



Schools as Living Labs

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in Athens

SCHOOLS
AS LIVING
LABS

SALL

Schools as Living Labs

Pavlos Koulouris



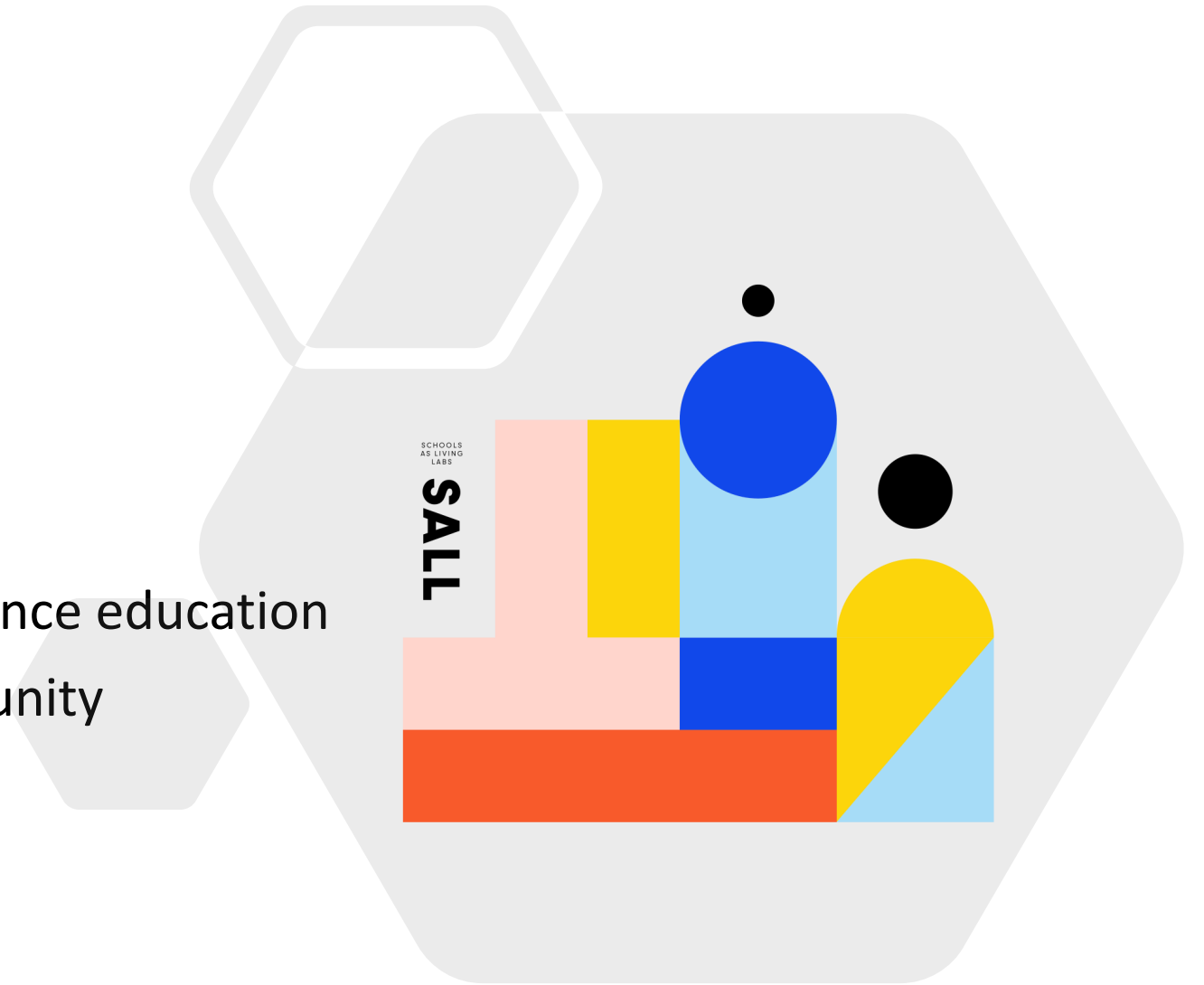
ELLINOGERMANIKI AGOGI



Science
with and for Society

Schools as living labs

A way to support open schooling and science education
through co-creation with the local community



Schools as Living Labs: a European project on “open schools and science education”

