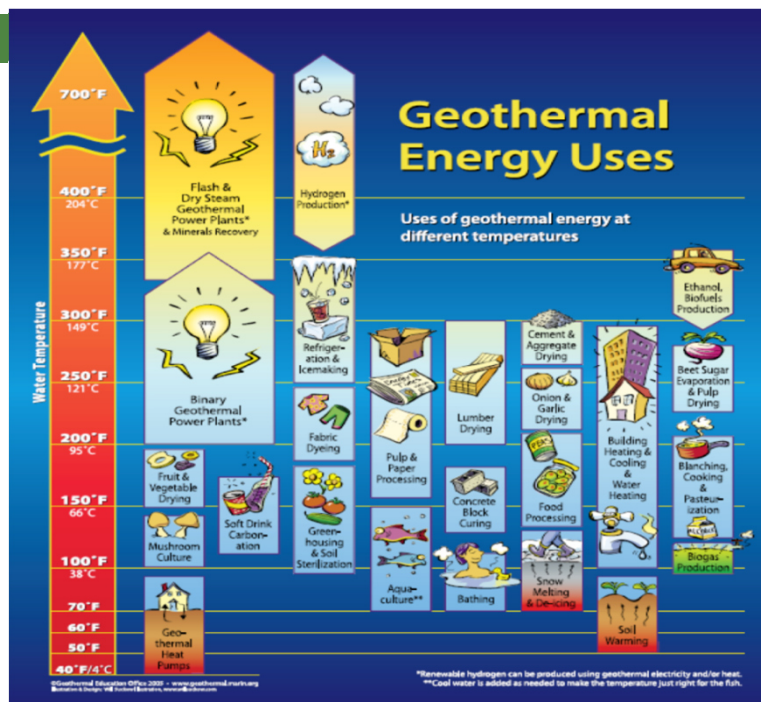
**Main objective:**  
**To increase the sustainable  
and energy-efficient use of  
deep geothermal energy  
resources in the heating sector**

## Specific objectives:

1. To increase the share of energy efficient cascaded geothermal systems
2. To establish transnational management of geothermal reservoirs
3. Advance institutional capacities and stakeholder dialogue to foster geothermal developments/



# Resources are available



Although some deeper, higher temperature systems are suitable for CHP, the low-hanging fruit is direct use

# Existing heat demand

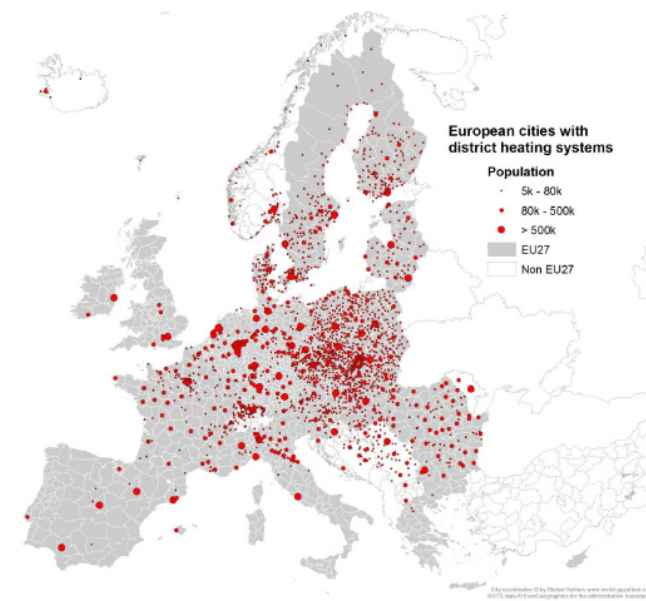


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- ~ 40% of primary energy consumption is by the heating sector
- ~12% of the total communal heat demand is DH

Heat supply to DH systems: mainly fossil / gas (import dependency),  
geothermal: 0,001% (altogether 257 geo-DH plants in Europe with a total  
installed capacity of 4701.7 MWth)

