

National Competence Center and solutions for the development of Climate Neutral and Smart Cities

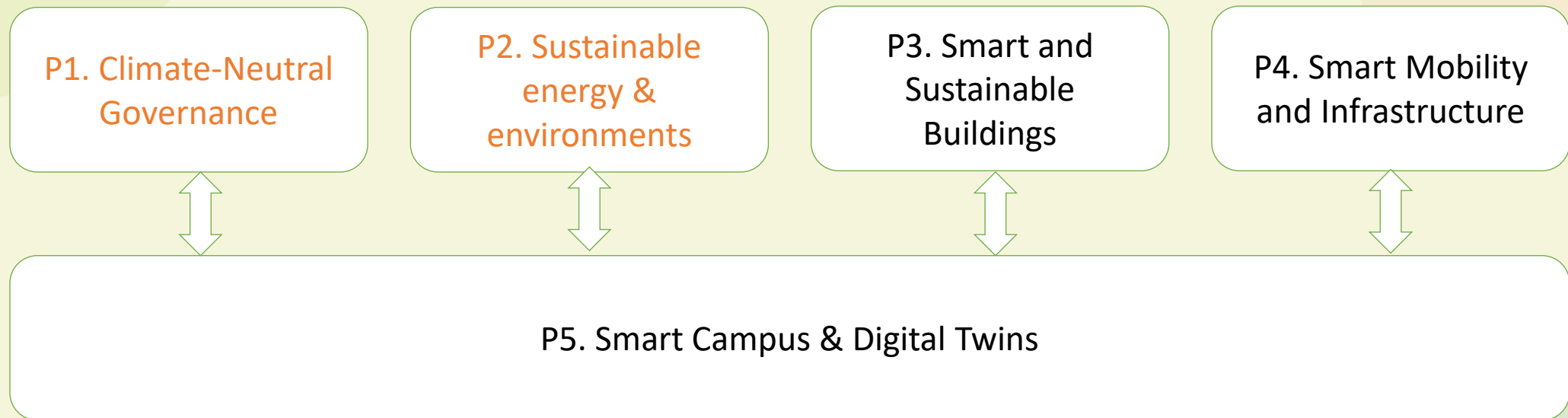
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- Main activity: <https://www.holisun.com/>

NetZeRoCities

National Competence Center and solutions for the development of Climate Neutral and Smart Cities



Project 1: Climate-Neutral Governance - Scope & Objectives



Project Scope

The project encompasses several critical domains for smart city development and climate neutrality:

-  **Environment:** Promoting energy saving, renewable energy use, and reducing environmental pollution
-  **Mobility:** Creating an integrated mobility system with low environmental impact
-  **Citizenship:** Fostering lifelong learning, cultural diversity, and civic engagement
-  **Living:** Safeguarding health, implementing welfare policies, and promoting social cohesion
-  **Government:** Adopting transparent decision-making and creating accessible online services
-  **Economy:** Developing a flexible labor market and supporting entrepreneurship

Specific Objectives

- O1:**
Create a support framework for Climate-Neutral Governance
- O2:**
Create a Toolkit for multi-level governance models and policies
- O3:**
Propose a model for a cyclic economy, supported by Digital Twin
- O4:**
Elaborate standards and guidelines for the Net Zero transition
- O5:**
Define local strategies for city piloting and community engagement



Primary Estimated Result

Establish a methodological framework at the Competence Centre's level and define local policies for all specific projects, helping Romanian cities achieve climate neutrality.

Key Deliverables

Governance Analysis

Climate-Neutral and Smart Cities
Governance analysis

M10

Toolkit Platform

Toolkit platform for NetZeRoCities project

M27

Standards Portfolio

Standards and guidelines portfolio

M36

Implementation Strategy

Implementation strategy for Net-Zero transition

M24, M36

Communication Plan

Communication and dissemination plan report

M12, M24, M36

M12

M24

M27

M36





1.Smart governance platform:

https://cetateni.comunavimamica.ro/jw/web/userview/city_hall_portal/front/ /home

The image is a collage of three screenshots from the 'Primăria Valcău de Jos' website. The top-left screenshot shows the user profile 'Oprea Alin' and a sidebar menu with options like 'Bine ai venit!', 'Necesită verificare', 'Adaugă sesizare', 'Asistență socială', 'Cereri generale', 'Registrul agricol', 'Stare civilă', 'Taxe și impozite', and 'Urbanism'. The top-right screenshot shows a 'Click aici pentru inregistrare' button and a 'Say your opinion' form with fields for Subject, Description, Link, From, and Until. The bottom screenshot shows a 'Sesizările mele' table with columns for Data, Descriere, Alte sugestii, Status, Răspuns, Coordonate, and Tip sesizare, and an 'Anchetă socială' section with a table of social survey results.