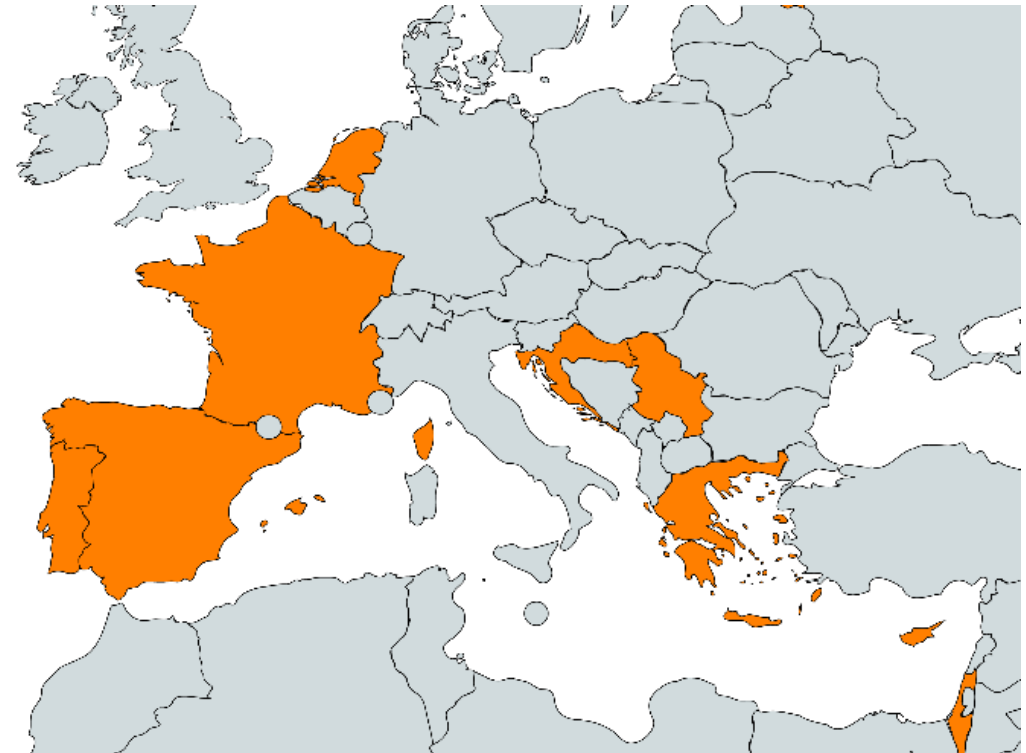
- **12 countries:**
 - Belgium, Croatia, Cyprus, Estonia, France, Greece, Israel, Luxembourg, the Netherlands, Portugal, Serbia, Spain
- **13 partner organisations:**
 - schools, universities and research centres, science centres and communicators, third sector, enterprises
 - *Coordinated by Ellinogermaniki Agogi, Greece*
- **3 years:**
 - September 2020 – August 2023



SALL's network of schools

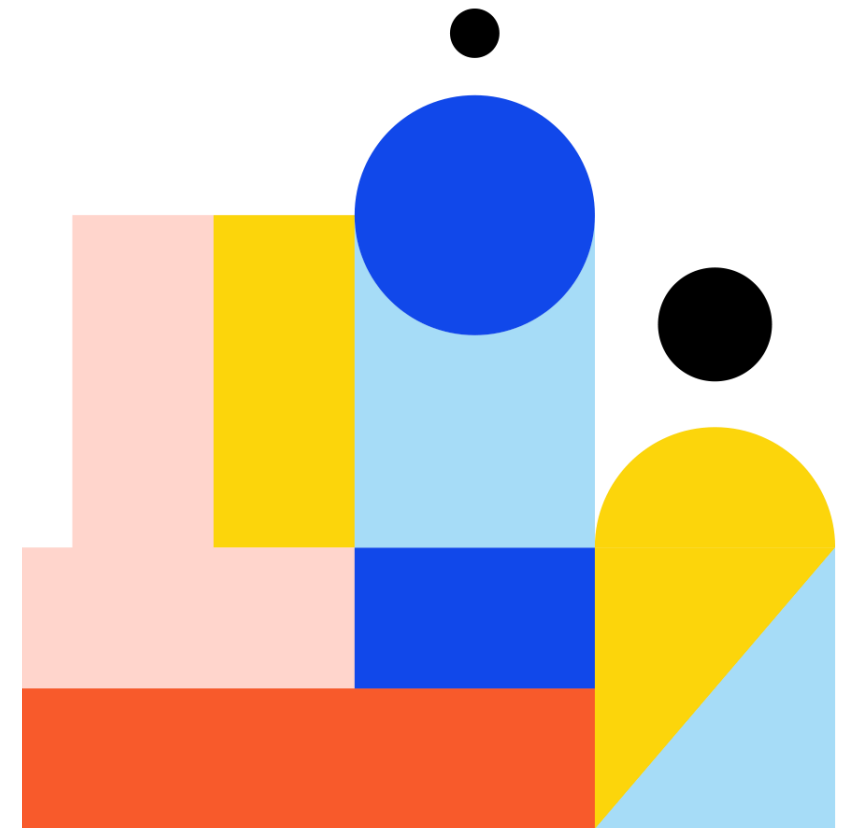
- 412 schools
- 1.000 teachers
- 10.000 students
- from 10 countries