**DARLINGe area: traditions of district heating  
(many old systems)**



# Utilization of geothermal energy in the DARLINGe countries



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	Geothermal DH plants		Geothermal heat in agriculture and industry		Geothermal heat in balneology		Geothermal heat for individual buildings and other	
	Capacity (MW <sub>th</sub> )	Production (GWh <sub>th</sub> /yr)	Capacity (MW <sub>th</sub> )	Production (GWh <sub>th</sub> /yr)	Capacity (MW <sub>th</sub> )	Production (GWh <sub>th</sub> /yr)	Capacity (MW <sub>th</sub> )	Production (GWh <sub>th</sub> /yr)
BH					12,5	29,3	10,4	53,3
HR	45,8	83,5			22,2	47,8		
HU	157,2	353,7	325,6	732,6	241,6	724,8	28,0	63,0
RO	158,0	300,0	8,0	50,0	10,0	12,0		
SRB	45,9	161,0	11,6	62,4	36,7	186,3	16,8	78,0
SLO	3,6	6,1	14,4	34,5	17,9	34,5	29,8	61,9

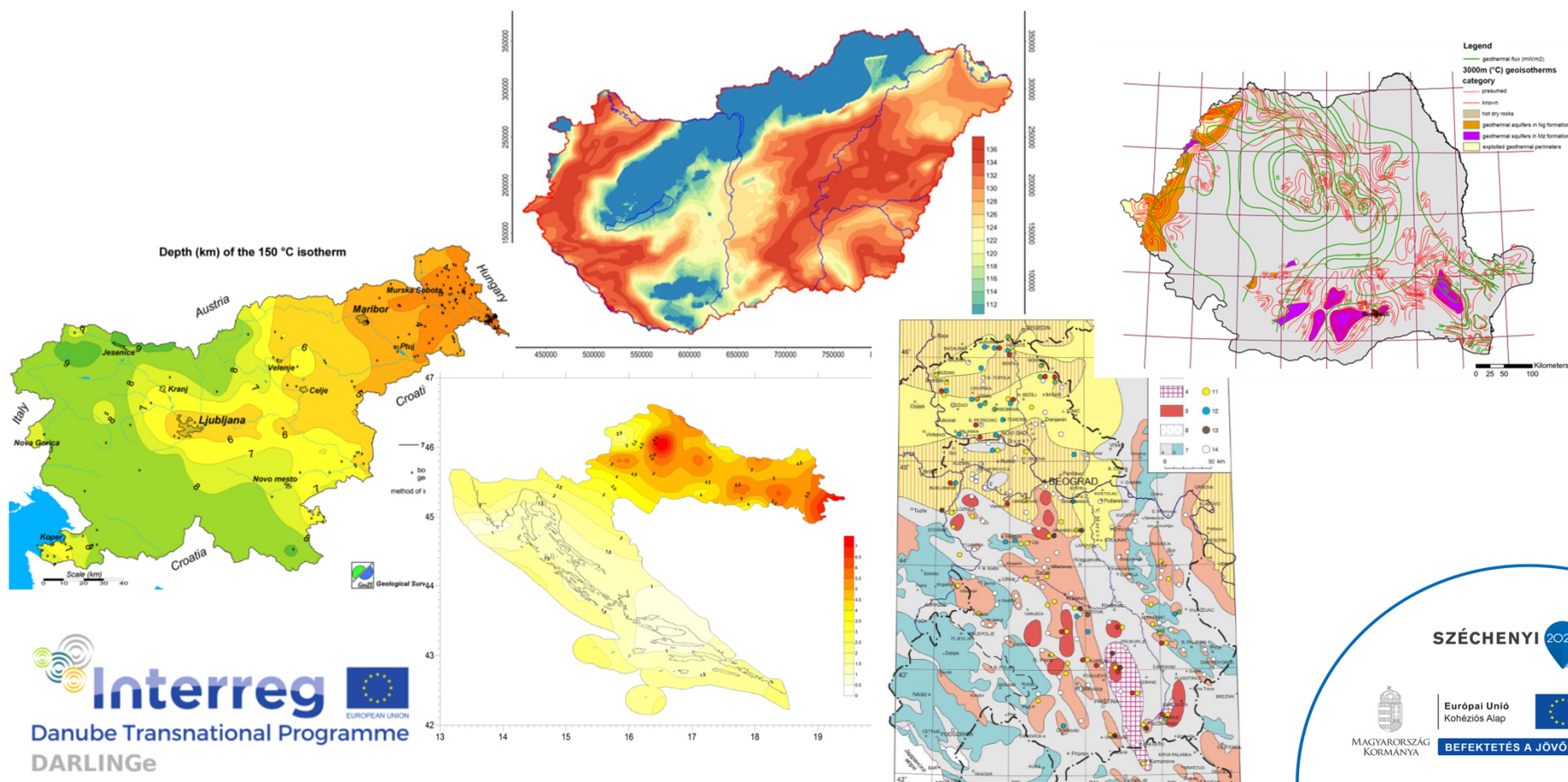
- GeoDH is significant in HU, RO, also in SRB and HR
- Geothermal in agriculture is outstanding in HU, to less extent in RO, SRB, SLO
- Balneology important in all
- Individual space heating is subordinate