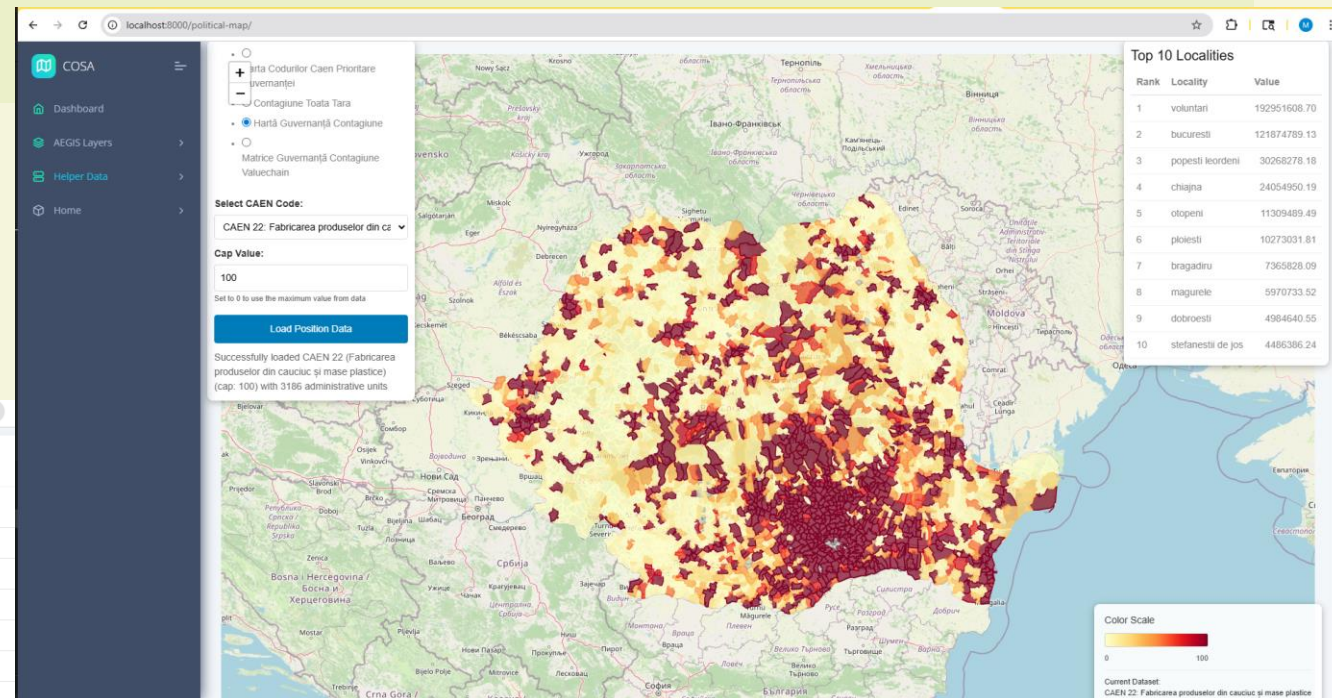
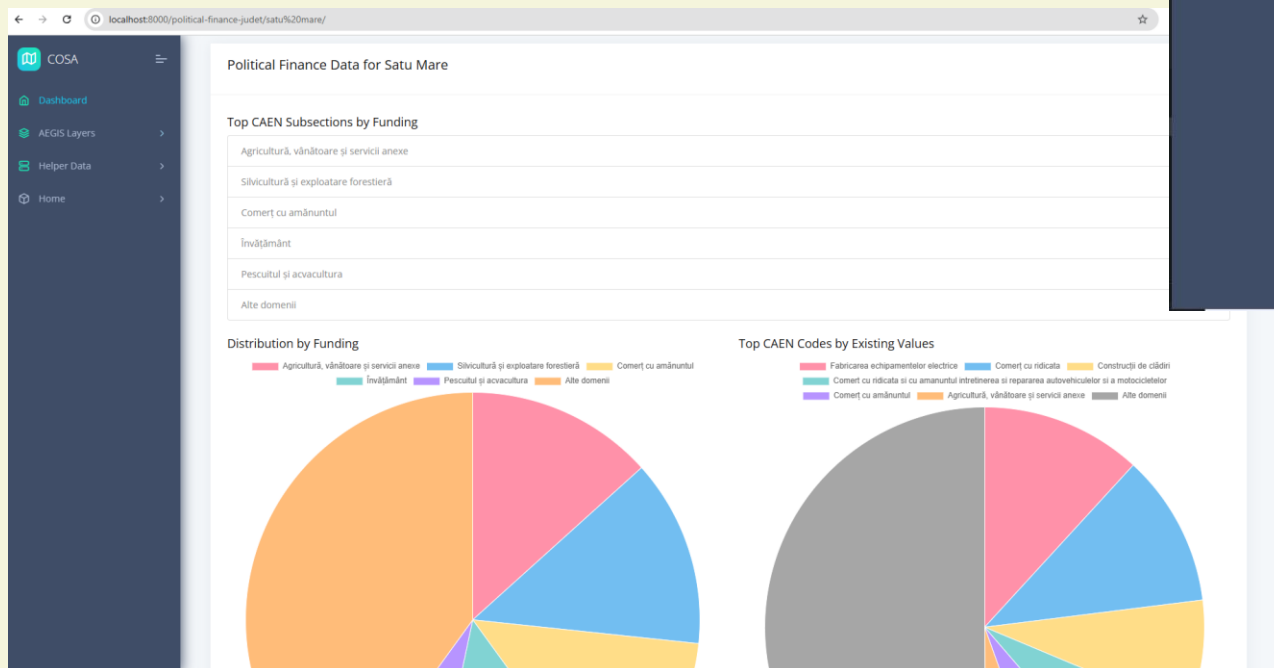
Project 1: Climate-Neutral Governance - Results



