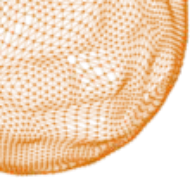


## **TOPIC:** **Science, Education & Inclusion**

**CHALLENGE:** How might we make science and technology education truly accessible and inclusive for all communities in Europe?

### **FOOD FOR THOUGHT:**

- Rural and marginalized communities face barriers such as language, connectivity, representation... And often lack access to labs, mentors, and STEM role models.
- Informal learning spaces (e.g. makerspaces, museums, libraries) can increase access.
- Deep tech and low-cost sensors can democratize experimentation and learning.
- Co-created curricula increase relevance and engagement for diverse learners.

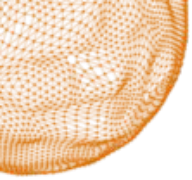


**TOPIC:**  **Science, Education & Inclusion**

**CHALLENGE:** How might we ensure every young person in Europe sees themselves as a future scientist or innovator?

**FOOD FOR THOUGHT:**

- Woman and minorities and underrepresented in STEM environments
- Role models and culturally relevant curricula increase engagement.
- Hands-on projects and community challenges empower self-identification as innovators.
- Creative, project-based approaches activate curiosity and ownership.
- School-industry partnerships can create authentic learning opportunities.



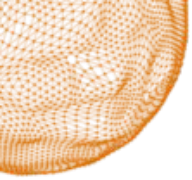
## **TOPIC:** **Science, Education & Inclusion**

**CHALLENGE:** How might we reimagine science education to prepare citizens for a data-driven world?

### **FOOD FOR THOUGHT:**

- 90% of today's data was created in the last two years\*.
- Critical data literacy and algorithmic tinkering are key for democratic participation.
- Simulated environments and real-world datasets can enhance learning.
- Students need to learn how to interpret, question, and act on data.
- ATTRACT's datasets and infrastructure can offer hands-on experiences.

\*Science daily  
[https://www.sciencedaily.com/releases/2013/05/130522085217.htm?utm\\_source=chatgpt.com](https://www.sciencedaily.com/releases/2013/05/130522085217.htm?utm_source=chatgpt.com)

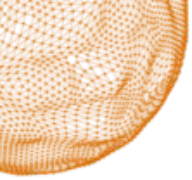


**TOPIC:**  **Science, Education & Inclusion**

**CHALLENGE:** How might we reduce the gap between cutting-edge research and public understanding?

**FOOD FOR THOUGHT:**

- Complex scientific concepts often lack effective public communication.
- Visualization, storytelling, and participatory research can bridge this divide.
- Open access platforms and citizen science build trust and comprehension.
- Citizen science creates bridges between experts and communities.
- ATTRACT's innovations can be made visible, open, and explainable.



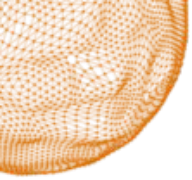
## **TOPIC:** **Sustainability & Environment**

**CHALLENGE:** How might deep tech innovations help reduce air pollution in European cities?

### **FOOD FOR THOUGHT:**

- Air pollution causes over 300,000 premature deaths annually in Europe\*.
- Real-time sensor networks and satellite data can track sources and effects.
- AI can optimize traffic flows and industrial emissions.
- Real-time dashboards empower public awareness and policy pressure.
- ATTRACT sensors and imaging tools can power these insights.

\*Reuters report  
[https://www.reuters.com/business/environment/eu-parliament-adopts-new-rules-improve-air-quality-by-2030-2024-04-24/?utm\\_source=chatgpt.com](https://www.reuters.com/business/environment/eu-parliament-adopts-new-rules-improve-air-quality-by-2030-2024-04-24/?utm_source=chatgpt.com)



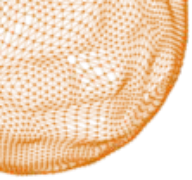
**TOPIC:**  **Sustainability & Environment**

**CHALLENGE:** How might we use data and technology to accelerate circular economy solutions in local communities?

**FOOD FOR THOUGHT:**

- Only 11,8% of materials consumed in Europe are recycled.\*
- IoT and blockchain can trace material flows and enable smart waste systems.
- Citizen engagement is key to successful localized circular practices.
- Local repair, reuse, and recycling need infrastructure and behavior change.
- ATTRACT's detection and tracking technologies could monitor cycles.

\*European Environment Agency  
[https://www.eea.europa.eu/en/analysis/indicators/circular-material-use-rate-in-europe?utm\\_source=chatgpt.com](https://www.eea.europa.eu/en/analysis/indicators/circular-material-use-rate-in-europe?utm_source=chatgpt.com)

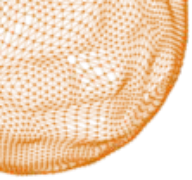


**TOPIC:**  **Sustainability & Environment**

**CHALLENGE:** How might we monitor and reduce microplastic contamination through collaborative science?

**FOOD FOR THOUGHT:**

- Microplastics are present in soil, water, air, and the human body.
- Low-cost sensing kits can support widespread data collection.
- Collaborative platforms can link citizens, scientists, and labs.
- AI can support image recognition and classification of particles.
- ATTRACT imaging and sensing advances could create new standards.

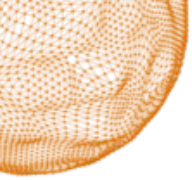


**TOPIC:**  **Sustainability & Environment**

**CHALLENGE:** How might research facilities contribute to Europe's climate neutrality goals by 2050?

**FOOD FOR THOUGHT:**

- Research infrastructures consume significant energy but hold innovation potential.
- Green transitions need to reach all sectors, including science.
- Facilities can pilot and showcase decarbonization strategies
- Scientific leadership can signal commitment and innovation.
- ATTRACT facilities can pilot sustainable science practices.