# DARLINGe – some innovative aspects



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## Harmonized geological and geothermal models, maps in order to delineation potential (transboundary) reservoirs



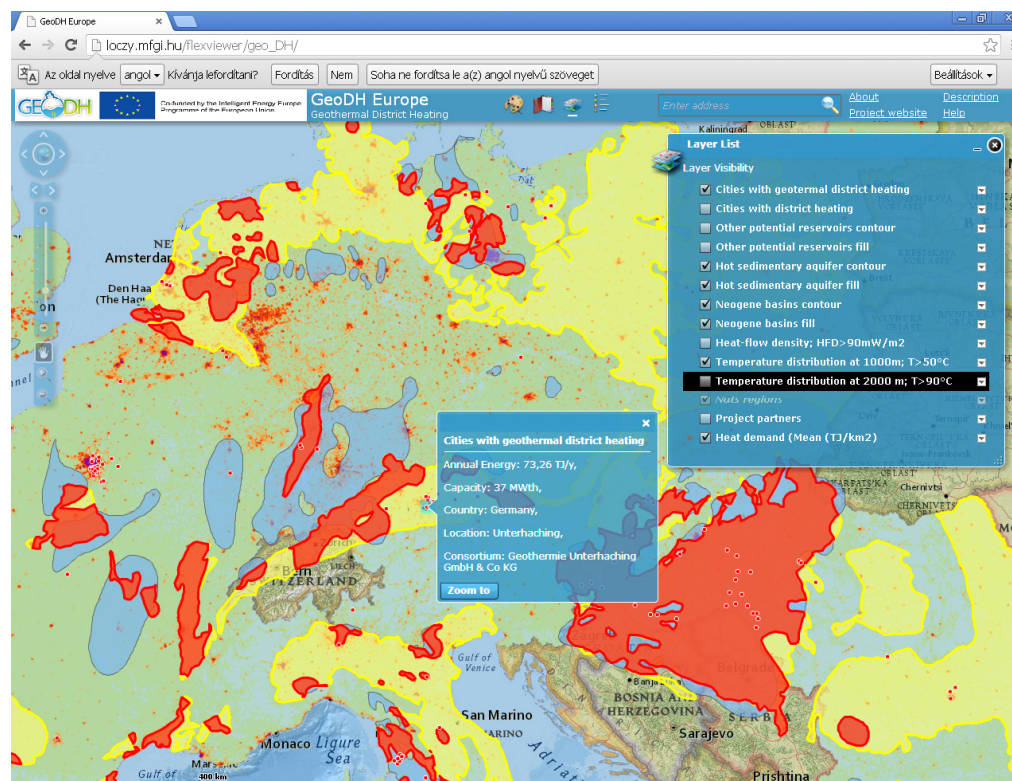


# DARLINGe – some innovative aspects



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Heat-market analyses at regional and local scales according to different settlement categories (identify main users and their demands)  
Matching heat demand with areas of prosperous geothermal potential



