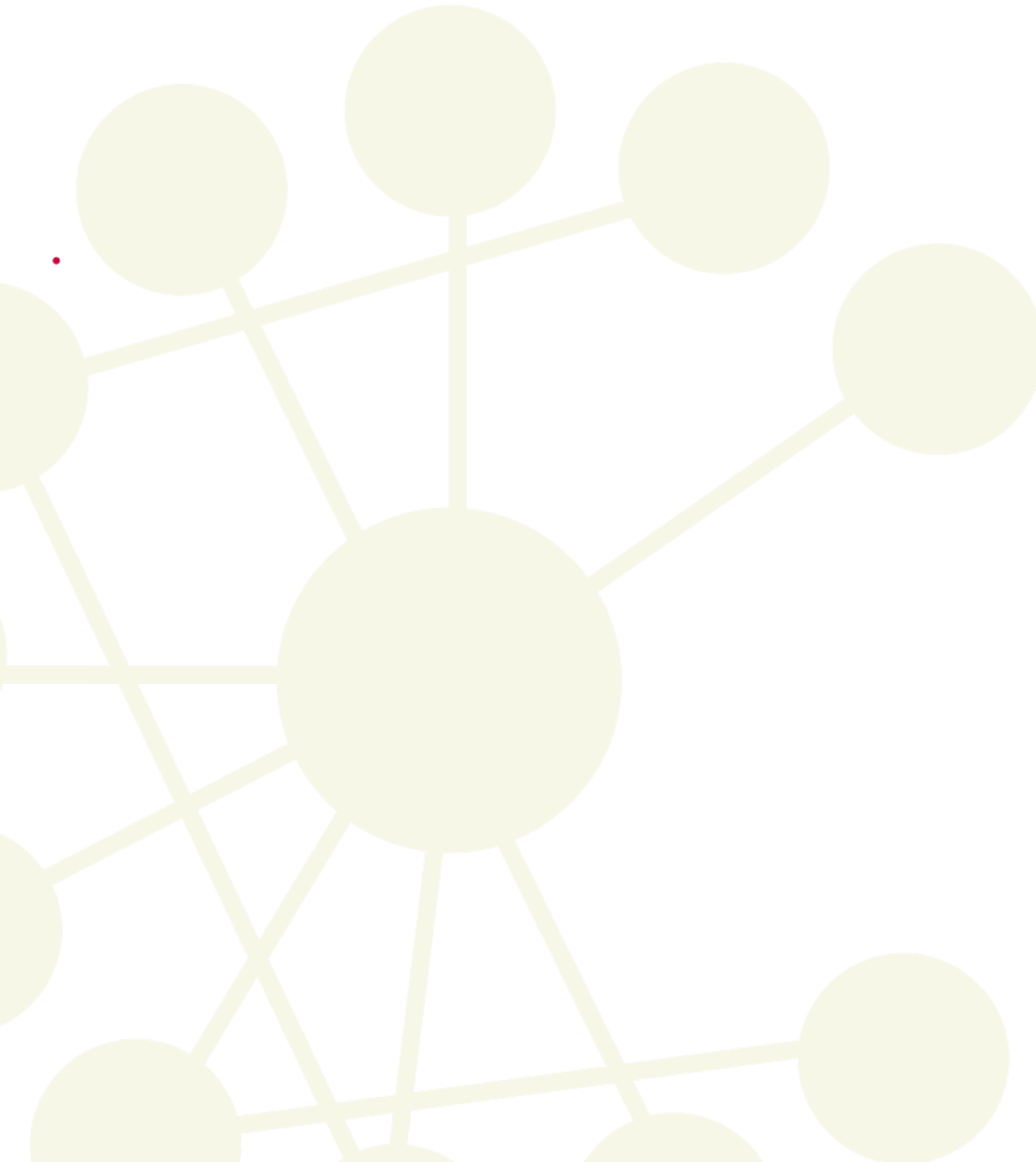


## D4.3 Report on Local Fairs Across Europe



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## Table of Contents

1.	EXECUTIVE SUMMARY .....	4
2.	Introduction and Context.....	5
2.1	Objectives for Sustainable Cross-sectoral Partnerships within the ICSE Science Factory.....	5
2.2	Role of Local Partnership Events in WP4 .....	6
2.3	Links to Lighthouse Activities, Open Schooling and Interactive Career Talks .....	9
3.	Conceptual and Methodological Framework.....	10
3.1	Data Sources and Analytical Approach .....	10
3.2	Use of Qualitative Illustrative Material.....	12
3.3	Methodological Limitations .....	12
4.	Overview of Local Fairs Across Europe.....	13
4.1	Positioning of Local Fairs within WP4 Event Structures.....	13
4.2	Formats and Settings of Local Fairs.....	15
4.3	Thematic Orientation of Local Fairs .....	18
5.	Local Fairs Across National Contexts.....	21
5.1	Design, Implementation and Embedding of Local Fairs.....	21
5.2	Networking Dynamics, Perceived Value and Structural Constraints .....	24
5.3	Implications for sustainability and transferability .....	27
5.4	Cross-Country Synthesis: Key Patterns and Contrasts.....	30
6.	Sustainability Pathways in Local Partnership Ecosystems.....	32
6.1	Strengthening and Extending Partnership Networks.....	32
6.2	Institutional anchoring pathways .....	33
6.3	Financial Anchoring within Existing Infrastructures.....	34
7.	Conclusions and Outlook.....	34
7.1	Key insights .....	34
7.2	Implications for policy and practice .....	35
7.3	Outlook: Ecosystem Continuation and Adaptive Transfer .....	36
8.	References.....	37
9.	Annexes.....	38
	Annex A: ICSE Science Factory Fair National Reports .....	38
	<b>First Fair Reports</b> .....	38
	<b>Second Fair Reports</b> .....	80

## 1. EXECUTIVE SUMMARY

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This deliverable reports on the ten local fairs implemented in Work Package 4, *Sustainable cross-sectoral partnerships* (WP4), of the ICSE Science Factory project across five partner countries (Croatia, Cyprus, Germany, Portugal, Türkiye). WP4 aimed to establish and consolidate sustainable cross-sectoral partnerships connecting schools, higher education institutions, enterprises and community actors. Within WP4's event sequence (national kick-offs, iterative partnership conventions and two fairs per country), local fairs were positioned as the public-facing phase of partnership work rather than as isolated dissemination activities.