HOLISUN Contribution

1. Smart specialization platform

- Government analysis: EU laws, regulation

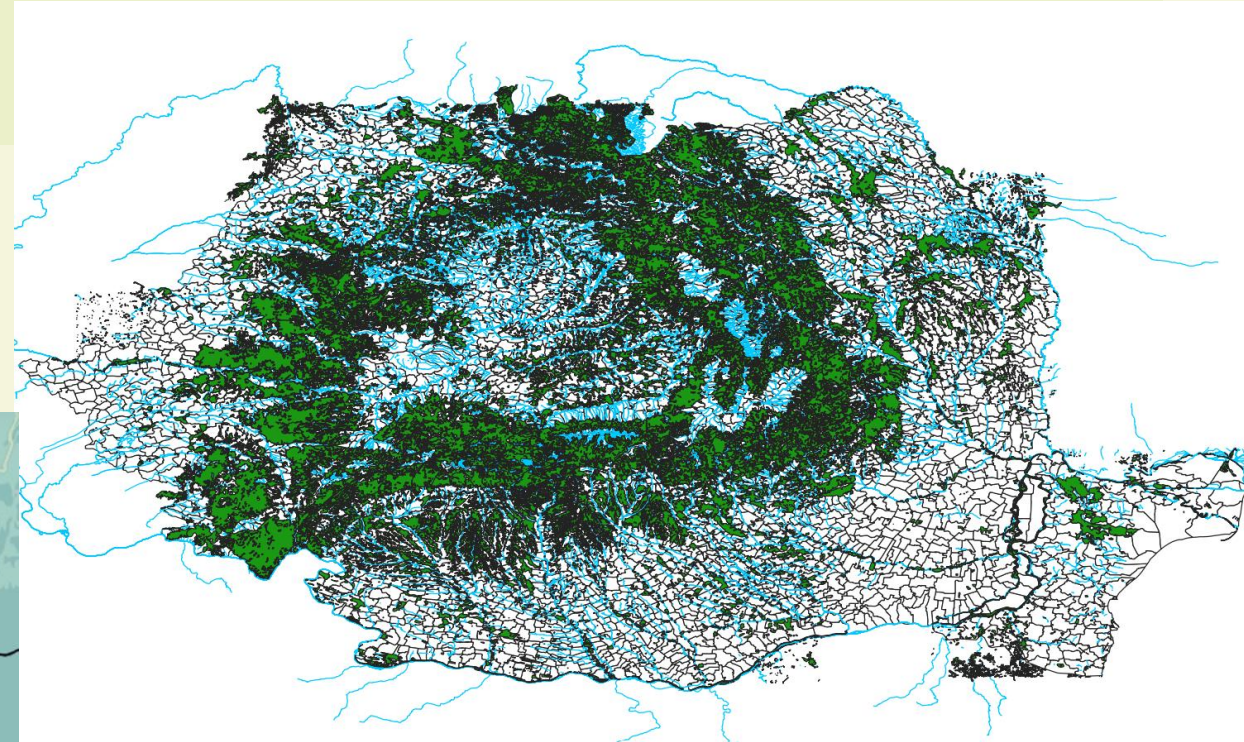
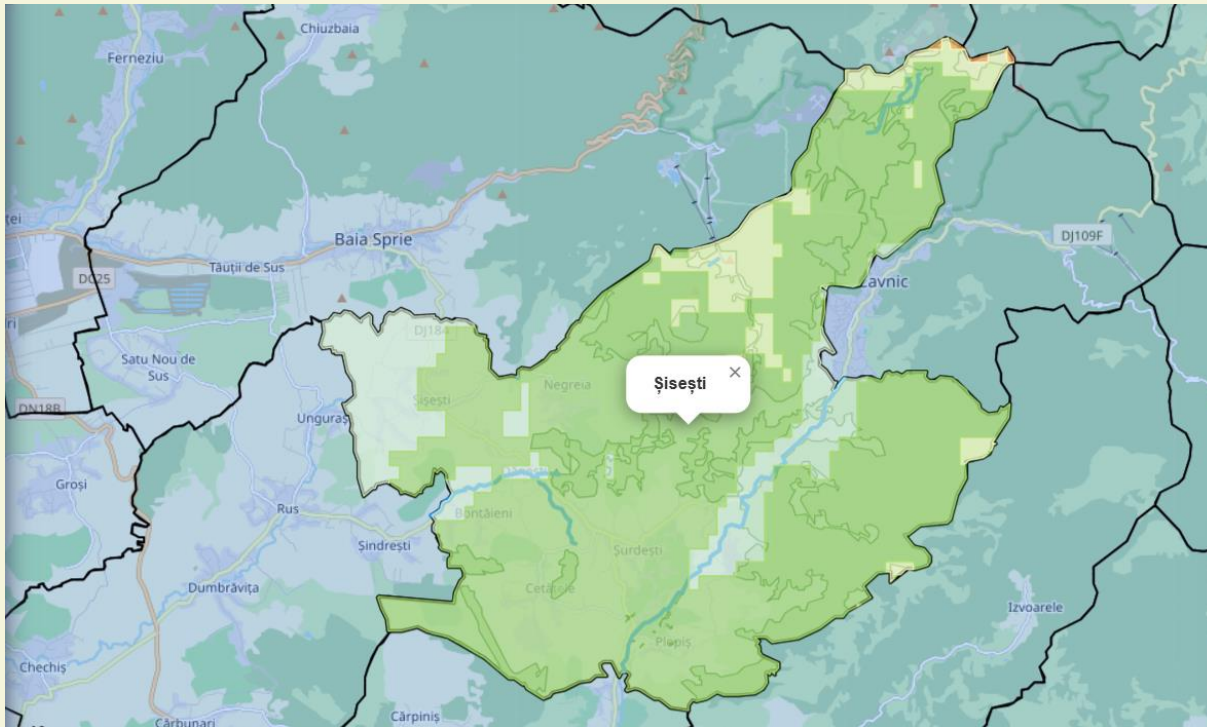