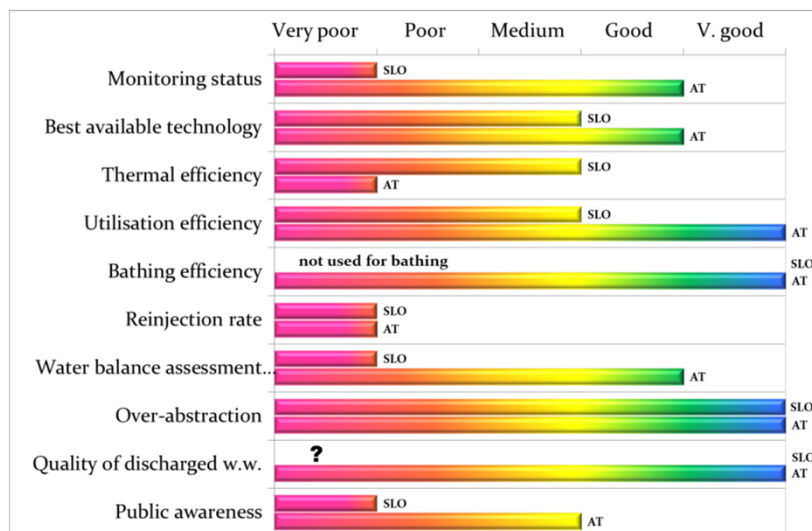
# DARLINGe – some innovative aspects



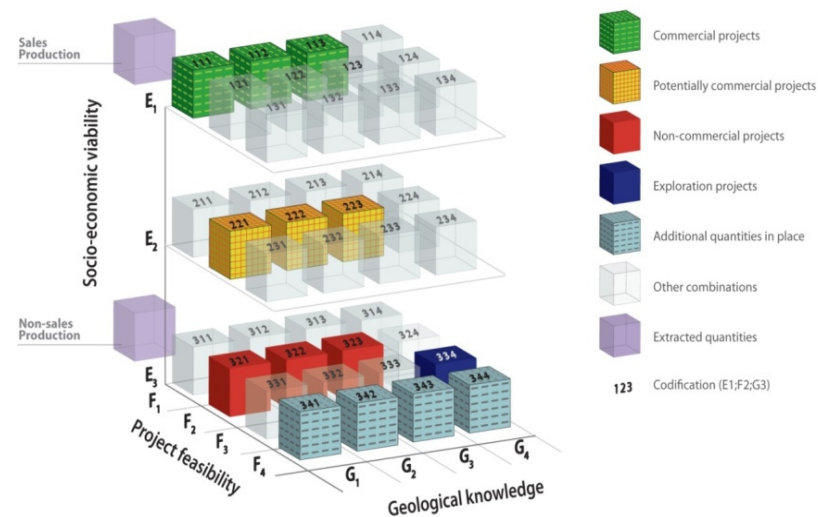
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## Assessment and comparison of utilizations / projects based on different novel methodologies

Method developed by the project:  
Benchmark (independent indicators)



Application of the UNFC-2009 classification (testing of the geothermal specifications elaborated in 2016)



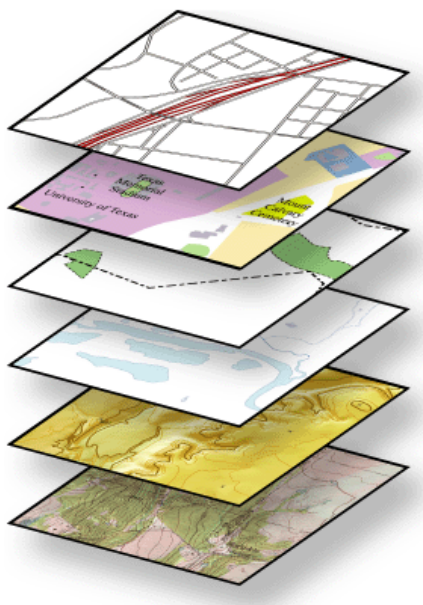
# DARLINGe – some innovative aspects



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## Danube Region Geothermal Information Platform – DRGIP: a user friendly interactive portal for decision support and dissemination