The analysis is based primarily on standardised national reporting templates completed for each fair, complemented by contextual WP4 documentation. As local fairs were not part of WP5's systematic evaluation, the report provides a descriptive and analytical synthesis. Reported participant numbers should be interpreted as indicative, particularly where fairs were embedded in larger public events.

Across countries, fairs functioned as time-bound public events that made ongoing partnership work visible and enabled encounters between actors who do not routinely interact in formal education. Implementation varied in format and scale: stand-alone fairs hosted by higher education institutions enabled concentrated interaction and strong local ownership, while fairs embedded in existing science festivals, conferences or competitions benefited from established venues and audiences but often resulted in more dispersed interaction and higher coordination demands. Importantly, embedding emerged as a deliberate design choice rather than a fixed national characteristic. This is illustrated by the sequence of events in Türkiye: a conference-embedded fair followed by a stand-alone event with a more regional focus.

Fairs combined student-led presentations of open schooling projects with interactive elements such as workshops and Lighthouse Activities and, in several contexts, complementary contributions from enterprises and non-formal learning actors. Reported benefits included recognition and motivation for students, professional exchange for teachers, and opportunities for external partners to engage with authentic school-based STEM practices. Constraints reported by organisers concerned the mobilisation of schools and students (timing, travel, and school routines) and the coordination demands of larger embedded settings. Industry participation was uneven, often constrained by time and role fit.