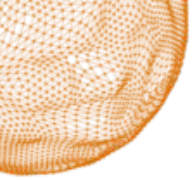


## **TOPIC:** **Innovation Ecosystem & Cohesion**

**CHALLENGE:** How might we strengthen Europe's innovation ecosystem to better serve society?

### **FOOD FOR THOUGHT:**

- Innovation often prioritizes tech over societal needs.
- Challenge-based and mission-driven approaches create more relevance.
- Cross-sector co-creation increases systemic impact.
- Inclusive innovation includes end users from the start.
- ATTRACT is a model for open, collaborative deep-tech innovation.

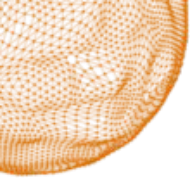


**TOPIC:**  **Innovation Ecosystem & Cohesion**

**CHALLENGE:** How might we improve collaboration between universities, research centers, and communities?

**FOOD FOR THOUGHT:**

- Communities are rarely involved in research agendas.
- Living labs and civic science initiatives promote mutual learning and can offer context, urgency, and lived experience
- Intermediary roles (e.g. facilitators, knowledge brokers) are critical.
- Civic engagement improves both relevance and legitimacy of science.
- ATTRACT's Academy can build capacity for collaborative methods.

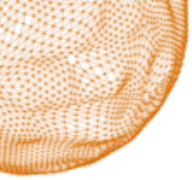


## **TOPIC:** **Innovation Ecosystem & Cohesion**

**CHALLENGE:** How might Europe's science and tech networks help bridge regional inequalities?

### **FOOD FOR THOUGHT:**

- Innovation hubs are concentrated in a few urban regions.
- Peripheral and rural areas face brain drain and infrastructure gaps.
- Digital platforms and mentorship programs reduce geographic barriers.
- Distributed models of research and education can balance access.
- Digital platforms reduce the need for physical co-location.

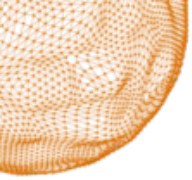


## **TOPIC:** **Innovation Ecosystem & Cohesion**

**CHALLENGE:** How might we use ATTRACT's assets to create more inclusive innovation across Europe?

### **FOOD FOR THOUGHT:**

- ATTRACT connects tech, research infrastructures, education, and policy.
- Inclusion requires outreach, training, and support mechanism, and it can desentralize access.
- Inclusive innovation practices prioritize equity and co-design.
- Co-designed challenges increase participation from diverse communities.
- ATTRACT's ecosystem can scale citizen-centered innovation.

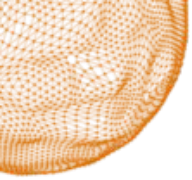


## **TOPIC:** ❤️ **Health & Wellbeing**

**CHALLENGE:** How might data and sensing technologies improve public health in underserved areas?

### **FOOD FOR THOUGHT:**

- Health disparities persist between urban and rural or low-income zones.
- Many areas lack real-time data on environment and health risks.
- Wearables, environmental sensors, and mobile health apps offer scalable solutions.
- Community health initiatives benefit from accurate local data.
- ATTRACT's sensor tech can enable low-cost, distributed monitoring.



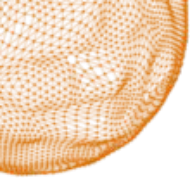
## **TOPIC:** ❤️ Health & Wellbeing

**CHALLENGE:** How might we make preventive health technologies more accessible through education and research collaboration?

### **FOOD FOR THOUGHT:**

- 80% of health outcomes are shaped by social and environmental factors.\*
- Education about lifestyle, environment, and early signs is essential.
- Partnerships between academia and local institutions can accelerate dissemination.
- Preventive care reduces costs and improves life expectancy.
- Health literacy is critical to uptake and behavior change.

\*Social determinants of health  
<https://pubmed.ncbi.nlm.nih.gov/37203650/>

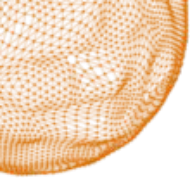


## **TOPIC:** ★ **European Values & Futures Vision**

**CHALLENGE:** How might we use science and technology to reinforce democratic values and civic trust in Europe?

### **FOOD FOR THOUGHT:**

- Science denial and misinformation are growing threats to democracy.
- Open science and participatory approaches build transparency.
- AI must be explainable, fair, and governed responsibly.
- Trust in institutions and facts is declining across Europe.
- Tech can support civic engagement, from e-voting to accountability tools.

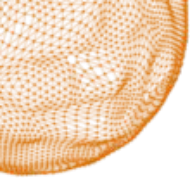


## **TOPIC:** ★ **European Values & Futures Vision**

**CHALLENGE:** How might we co-create a shared European narrative through science, innovation, and inclusion?

### **FOOD FOR THOUGHT:**

- Science has potential as a unifying cultural force.
- Shared missions (e.g. green transition) can shape collective identity.
- Diversity in research teams and voices reflects Europe's pluralism.
- Fragmentation risks weakening Europe's collective future vision.
- Science can be a cultural bridge as well as a technological one.



## **TOPIC:** ★ **European Values & Futures Vision**

**CHALLENGE:** How might ATTRACT inspire a next generation of scientists working for the public good?

### **FOOD FOR THOUGHT:**

- Young people are motivated by purpose and impact.
- Exposure to real challenges increases engagement, purpose, commitment and empathy.
- Interdisciplinary, hands-on projects develop relevant skills.
- ATTRACT can showcase role models and ethical innovations.
- Investment in education ensures a pipeline of purpose-driven talent.