Thematic maps



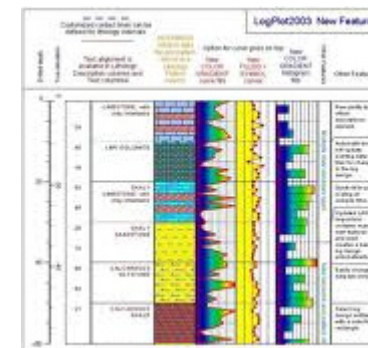
Field measurements



Graphs and charts



Borhole Logs





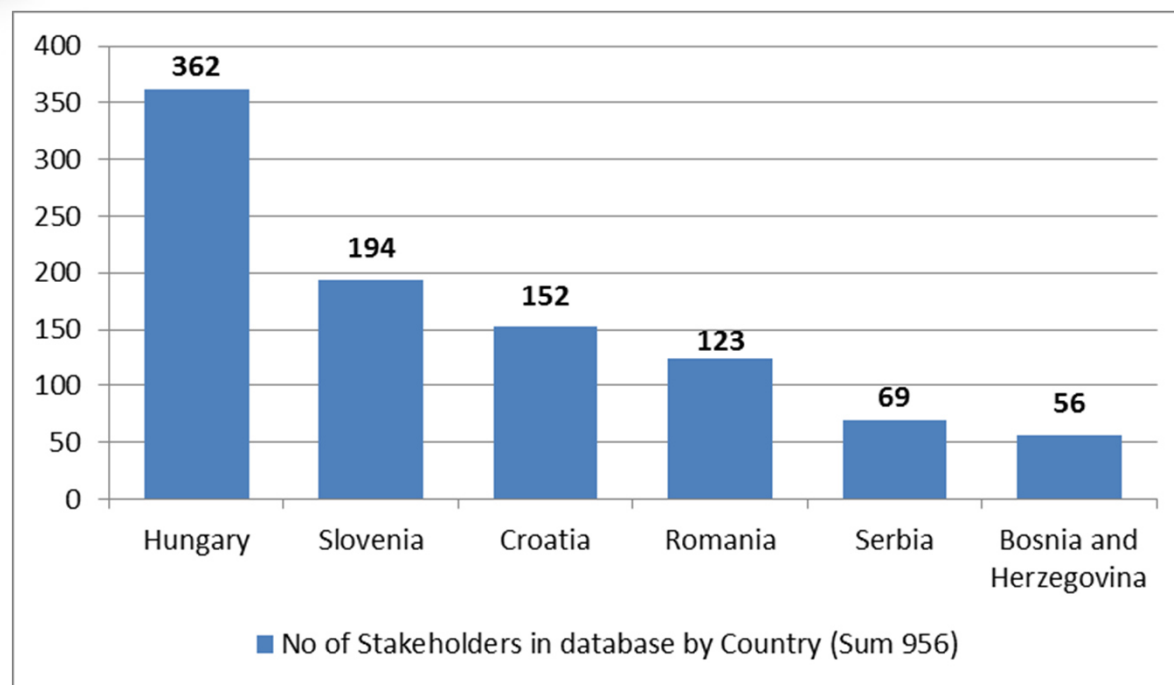
# Communication with Stakeholders



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**956 stakeholders identified from 6 countries**  
**Transnational Stakeholder Forum –**  
**Interactions at all project stages: 3**  
**participants per country**