Sustainability considerations indicate that the longer-term relevance of fairs lies less in repeating the format as an autonomous event and more in the coordination and visibility effects they generated: strengthened cooperation routines, follow-up contacts and improved visibility of ongoing work within local partnership settings. Within the three-year project framework, these effects indicate plausible continuation pathways rather than fully institutionalised structures. National reflections consistently underline that such high-visibility formats are resource-intensive and therefore difficult to institutionalise as routine events. Financial sustainability discussions in WP4, therefore, focused primarily on the continuation of selected educational formats and partnership activities (e.g. Lighthouse Activities, Career Talks, teacher training and mentoring structures) rather than on dedicated funding models for recurring fairs. Dissemination through social media documentation and, in isolated cases, press coverage extended visibility beyond the event day. Overall, local fairs

should be understood as context-sensitive public formats that can be recalibrated to different settings rather than as a single standardised event template.

## 2. Introduction and Context

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Work Package 4 (WP4) of the ICSE Science Factory project focuses on establishing and consolidating sustainable cross-sectoral partnerships that connect schools, higher education institutions, enterprises, and community actors across the five partner countries (HR, CY, DE, PT, TR). In the ICSE Science Factory, partnerships are not treated as an organisational add-on, but as an enabling condition for the project's activity portfolio. They provide the social and institutional infrastructure through which lighthouse activities, open schooling activities and interactive career talks can be jointly planned, implemented and made visible to broader communities.

WP4 operationalises this partnership focus through a sequence of local partnership events and accompanying sustainability work. The report D4.3 documents the local fairs implemented across Europe and situates them within the wider WP4 partnership process, as kick-off meetings and partnership conventions formed the preparatory and developmental context in which the fairs were embedded.

### 2.1 Objectives for Sustainable Cross-sectoral Partnerships within the ICSE Science Factory

WP4 aims to strengthen local STEM cooperation by establishing stable collaboration structures among stakeholders who do not routinely collaborate within formal education. In line with the WP4 objectives, the partnership work addresses four interrelated aims:

- 1) *Fostering networking among stakeholders and community members.* WP4 creates structured opportunities for exchange across professional and institutional boundaries, supporting the development of shared understanding, trust and practical routines for collaboration.
- 2) *Creating partnerships between teachers, researchers, entrepreneurs and community actors.* The partnerships are intended to connect complementary expertise: pedagogical knowledge in schools, research-based perspectives from higher education institutions, applied expertise from enterprises, and contextual knowledge from local communities.
- 3) *Implementing local partnership conventions and public fairs as partnership instruments.* Conventions and fairs serve as structured formats to initiate, develop, and consolidate partnerships and to create visible spaces for exchange and outreach.
- 4) *Developing sustainability strategies for local partnerships and activities.* WP4 explicitly links partnership building to sustainability planning, aiming to identify institutional anchoring mechanisms and feasible funding pathways beyond the project lifetime.

Taken together, these objectives define WP4 as the work package that connects the project’s educational activities (Lighthouse Activities, Open Schooling activities and Career Talks<sup>1</sup>) with local cooperation structures in order to support continuity beyond individual events. WP4 is based on the premise that high-quality STEM engagement requires stable cross-sectoral partnerships. Whether such partnerships endure depends not only on the educational relevance of activities but also on institutional commitment from participating organisations.

## 2.2 Role of Local Partnership Events in WP4

WP4 employs three distinct but interrelated event types in the partnership structure. Those are (1) national kick-off meetings, (2) partnership conventions and (3) local public fairs. Although the overall deliverable title focuses on local fairs, the sequence of events in WP4 provides the developmental context that explains how fairs were positioned as public showcases embedded in longer-term partnership processes, rather than as isolated dissemination events.

**(1) The national kick-off meetings** marked the formal start of the WP4 activities at the country level. The primary function of these meetings was to provide orientation: to introduce the ICSE Science Factory concept, to outline the planned activity portfolio and to clarify expectations for potential partners. These meetings established a shared reference frame and enabled schools, higher education institutions, enterprises, and community actors to make initial commitments. In this sense, the kick-off meetings created the conditions for subsequent collaboration but did not involve presenting concrete activity outcomes.