HOLISUN Contribution

1. Smart specialization platform

- **Environment analysis: geological resources, climate, water, mountains..**



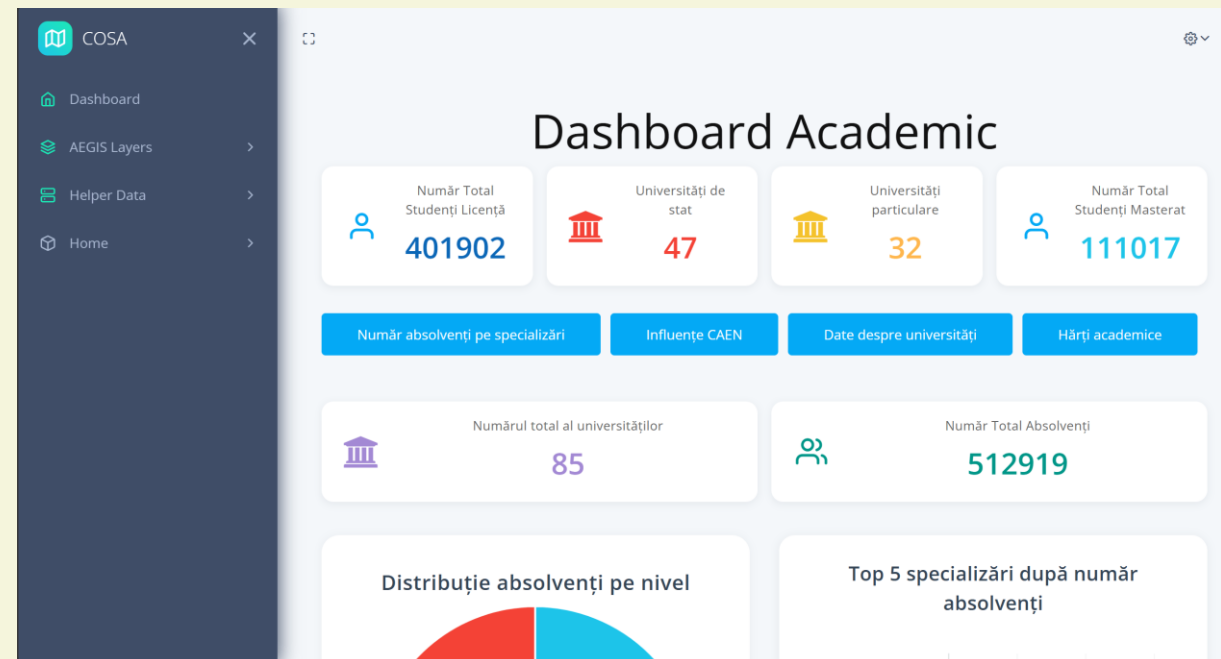
Project 1: Climate-Neutral Governance - Results