...developing living lab projects

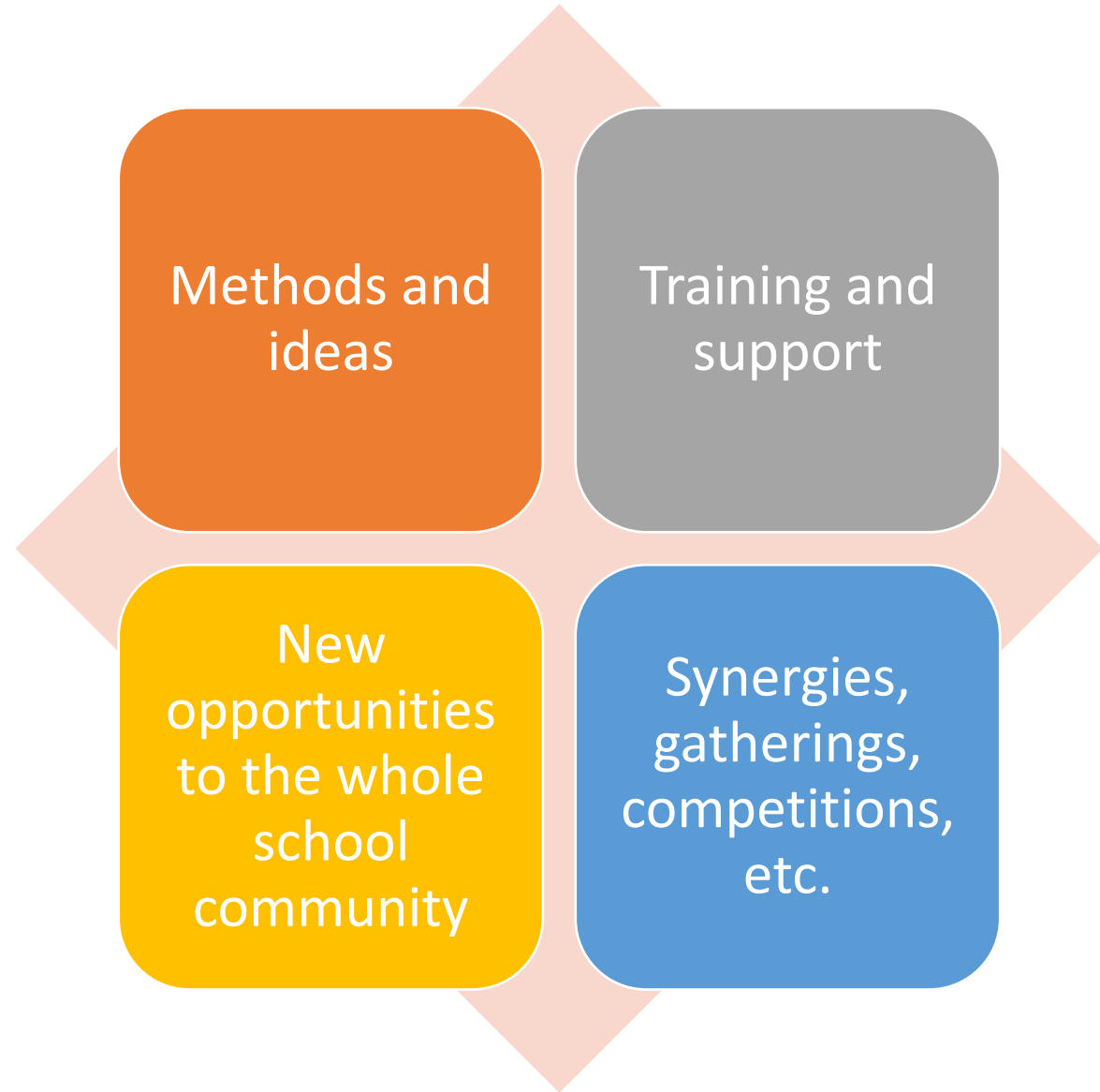


Our approach in SALL

- We **bring together stakeholders** into dialogue, mutual learning and exchange
- We **co-construct** the living-lab-based open schooling methodology
- We **closely study living-lab-based open schooling practices** and their impact, through implementation and evaluation activities in real-life conditions in school communities
- We **prepare the ground for sustainable** living-lab-based open schooling activities in Europe's schools after the end of the project - through strong community-building, networking, dissemination, as well as **policy-oriented interventions**.



We offer
schools:



Open schools

Open schools, in cooperation with other stakeholders, become agents of community well-being by creating new partnerships in their local communities.

