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Learn how to educate the next generation of European citizens on climate change issues.

The *Salomon* project

WInter School, 28/2/2025

Liceo Statale A. Einstein

Italian Hub

Funded by the European Union

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The Salomon Project
was conceived
within the Italian HUB
of CLIMADEMY
as an innovative educational
initiative
that integrates

complexity science,
interdisciplinary co-design
and teaching,
and real-world climate data
analysis and narrative

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Salomon aspires to cultivate

systemic thinking and sustainable practices,
responsible action, and imagining desirable futures
in harmony with ‘sustainability values’

in line with the **GreenComp framework**
and CLIMADEMY’s broader mission

Educational objectives

- Embodying sustainability values
- Embracing complexity
- Envisioning sustainable futures
- Acting for sustainability

The context

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Salomon is an initiative led by Liceo ‘A. Einstein’, scientific high school in Rimini, in collaboration with the University of Bologna's physics education research group

Five classes (four grade-12 and one grade-11)
Seventeen teachers from different disciplines
Integrated into the curricular program and timetable
From October to May 2025

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Inside the project

Inspired by Italo Calvino's *Invisible Cities*,
the project employs metaphors and allegories
to examine sustainability concepts

Calvino's cities,
imagined as spaces of possibility,
ambiguity, and relational complexity,
provide a framework
for addressing systemic interdependencies

Inside the project

Each group of teachers chose a city
on which to develop the project,
read with the interpretative lens of complexity
and connected by the common idea of mutual sustainability

Each city becomes the real space
inhabited by students,
the stage on which the scenarios of sustainable futures
will be projected

Inside the project

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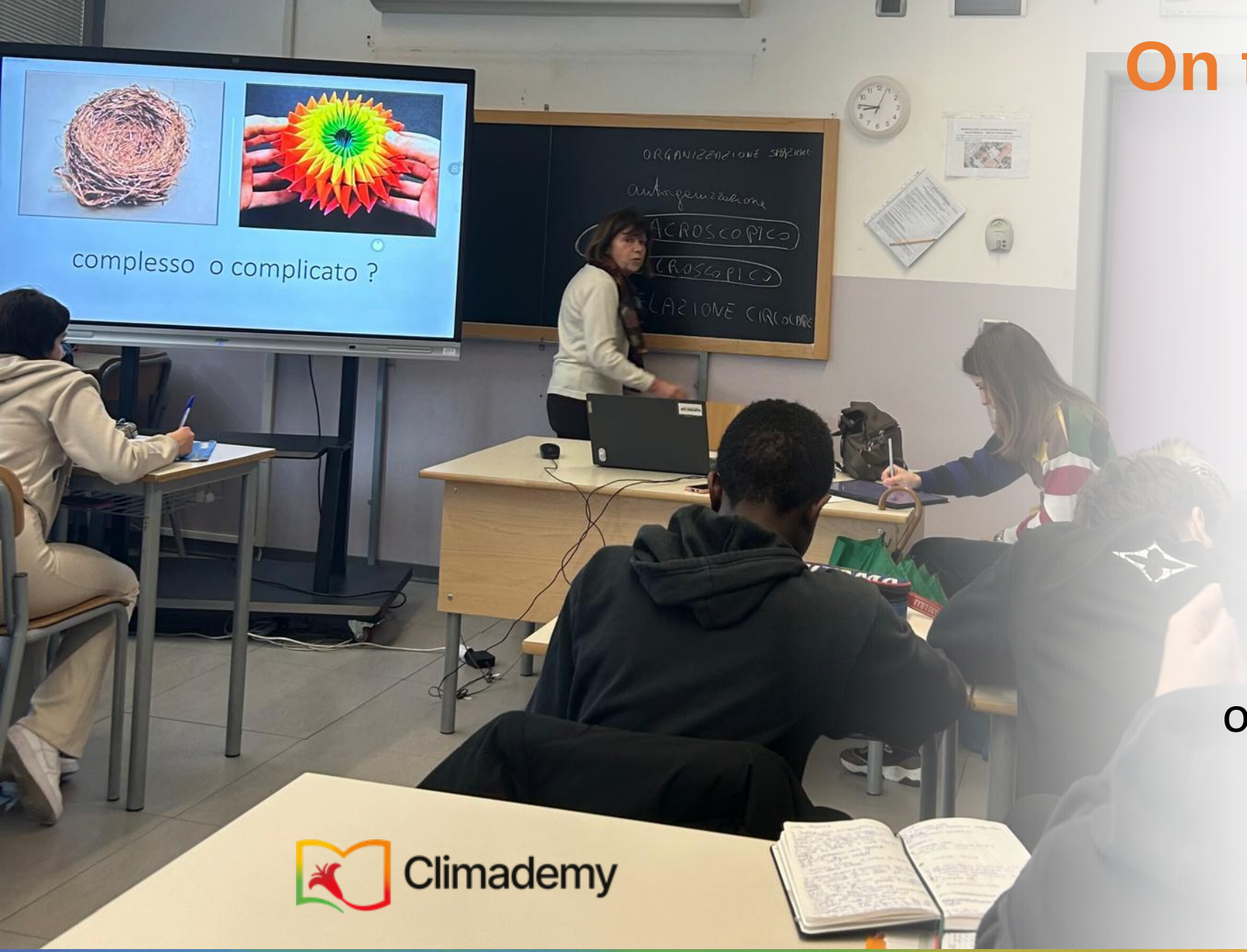
Students engage with
multiple expressive languages,
textual, photographic, theatrical

and participate
in simulations activities or in practical physics lab activities,
art and historical research labs,
literature and creative writing labs…