# What has been achieved so far?



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- ✓ 1st project meeting in Budapest (25-26 January), followed by Capacity Building workshop for project partners
- ✓ progress meetings in Zagreb (20-21 February) and Szeged (26-27 April)
- ✓ Project Launch Event (10 April) in Budapest, attended by almost 100 stakeholders from 6 countries
- ✓ 2nd project meeting in Ljubljana (7-8 June)
- ✓ Communication Plan
- ✓ Continuously updated web-page
- ✓ 1st e-newsletter
- ✓ Stakeholder database and TSF established
- ✓ Harmonized geological and geothermal maps, models: first drafts elaborated (joint delineation for cross-border geothermal reservoirs)
- ✓ First version of the conceptual data model for the Danube Region Geothermal Information Platform (DRGIP)

# 3 Smart project: Smart Building – Smart Grid – Smart City



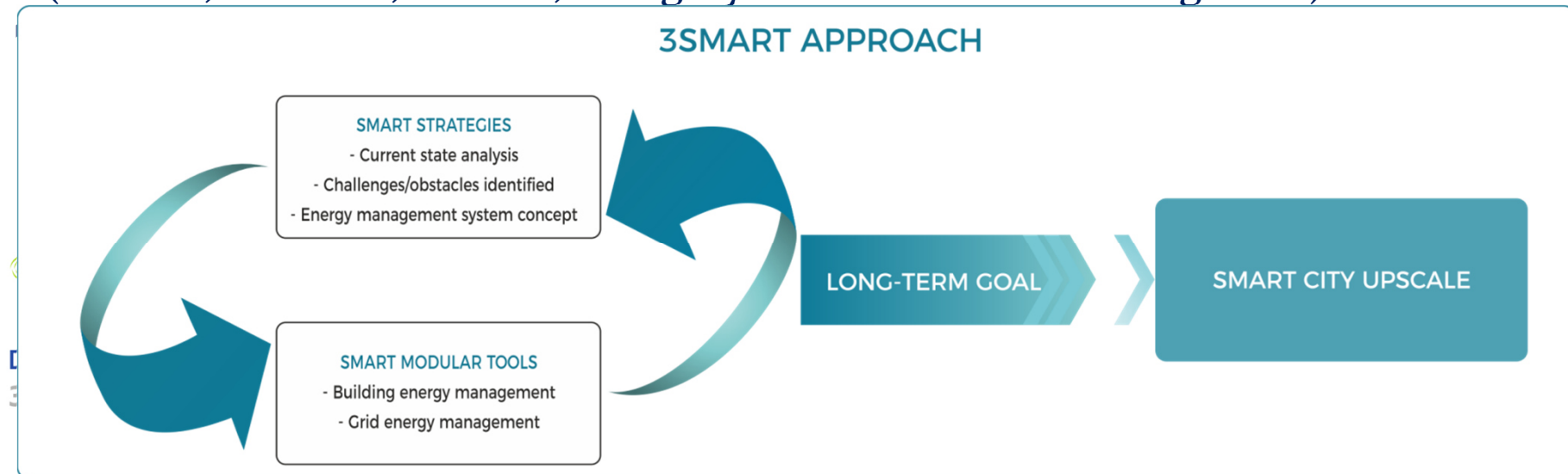
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## THE MAIN GOAL OF 3SMART

- provide a technological and legislative setup for cross-spanning energy management of buildings, energy grids and major city infrastructures in the Danube region

## THE MAIN OUTPUTS

- modular platform for coordinated building and distribution grid energy management developed and installed on 5 pilot locations in 5 countries (Croatia, Slovenia, Austria, Hungary and Bosnia and Herzegovina)