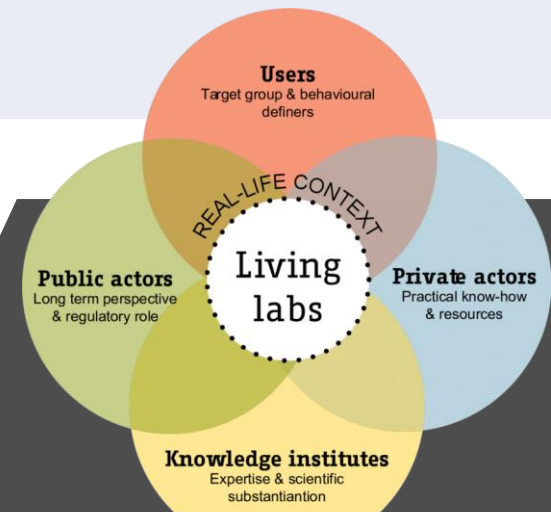
We promote Europe's interest in integrating the concept of open schooling in science education at all educational levels, by building on an existing impactful framework for open schooling, the 'Open Schools for Open Societies' (OSOS) framework.

Living labs

Living labs are user-centred, open innovation ecosystems based on a systematic user co-creation approach integrating research and innovation processes in real life communities and settings.

SALL brings the powerful concept and methodology of living labs into the landscape of open schooling efforts.

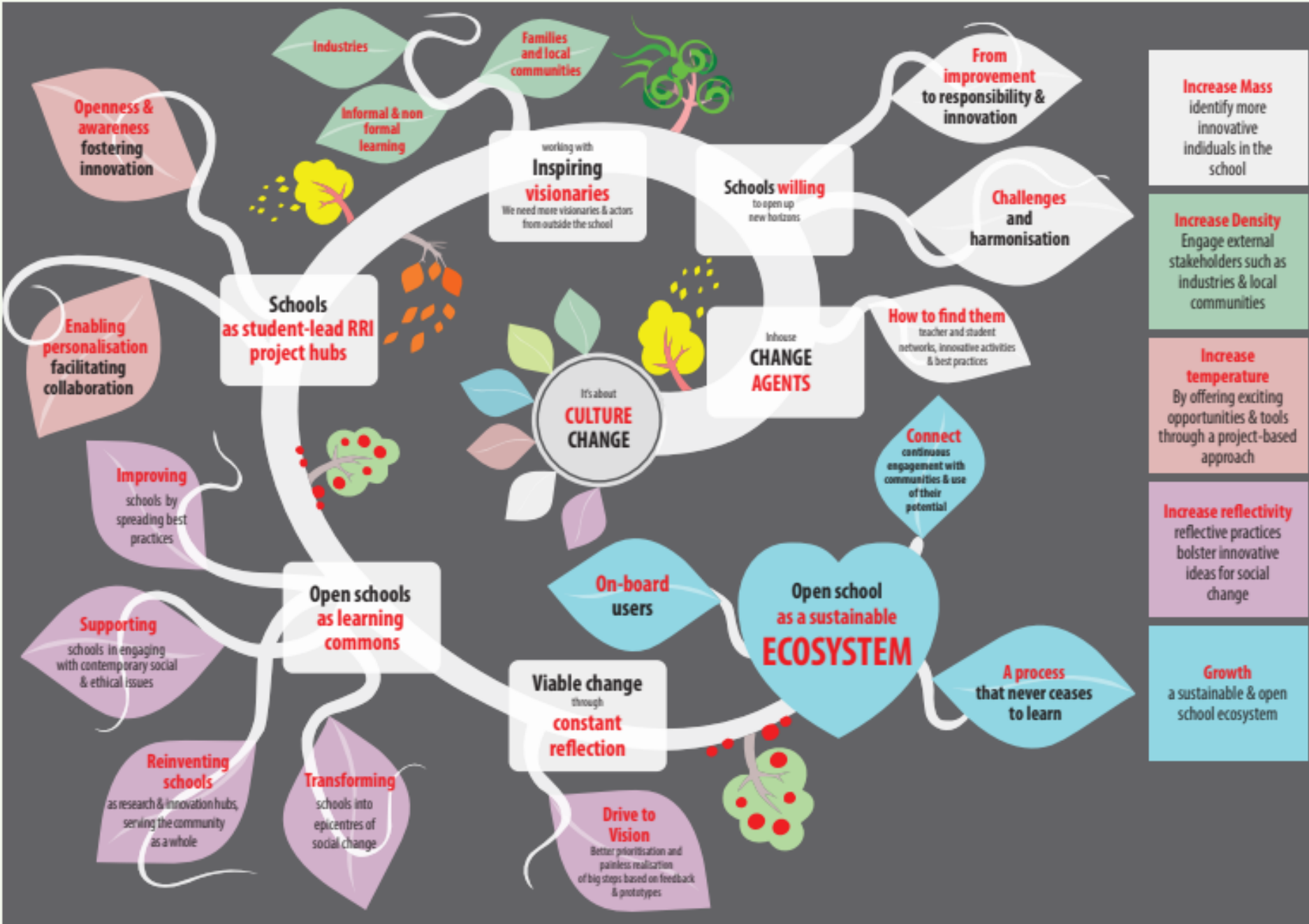
SALL: the central concepts



the 'Open Schools for Open Societies' (OSOS) framework

“OSOS cycle of school transformation”:

A framework to help school leaders and educators with the transformation of their school into an open school