On the scientific front



Scientific disciplines
can provide
conceptual structures
to «navigate»
the change
and «manage»
the complexity
of the contemporary world

On the scientific front

The project
challenges students
to reconsider
classical physics paradigms

such as Newtonian mechanics and
thermodynamics near equilibrium

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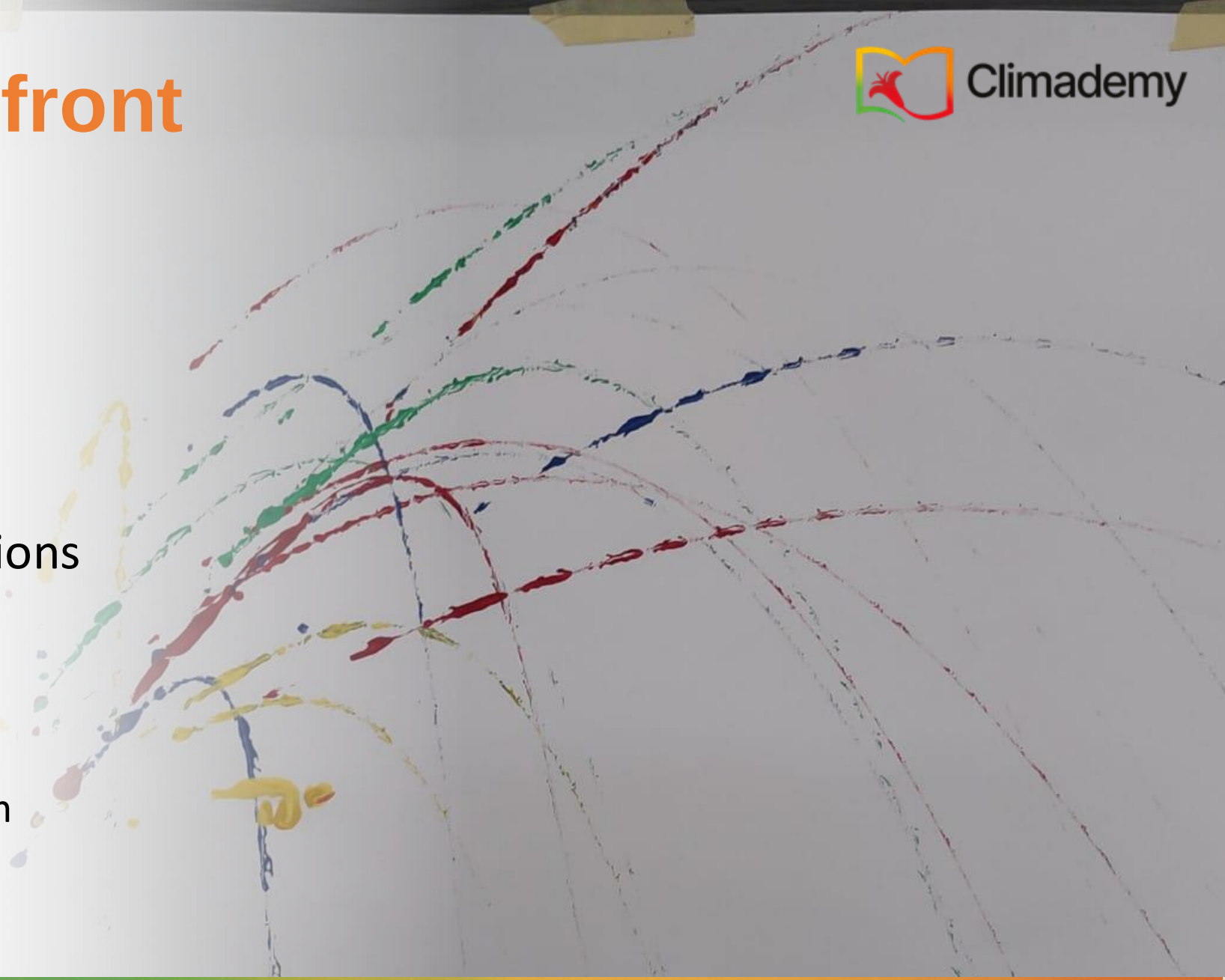
On the scientific front