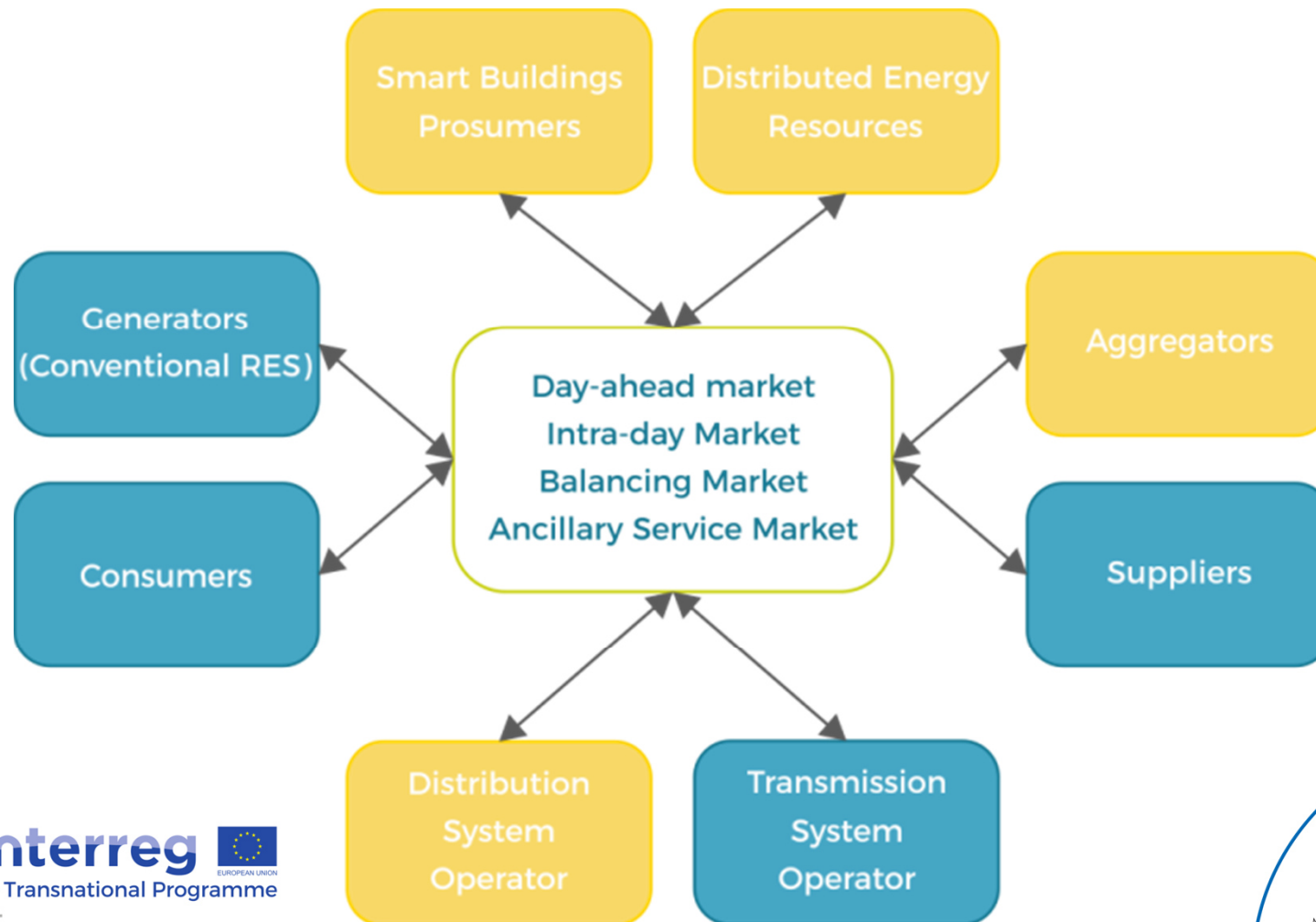




# 3Smart: Concept of additional energy market relations and new entities



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# Energy Barge project: Building a Green Energy and Logistics Belt



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## Main objectives

- Foster the use of biomass for energy production in the Danube region
- Increase the share of biomass transports on the Danube