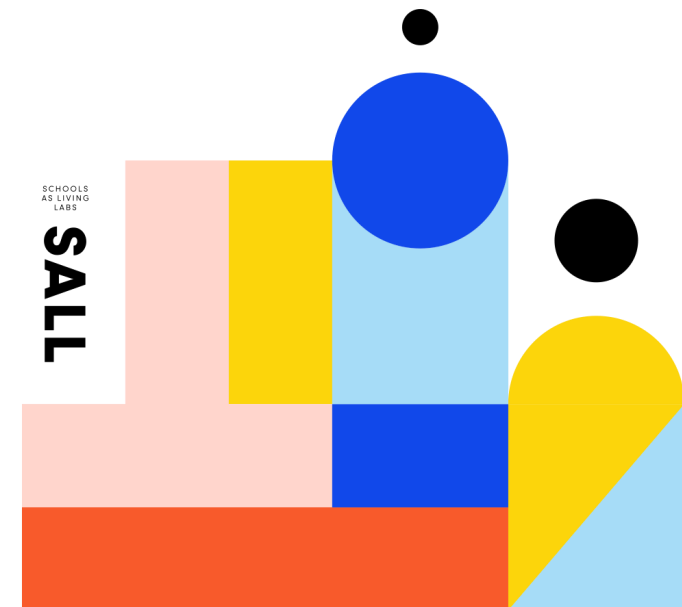
Open school

Part of a wider system of social actors in a neighbourhood or area:

- Open to the society
- An agent of community well-being
- Working together with people and organisations in its local setting.

Including the whole school community:

- Educators and other staff
- Students
- Their families.



Living Lab

- **Collaboration** among different **social actors** (organisations or individuals)...
- ...who wish to **deal together with** a certain **problem/issue**...
- ...which is **important** to each one of them.
 - “Co-creation” of ideas to **solve** the problem/issue, after **exploring** it
 - **Development of basic elements of the solution**, fast and economically (**prototyping**)
 - **Testing the solution** with the stakeholders to get feedback and improve it.

These steps can be repeated several times and at different levels, in order to gradually improve and complete the solution.

Living lab school projects

SCHOOLS
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School communities developing
the **open schooling** approach in **practice**

→ applying a methodology based on **Living Labs**

→ with **students'** active **initiative** and **participation**.

School students engaged in...

...innovative **educational** living lab activities:

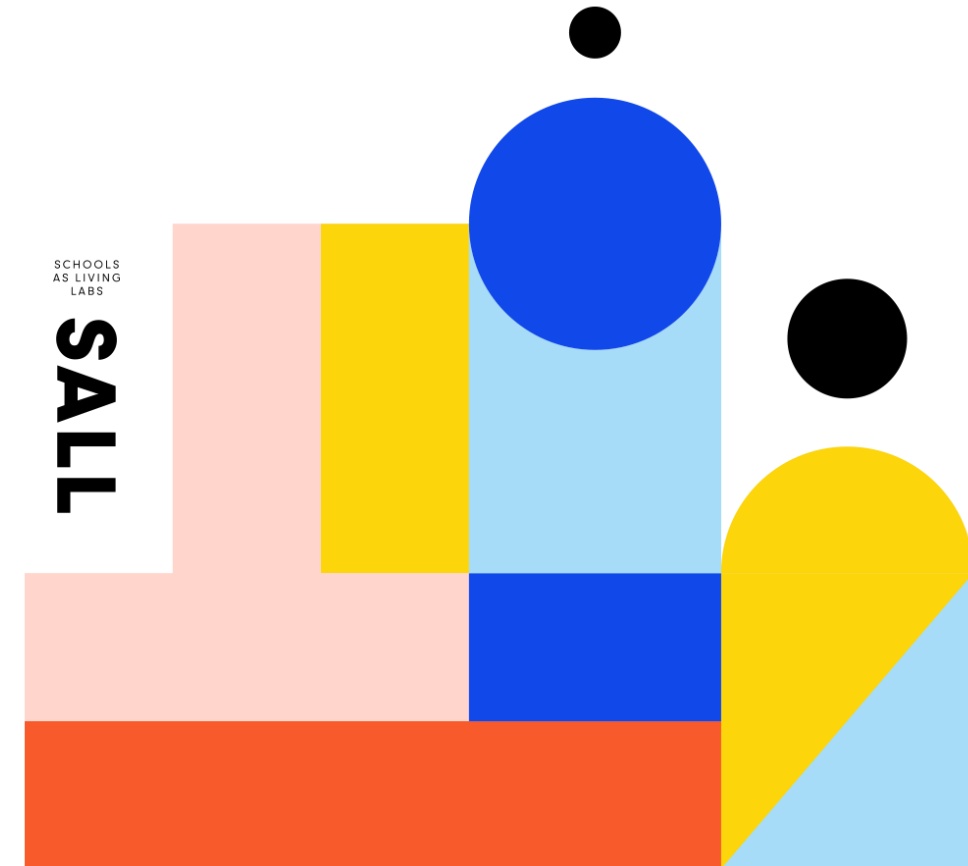
- **Co-creating solutions** to **real problems** from **students' real-life experiences**
- In **synergy** of the school **the local community** ("*social actors*", "*stakeholders*")
- Through cross-curricular, interdisciplinary, **practice-oriented** work...
- (Initially) with a thematic focus on the **food system** - all its dimensions:
 - production, distribution, preparation, consumption, disposal, etc.
 - linked to health, economy, environment, etc.