Co-design and co-teaching
laboratories
- theoretical and
practical activities -

will explore
the epistemological assumptions
at the dawn of science

to open up
the overcoming
the modern science’s paradigm



On the scientific front

Central to the project is
to introduce students
to complexity science concepts like

non-linearity, circular causality, emergent properties, and unpredictability

to promote
a vision of science (and reality) that embraces complexity

The first phase (October-December 2025)

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Co-design

We recognise dynamics
able to support teachers

in their **needs**,
related to different dimensions

Strenghts of the project

Needs were addressed

finding **institutional spaces and times** to:

- discuss and sharing ideas, thoughts and values, in an interdisciplinary dialogue
- feel valued and part of an innovative school project, really supported by educational research

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Needs were addressed

taking care of the **pedagogical questions**

- Have the opportunity to discuss about **knowledge**, **skills** but also **attitudes** required for younger generation
- collaborate to create engaging learning environments
- deal with new approaches, strategies and methods

taking care of the **professional, educational, relational questions**

- **Improving disciplinary knowledge** to face contemporary topics
- building flexible and open materials, starting from a common basis but adapting them to your own curricular path and classroom context
- rethinking the institutional curriculum, often seen as lacking and unsatisfactory
- rethinking your role as teacher and also as member of an educational and social community
- exploring «the boundaries zones» between disciplines, finding inspirations, motivations and new stimuli

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The first phase (October-December 2025)

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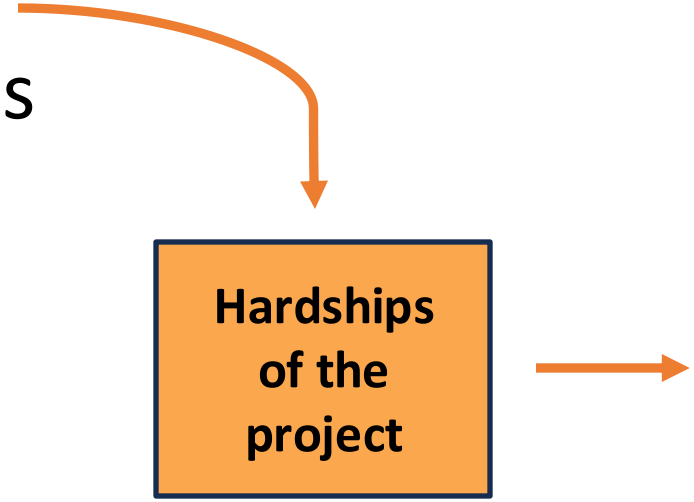
Co-design

We recognise
critical issues for teachers
related to different dimensions



institutional constraints and barriers

- Place the project in your own school and department work plan program
- Activities assesment

Relational and emotive (challenging) issues

- To understand the everyone's role within the design
- To accept the risk, taking part in processes whose dynamic evolution is uncertain

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- To **explore «the boundaries zones»** between disciplines, leaving the comfort zone of your discipline, with specific structure and shared language, traditionnal topics and methods

- To fight prejudices and stereotypes and review perspectives

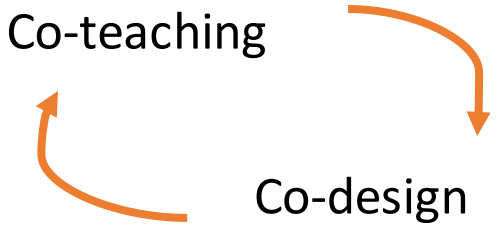
- To introduce and accept structural changes in our approches

The second phase: implementation (January-May 2025)

Co-teaching

By teachers from different disciplines,

both scientific and humanistic



monitoring the process

Strengths of the project

- Share a common educational path in terms of guidelines, objectives, trajectories and final goals..

- **Share experiences at large group level**: all five classes involved in the project join common activities (like Benard cells lab or writing diary…) and will take part to the final events

Hardships of the project

- Time and space management: make activities in your timetable and department work plan
- Co-presences organisation
- Assignment and understanding of different roles in the context classroom

The true challenge

Climate change is not addressed explicitly

Project's ambition:

cultivating problem framing and educating
in critical, systemic and creative thinking,

students build skills and attitudes
to face and analyze complex situations…
like those exemplified by two final works
common to all classes:

Data-analysis with
En-ROADS
climate simulator

Final event:
Analysis and narrative
in real-world context

- Starting in April 2025, using En-ROADS climate simulator and working in group, students start to identify conceptual links between the reflexions made in the project and the interpretation of the climate change data and complex and systemic issues interrelated

- The project culminates in May 2025 with a workshop focused on **analyzing, interpreting, and narrating real climate data.**

THIS IS THE CHALLENGE!

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Real-world climate data serve as a cornerstone, linking abstract scientific concepts to tangible environmental phenomena,

enhancing climate literacy and also **awareness and responsability**

This final phase emphasizes
the **complex interconnection**
between the **scientific, cultural, economic,** and
social dimensions involved in climate change,

promoting **an holistic understanding**
and **agency toward sustainability**

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Thanks
for your attention