HOLISUN Contribution

1. Smart specialization platform

- Civil Society
- Academia
- Research innovation



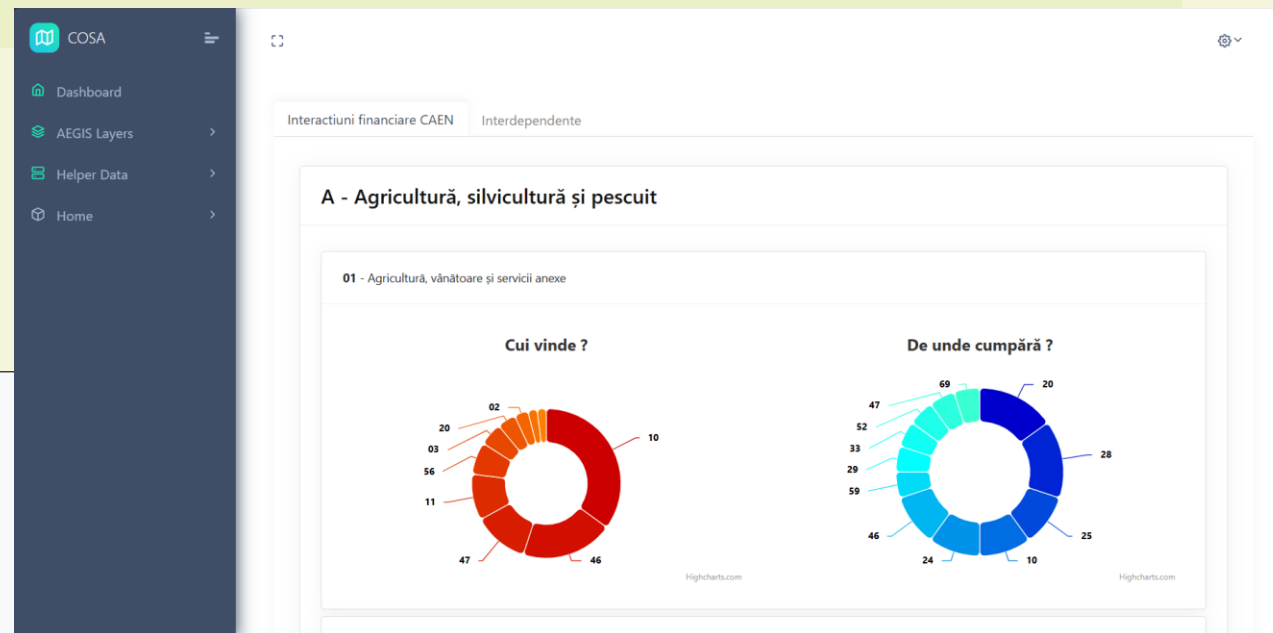
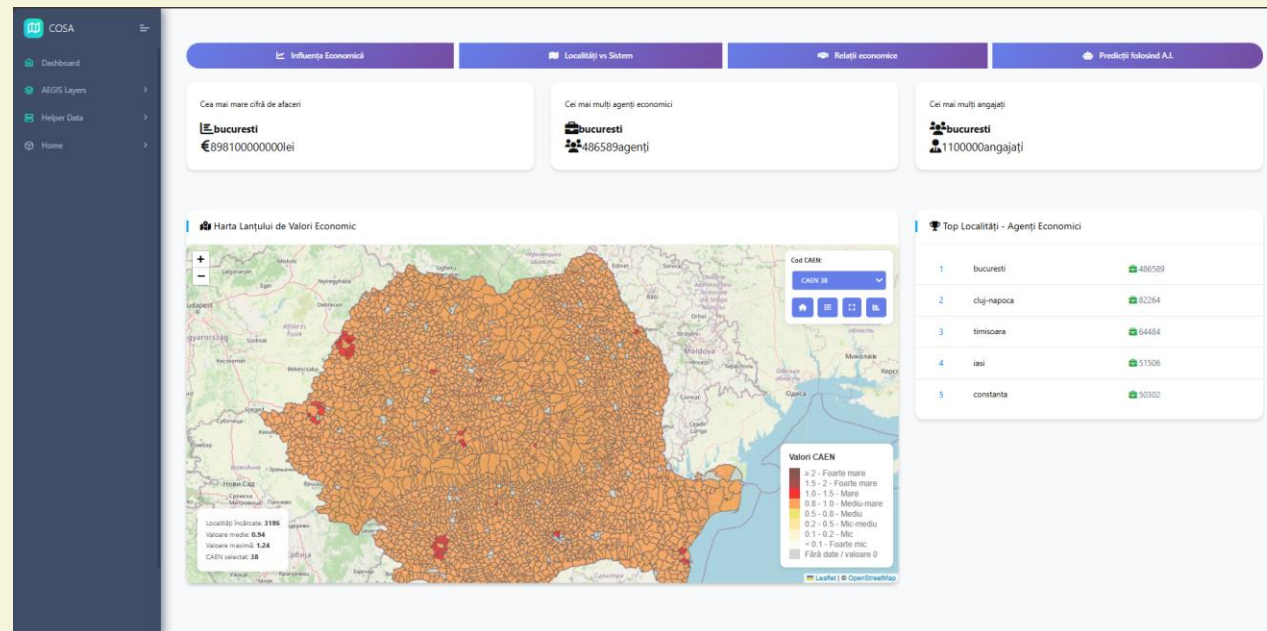
Project 1: Climate-Neutral Governance - Results