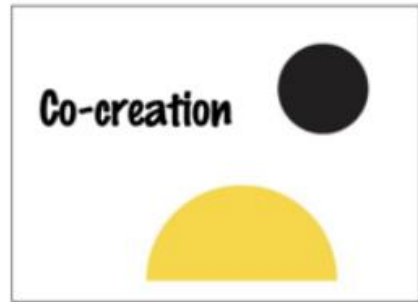
Social actors

- In every living lab school project, there is an important role of **social actors**
 - Organisations or individuals from the local community who
 - **Are linked to the school** or share **interests** with it
 - **Are interested** or **affected** by the **problem**, the **process**, the **solution**, or the **results** of the living lab school project.
- **Examples of social actors** in school projects on the **food system**:
 - The local municipality
 - A local restaurant, bakery, food store, or other business
 - A local producer, a food truck driver
 - A local environmental or social initiative
 - ...and many others.

Examples of school projects linked to the food system

- School gardens
- Composting
- Environmental footprint of food
- Food waste
- Eating behaviour and keeping healthy
- ...

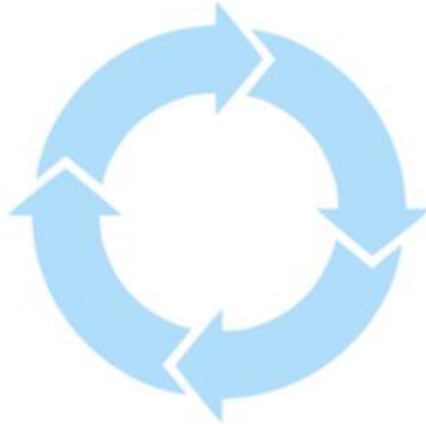




Select issues, identify needs and produce a wide range of ideas



Turn ideas into a use case scenarios and prototypes, explore opportunities



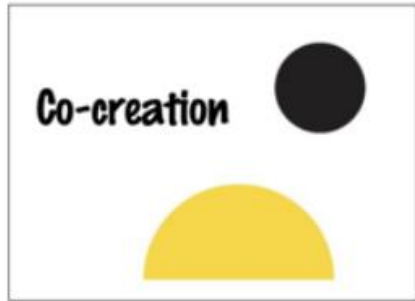
Validate, discuss, improve or dismiss the solutions



Test in real-life situations

The **four steps** of our living lab methodology

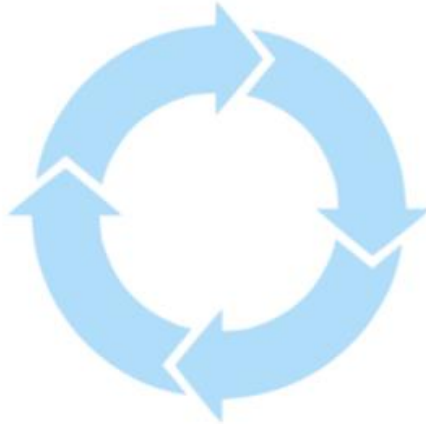
- 1. Co-creation:** Identifying needs – Defining issues – Coming up with ideas
- 2. Exploration:** Going deeper into selected ideas – Defining main questions or elements to test in the real world – Dealing with feedback, the unexpected, new questions
- 3. Experimentation:** Testing the prototype or scenario of the solution in real life
- 4. Evaluation:** Analysing the results of the experimentation to validate or improve the solution



Select issues, identify needs and produce a wide range of ideas



Turn ideas into a use case scenarios and prototypes, explore opportunities



Validate, discuss, improve or dismiss the solutions



Test in real-life situations

The **three necessary features** of a living lab school project
(*'when everything else fails...'*)

1. **Real issue – real solution**, building on participants' **personal experience**
2. **Co-creation**, through **the participation of social actors** affected
3. **Quick prototyping**, with ideas turning into **practice, tested** immediately.

living labs!