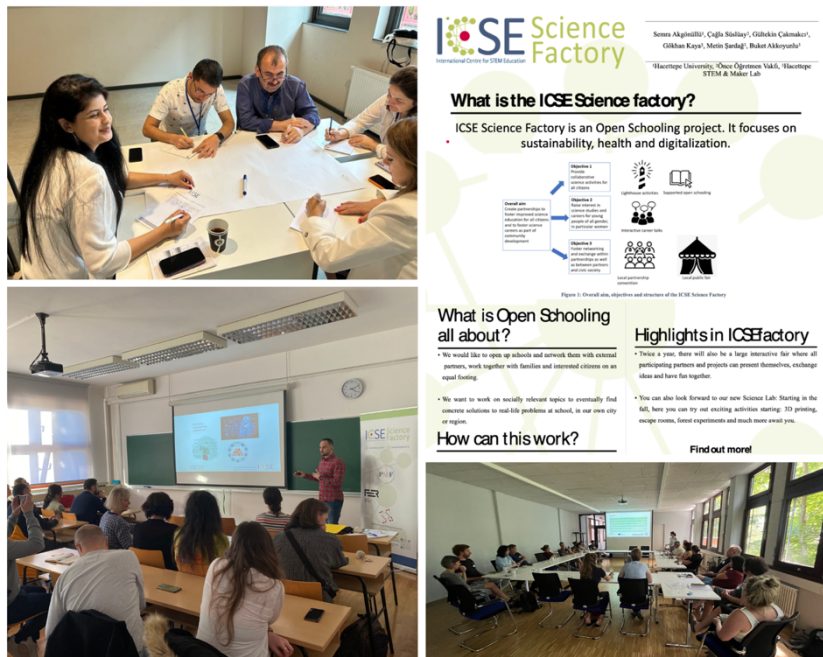


Figure 1 Impressions of National Kick-Off Meetings

**(2) Partnership conventions** constituted the core developmental phase of WP4. Implemented over three iterative cycles in each partner country, the conventions served as structured working meetings that brought together the full national project partnership, understood here as the constellation of beneficiaries and associated partners collaborating in each country under the ICSE Science

<sup>1</sup> Within the ICSE Science Factory, *Lighthouse Activities* refer to short-term, interdisciplinary engagement formats designed to introduce STEM topics and stimulate interest through hands-on experiences. *Open Schooling activities* denote longer-term collaborative projects developed jointly by schools and community stakeholders, aiming to connect formal education with real-world contexts and societal challenges. *Career Talks* describe structured mentoring and dialogue formats in which researchers, industry representatives or STEM professionals engage with students to discuss career pathways and professional practices.

Factory project. This included higher education institutions, schools, associated partners, identified third parties and, where relevant, enterprise or community representatives already engaged in the partnership. Their purpose was to foster networking, mentoring and experience exchange across institutional and professional boundaries. Across the convention cycles, partners jointly:

- built mutual understanding and clarified expectations and roles;
- planned collaboration and mentoring arrangements;
- reflected on ongoing activities and expanded partnership constellations;
- progressively shifted attention towards questions of sustainability and future cooperation.

The partnership conventions functioned as the internal coordination and learning spaces of WP4. They structured relationship-building, supported knowledge exchange, and established collaboration routines that enabled the coordinated implementation of lighthouse activities, open schooling activities, and interactive career talks.



Figure 2 Impressions of National Conventions

**(3) Local public fairs** were positioned at a later stage of this process and fulfilled a distinct function. They provided public-facing spaces in which results from collaborative activities could be showcased to audiences beyond the core partnership. Unlike kick-offs and conventions, fairs were explicitly designed to reach wider communities, including students and families, educators outside the immediate partnership, local decision-makers and interested citizens.



Figure 3 Impressions of National Fairs

Conceptually, fairs combined dissemination with networking. They made partnership practices visible while simultaneously creating opportunities for new contacts, dialogue and the extension of local collaboration structures. In partner countries, fairs were usually held after at least one convention cycle. This allowed partners to build on existing collaboration processes and present results based on joint projects rather than individual initiatives.

This report focuses on the implementation of local fairs across partner countries and analyses how they were designed and enacted in different national contexts. Kick-off meetings and partnership conventions are therefore treated as preparatory and enabling formats that shaped the development of fairs by establishing local partnerships, shared objectives and routines of collaboration.