Source: FNR/Hajkova



Source: FNR/Petersen

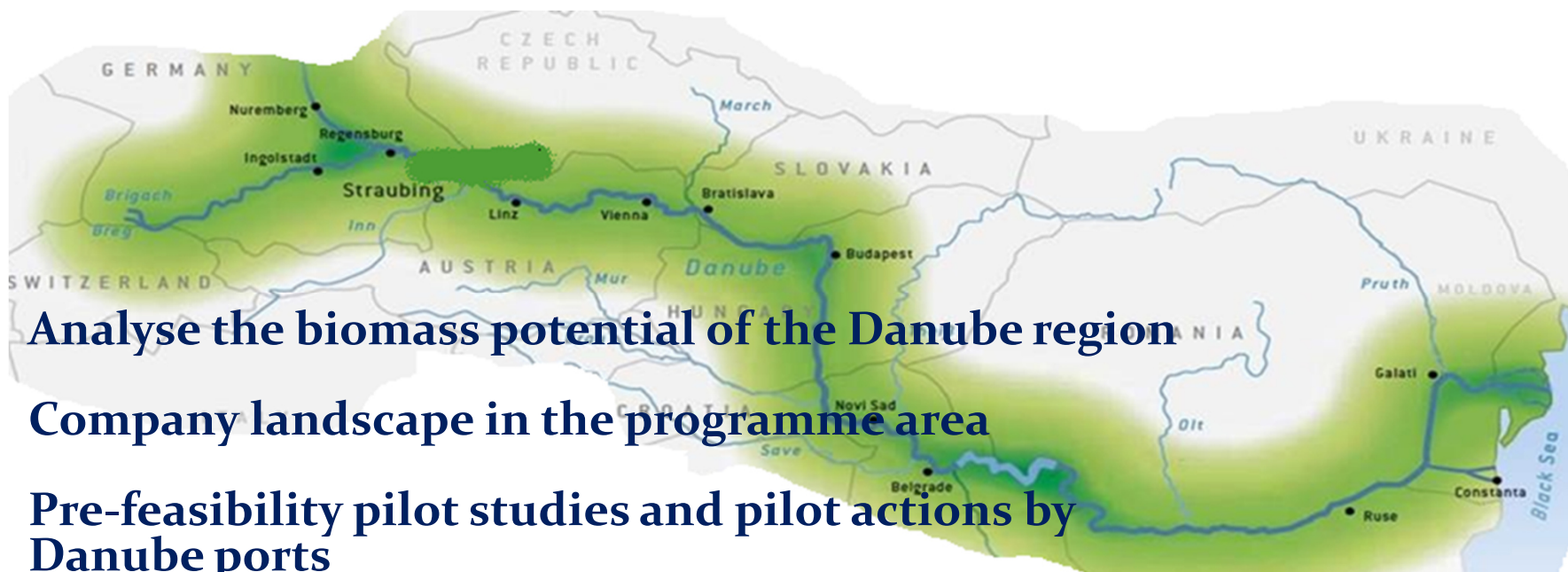


Source: Hafen Straubing-Sand

# Methodology



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**Analyse the biomass potential of the Danube region**

**Company landscape in the programme area**

**Pre-feasibility pilot studies and pilot actions by Danube ports**

**Transnational workshop**



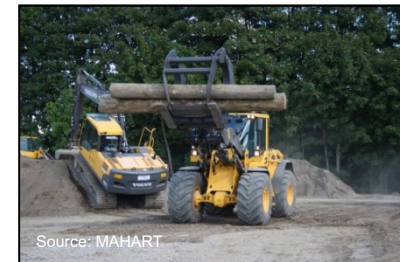
# Pilot projects in ports



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## Ports of Budapest & Vienna

- **Pre-feasibility studies to strengthen ports as logistics hubs for the bioenergy sector**
- **Small-scale investments:**
  - **Bulk bag filling and handling adaptor**
  - **Equipment for the handling of wood-based products**





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[www.interreg-danube.eu/darlinge](http://www.interreg-danube.eu/darlinge)  
[www.interreg-danube.eu/3smart](http://www.interreg-danube.eu/3smart)  
[www.interreg-danube.eu/energy-barge](http://www.interreg-danube.eu/energy-barge)

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(TP8 and DARLINGe leader)

# Thank you for your attention!