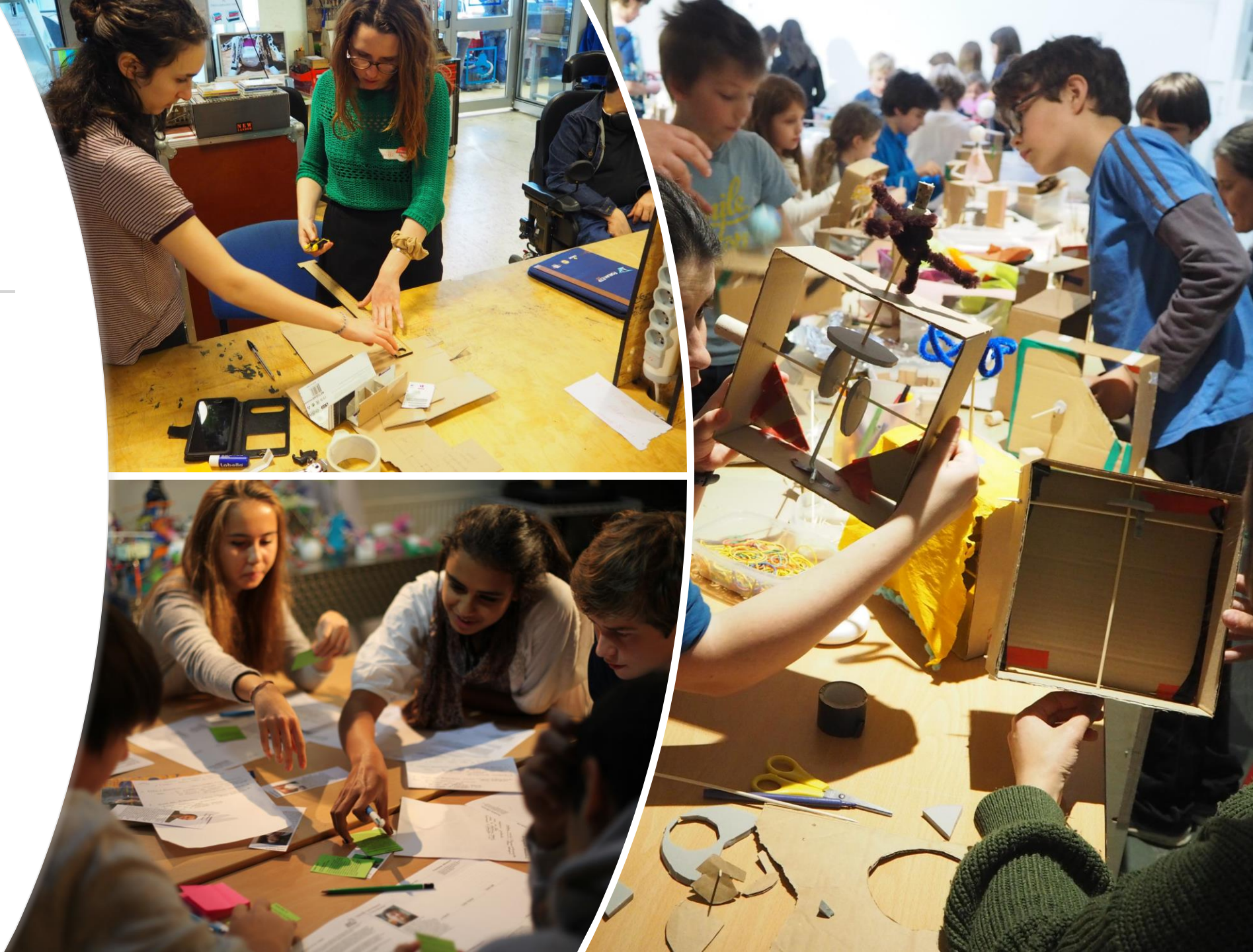


Photo credit: TRACES



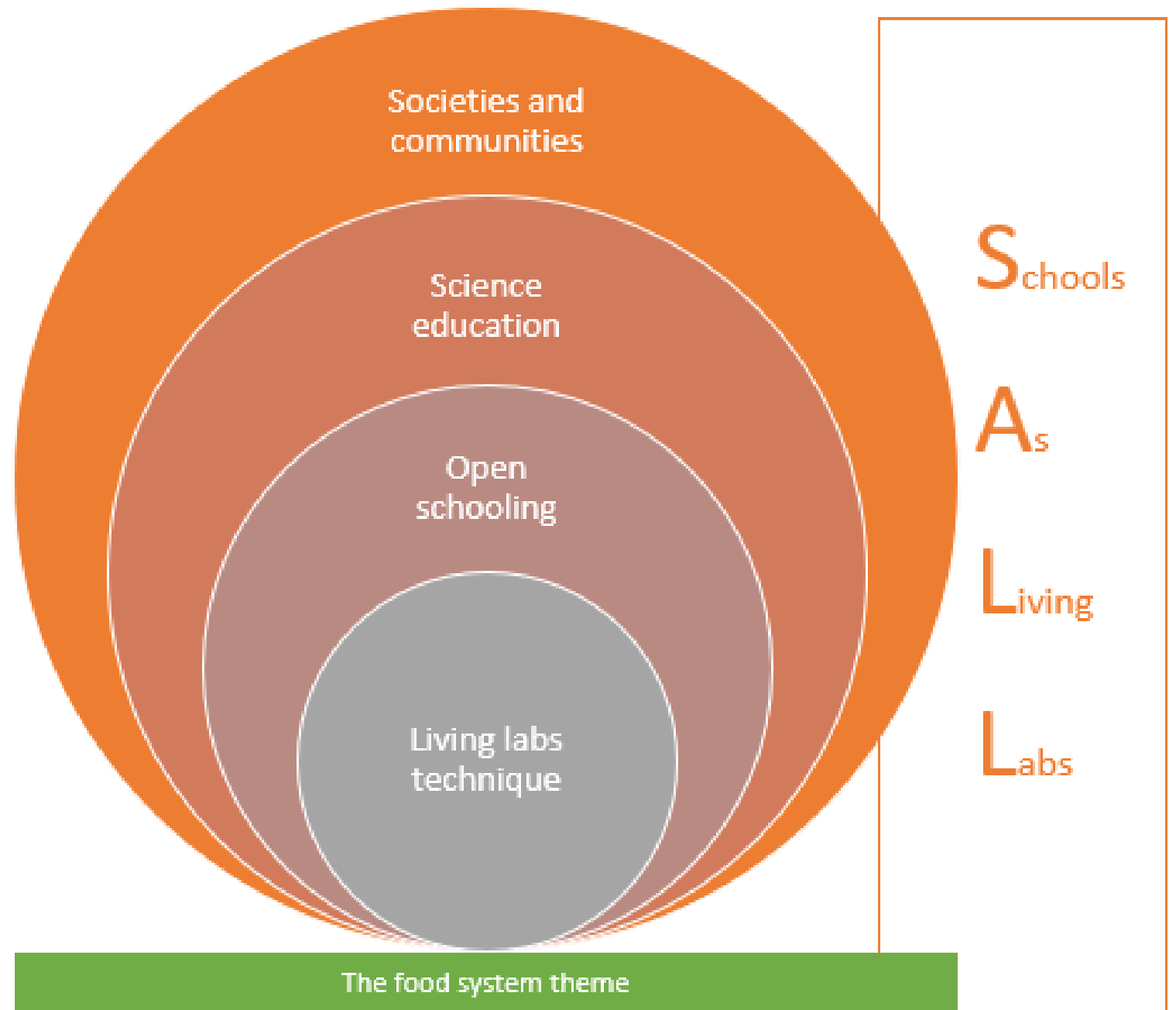
SCIENCE EDUCATION for Responsible Citizenship



Some thoughts on “science education”

- NOT just understanding science, its methodology, observations, and theories...
- *Science education for responsible citizenship - Report to the European Commission of the expert group on science education (2015):*
 - New opportunities arising from science and technology
 - More complex challenges arising in society and the world
 - We need:
 - Citizens with a better understanding of science and technology
 - Citizens with the necessary knowledge about science to participate actively and responsibly in
 - science-informed decision-making
 - knowledge-based innovation
 - To equip citizens, enterprise and industry with the skills and competences needed to provide sustainable and competitive solutions to the challenges.

in a nutshell



A road map for schools



PORTFOLIO OF INSPIRING LIVING LAB PROJECTS

A PORTFOLIO OF INSPIRATIONAL PROJECTS THAT HAVE BEEN IMPLEMENTED IN PRIMARY, SECONDARY, AND HIGH SCHOOLS ACROSS EUROPE TO INSPIRE MORE TEACHERS!



MUSSEL RESEARCHERS

Carring local food production on



GREECE STUDENTS AGED FROM 10 TO 13 FOOD PRODUCTION ENVIRONMENT

THE SCHOOL

- Primary school of Makrygialos
- Rural area, community depending on mussels farm
- Familiar with the implementation of both school and European programs

Familiarity with the open schooling approach before joining the SALL project



AHA MOMENTS

Shared by teacher and local community: The teacher who oversees the project is really excited with the response that the students have had. Furthermore, the local community has embraced the action seeing that it is a matter that concerns them directly and supports the children in all efforts.

By school leader: The school manager supports the action despite the lack of experience, and he is using both the resources available in the school and his personal contacts to contribute to the project.

THE LIVING LAB PROJECT



THE PROBLEM(S)

Mussel farms and climate change are affecting the local ecosystem. The living lab project aims to make students and the local community understand that the environment is inextricably linked to the lives and well-being of residents. By protecting the environment and following the proper process in mussel farming, mussel growers will continue to exist as a profession and help alleviate the climate crisis.



THE COMMUNITY

- Ph.D. candidate in oceanography provided science and research content
- Local mussel farmers' cooperative opened the stages of breeding mussels
- Environmental organisation informed the school about marine ecosystems



THE SOLUTION

- Raise local inhabitants' awareness of environmental issues



THE PROTOTYPES

- A posters campaign
- A questionnaire to determine what local people know and think about the topic
- A "Mussel- day" to show the local community the work done and clean the coast



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