HOLISUN Contribution






1. Smart specialization platform

- **Intrinsic Economic Specialization**
- **Contagion proximity**










Strategic Opportunities

-  **Horizon Europe Alignment:** Strong alignment with Pillar II, including all six clusters
-  **EU Mission Response:** Highly responsive to the EU Mission for Smart Cities
-  **Funding Potential:** Enhanced prospects for securing substantial funding
-  **New Proposal Development:** Results can be leveraged for holistic governance models and software platforms
-  **Advanced Integration:** Incorporation of AI techniques like machine learning on open data platforms

Interdependencies with Other Projects

-  **Foundation:** Provides basis for city piloting and citizen engagement
-  **Governance Models:** Offers basis for city piloting and proposes governance models and policies
-  **Holistic Approach:** Provides foundation for city piloting and proposes comprehensive governance models
-  **Guidelines:** Offers basis for city piloting and proposes specific guidelines and standards
-  **Knowledge Transfer:** Utilizes knowledge from all RDI work packages for Community of Practice deployment






Project 2: Sustainable Energy & Environments - Scope & Objectives



Holistic Approach

The project emphasizes a holistic approach to achieving carbon neutrality at the city level, prioritizing sectors based on GHG emissions (residential, transportation, public, private) as identified in SECAPs.

Key Integration Areas

-  Urban energy management
-  Smart and secure power grids
-  Local energy markets

Key Objectives (WP2-1)



1.

Establish a clear local approach for energy transition across all relevant energy use sectors



2.

Create comprehensive guidelines and practical training courses on energy efficiency and renewables



3.

Launch and develop a collaborative multi-level energy community to implement the energy transition



4.

Initiate a collaborative energy management framework at the local level, engaging stakeholders



5.

Identify, adapt, and apply existing and new evidence-based smart-

Project 2: Sustainable Energy & Environments - Results



Key deliverables and outcomes from the project:



Methodology

Comprehensive guide for urban decarbonization



Digital Twin Components

- Digital replication of energy infrastructure
- Actors (providers, consumers, prosumers)



Smart Solar Panels

- Intelligent systems for automatic rotation
- Continuous cleaning mechanisms



Hybrid Smart Lighting

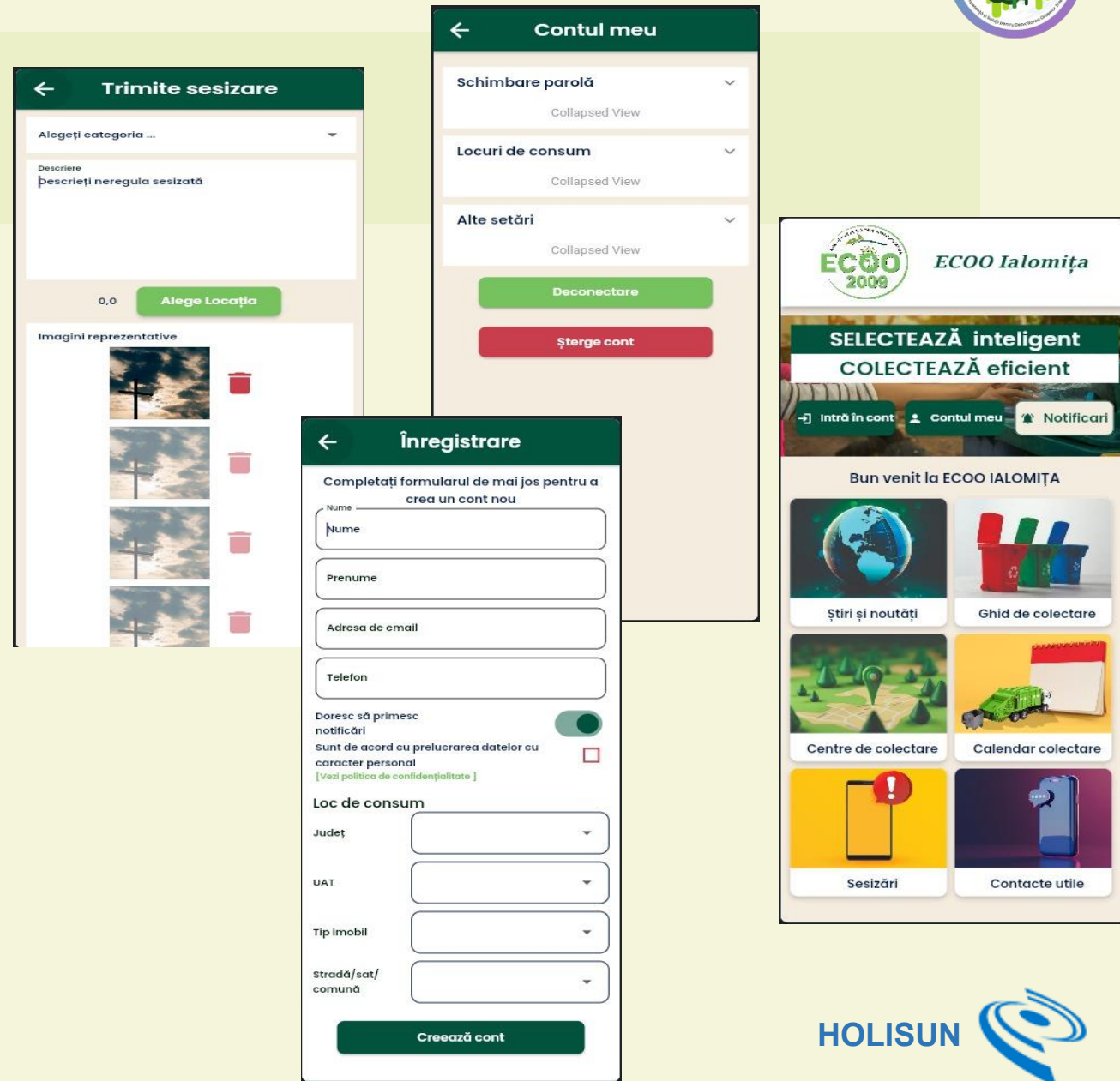
- Smart light sources and switches
- Mobile controls integration