## 2.3 Links to Lighthouse Activities, Open Schooling and Interactive Career Talks

WP4 partnership events are closely connected to the project's educational activity portfolio. Local fairs, in particular, function as points of convergence where different strands of activity become visible to external audiences.

Firstly, fairs provide a public space in which to present the outcomes of open schooling activities. In WP2 "*Lighthouse activities and Open Schooling*", open schooling is defined as a collaborative activity developed by schools with community stakeholders, aiming to connect formal learning with informal contexts, involve different members of society, promote scientific literacy and motivation, and create networks that support the practical application of results. The "share" dimension embedded in open schooling approaches becomes tangible at fairs, where students and partners present their projects, solutions and learning processes to broader communities.<sup>2</sup> The open schooling approach implemented in the ICSE Science Factory aligns with European policy frameworks that conceptualise schools as active nodes within science–society ecosystems, emphasising collaboration, societal relevance and responsible engagement with scientific knowledge (European Commission, 2015).

Secondly, fairs often include or are complemented by elements that are characteristic of lighthouse activities, i.e., short-term, interdisciplinary engagement formats offered by project partners and external stakeholders. Within WP2, lighthouse activities can also initiate longer-term open schooling engagement by communicating the enjoyment and relevance of science and by opening pathways to sustained project work.<sup>3</sup>

Thirdly, the event formats in WP4 relate to the understanding of mentoring and Communities of Practice (CoPs) in WP3. WP3's 'Interactive Career Talks' initiative frames mentoring as a reciprocal, cross-role form of support that strengthens collaboration, raises the profile of scientific careers and supports young people's transition into STEM pathways, particularly girls and young women. CoP is also used as a guiding concept for organising partnership work across varying levels of participation.<sup>4</sup> The CoP framework conceptualises learning as participation in shared practices and evolving repertoires, rather than as the transmission of knowledge (Wenger, 1998; Wenger-Trayner & Wenger-Trayner, 2015). From this perspective, conventions and fairs provide structured opportunities for mentoring practices to be carried out (e.g. between researchers and teachers, enterprises and

<sup>2</sup> ICSE Science Factory (2023). D2.3 – Service Package for Open Schooling for Schools: [https://icse.eu/wp-content/uploads/2025/12/ICSE-Science-Factory\\_D2.3\\_Service-Package-for-Open-Schooling-for-Schools.pdf](https://icse.eu/wp-content/uploads/2025/12/ICSE-Science-Factory_D2.3_Service-Package-for-Open-Schooling-for-Schools.pdf)

<sup>3</sup> ICSE Science Factory (2025) D2.2 – Final version of best practice examples of lighthouse activities: [https://icse.eu/wp-content/uploads/2025/12/ICSE-Science-Factory\\_D2.2\\_Best-Practice-Examples-of-Lighthouse-Activities.pdf](https://icse.eu/wp-content/uploads/2025/12/ICSE-Science-Factory_D2.2_Best-Practice-Examples-of-Lighthouse-Activities.pdf)

<sup>4</sup> ICSE Science Factory (2025). D3.1 – Best Practice Examples of Career Talks. [https://icse.eu/wp-content/uploads/2025/12/ICSE-Science-Factory\\_D3.1\\_Best-practice-examples-of-career-talks.pdf](https://icse.eu/wp-content/uploads/2025/12/ICSE-Science-Factory_D3.1_Best-practice-examples-of-career-talks.pdf)

schools, or experienced partners and newer stakeholders), while fairs also extend the CoP to include wider communities.

In this sense, local fairs can be understood as public “nodes” of partnership practice: they do not replace sustained collaboration in schools and organisations, but they provide moments of visibility, exchange, and boundary crossing that can strengthen local partnership ecosystems and inspire other institutions to adopt similar formats.

### 3. Conceptual and Methodological Framework

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#### 3.1 Data Sources and Analytical Approach

This report presents a qualitative, descriptive synthesis of documentation produced within WP4 of the ICSE Science Factory project. The primary data source consists of the standardised national reporting templates (Figure 4) completed by all partner countries for each local fair. These templates provide structured information on event design, thematic focus, target groups, participating actors and reported participant numbers. Rather than reproducing the templates descriptively, this report uses them to identify cross-country patterns and contextual differences. All national teams completed the templates independently using a shared structure, which ensured comparability while allowing for variation in narrative depth.

To situate the fairs within the broader WP4 process, additional internal documentation was consulted, including materials from national kick-off meetings and partnership conventions (e.g., agendas, participant lists and minutes). These documents provide contextual background on how local cooperation structures developed over time. They are not analysed as standalone data sources.

Local fairs were not included in the systematic evaluation activities conducted under WP5 “*Evaluation*”.<sup>5</sup> Given the scale and diversity of the events, and WP5’s focus on other activity formats, no standardised evaluation instruments were applied. The present analysis is therefore descriptive and interpretive rather than impact-oriented.

#### The analysis proceeded in three steps:

1. a structured comparison of national fair implementations based on the completed reporting templates;
2. the identification of recurring patterns and contextual differences across countries with regard to formats, thematic focus and networking functions;
3. the integration of selected qualitative material to illustrate perceived experiences and practices, without making generalisable claims.

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<sup>5</sup> ICSE Science Factory (2025). D5.2 – Evaluation report. [https://icse.eu/wp-content/uploads/2025/12/ICSE-Science-Factory\\_D5.2\\_Evaluation-report-containing-results-of-all-activities.pdf](https://icse.eu/wp-content/uploads/2025/12/ICSE-Science-Factory_D5.2_Evaluation-report-containing-results-of-all-activities.pdf)



### Fairs Reporting Template

Please upload on the server by **XXX**

**Country:**

**Name of person/s responsible for report:**

**Email:**

---

Please fill in the template with the details related to the ICSE Science Factory fair/s held in your country.

Topic/Motto	
Type of fair (was the fair virtual, hybrid or in person; stand-alone or part of a larger fair?)	
Date of fair	
Duration (number of hours or days)	
Advertising (list the modes and describe campaign)	
Participants (project and non-project, no names are required only roles/institution/business they represent)	<b>Participants from the project:</b> <b>Participants beyond the project:</b>
How were the different project partners presented? Please describe. (posters, stands on fair, plenary session, career talks, interactive activity, challenge, knowledge/research exchange, co-creation activities, etc.)	Presentation of supported open schooling:
	Presentation of Lighthouse Activities/Real-life problem-solving:
	Presentation of career talks:
	Presentation of partners from <u>Science</u> :
	Presentation of partners from Enterprises:



	Presentation of partners from non-formal learning institutions:  Presentation of partners from community institutions:
Description of special (award) ceremony (if any – please provide programme).	
Programme of the fair	
Special guests who attended (such as ministry officials, artists etc. please include details of position/role)	
Photos and testimonials (these may include quotations from interviews or from feedback provided by participants. Please obtain permissions for any photos you include).	
Dissemination/Media coverage of the event (please include details including screenshots, links or photos if available)	
Progress in setting up a sustainable cross-sectoral partnership	
Reflections and Lessons Learned	<ul style="list-style-type: none"> <li>What worked well</li> <li>Challenges encountered</li> <li>Suggestions for improvement</li> </ul>
Other (anything you wish to share which is not covered in the above points)	




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**Figure 4 Reporting Template for Fairs**

The focus lies on transparency and cross-country coherence rather than on measuring causal impact. The focus lies on transparency and cross-country coherence rather than on measuring causal impact. The following section explains how selected qualitative material is used to illustrate identified patterns.

### 3.2 Use of Qualitative Illustrative Material

In addition to the structured reporting templates, some partner countries collected informal qualitative feedback during or after local fairs. This includes short written comments, verbal reflections documented by organisers and, in one case, a visual “happy sheet” format used to capture immediate participant impressions.

These materials are not treated as evaluative data and do not constitute systematic evidence of impact. Instead, selected testimonials are used in later chapters as illustrative qualitative material. Their purpose is to provide insight into how participants perceived the fairs and to enrich the analytical narrative by making abstract observations more tangible.

The inclusion of such material follows a cautious and transparent approach. Testimonials are clearly marked as illustrative, and no causal or generalisable conclusions are drawn from them. Where qualitative material is used, it serves to exemplify patterns identified through the comparative analysis rather than to substitute for systematic evaluation.