HOLISUN Contribution

1. Application for Smart Waste Collection

- **Collection calendar** – Personalized schedule based on the user's address.
- **Automatic reminders** – Alerts sent the evening before collection day.
- **Special campaigns** – Notifications about occasional bulky or special waste pickups.
- **Issue reporting** – Users can report problems with text and photos.
- **Interactive map** – Nearby collection points with available container types.
- **Waste guide** – Instructions on how to properly sort and dispose of waste.



Project 2: Sustainable Energy & Environments - Opportunities & Synergies



Strategic Opportunities

EU Funding Alignment:

Active involvement in Horizon Europe, LIFE, and Interreg calls

EU Missions:

Strong alignment with EU Missions for smart and carbon-neutral cities

Dissemination Focus:

Powerful dissemination to local public authorities, civil society, NGOs, and businesses

Key Impact Areas



Urban Energy Management



Smart Solar Technology



Smart Lighting Networks



IoT Pollution Monitoring

Interdependencies & Synergies

With Project 1 (Climate-Neutral Governance):

Governance strategies and frameworks that Project 2's solutions will operate within

With Project 3 (Smart Sustainable Buildings):

Energy efficiency and digital twin components for buildings

With Project 5 (Smart Campus & Digital Twins):

Contribution to Digital Twin components and energy management aspects

Project Interconnection

P1

Governance

P2

Energy & Environments

P3

Smart Buildings

P5

Smart Campus

Collective Impact: Creating Climate-Neutral Smart Cities

Together, these projects form a comprehensive approach to decarbonization and smart city transformation



Climate-Neutral Governance

- Establishes foundational governance frameworks
- Creates strategic and regulatory environment
- Develops policy strategies for city piloting
- Provides standards and guidelines for Net Zero transition



Complementary Impact



Sustainable Energy & Environments

- Delivers technological solutions for urban decarbonization
- Provides digital twin components for energy management
- Develops smart energy grids and pollution monitoring systems
- Creates prototypes for sustainable urban infrastructure

Collective Impact



Strategic frameworks supported by technological solutions



Circular economy principles integrated into urban planning



Data-driven decision making for sustainable development



Enhanced citizen engagement and community ownership

Together, we can create climate-neutral smart cities of the future



Thank you!

Laura Andreica

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- Main activity: <https://www.holisun.com/>

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