Figure 5 Visual Happy Sheet Germany, First Fair

### 3.3 Methodological Limitations

Several limitations must be taken into account when interpreting the findings presented in this report.

Firstly, the lack of systematic evaluation data restricts the ability to assess the effects of local fairs beyond descriptive and interpretive levels. Reported participant numbers are partly based on estimates, particularly where fairs were embedded within larger public events, and should therefore be interpreted as indicative rather than precise.

Secondly, the depth and granularity of the documentation vary between countries. While using a common reporting template supports comparability, national contexts, event formats, and reporting practices inevitably influence the level of detail provided.

Thirdly, the illustrative participant testimonials included in this report represent selected perspectives and do not capture the full range of experiences across stakeholder groups. They are intended to exemplify perceived engagement and relevance, rather than substantiating long-term outcomes or causal relationships. Finally, the analytical focus on local fairs necessarily abstracts from the ongoing and dynamic nature of partnership work within WP4. The findings presented here should

therefore be understood as insights into how fairs functioned within local partnership ecosystems in a given context, rather than as comprehensive assessments of partnership sustainability or educational impact. This analysis does not aim to measure impact effects, but rather to make structural patterns visible across diverse national implementations.

## 4. Overview of Local Fairs Across Europe

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### 4.1 Positioning of Local Fairs within WP4 Event Structures

As outlined in Section 2.2, WP4 follows a structured sequence of events, including national kick-off meetings, iterative partnership conventions, and two local fairs per country. Within this sequence, local fairs were positioned as the public-facing phase of partnership work. They were not conceived as standalone dissemination activities.

Across all partner countries, fairs were typically organised after at least one convention cycle had taken place. This timing enabled partners to draw on established collaboration routines and present outcomes grounded in joint work rather than isolated initiatives. This sequencing reflects the broader WP4 partnership logic outlined in Section 2.2.

Local fairs, therefore, functioned as moments of consolidation and visibility. They provided public spaces where outcomes from lighthouse activities, open schooling projects, and interactive career formats could be presented to audiences beyond the core partnership, including students and families, educators outside the immediate network, local decision-makers, and interested citizens. In this sense, fairs combined dissemination with networking: they communicated results while simultaneously opening partnerships to new contacts and potential collaborators.

Importantly, the organisation of local fairs did not start from scratch. Partners explicitly built on experience and structural guidance developed in the predecessor project MOST (Meaningful Open Schooling Connects Schools to Communities). The organisational preparation of the ICSE Science Factory fairs drew on the MOST-Fair Guidelines, which had already formulated principles for structuring open schooling fairs, clarified the roles of stakeholders, and aligned educational objectives with community engagement.<sup>6</sup> This continuity avoided the need to develop entirely new formats and contributed to coherence across countries while still allowing contextual adaptation.

While the concrete implementation of fairs varied across national contexts, their positioning within the WP4 event structure followed a shared logic. They were not conceived as isolated outreach events, but as integrative formats that brought together different strands of the project's activity portfolio. Schools presented open schooling projects, higher education institutions and enterprises contributed expertise, and interactive formats enabled dialogue across institutional and professional boundaries.

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<sup>6</sup> 1 MOST – Meaningful Open Schooling Connects Schools to Communities. *Guidelines for the organisation of MOST fairs* (May 2023). Available at: <https://icse.eu/wp-content/uploads/2023/07/Guidelines-for-the-organisation-of-MOST-fairs-May2023-.pdf>

This positioning also clarifies why local fairs were not treated as evaluative instruments within the project. Their primary function lay in communication, networking and visibility rather than in controlled assessment of learning outcomes or partnership effects. Consequently, the value of fairs cannot be reduced to attendance figures or activity counts alone, but must be interpreted in relation to the partnership processes that preceded them and the ecosystems in which they were embedded. The scale and distribution of local fairs across partner countries illustrate this, while also highlighting contextual variation. As foreseen in the Description of Action, each country implemented two fairs, resulting in a total of ten events across Europe. According to partner reports, these fairs reached at least 2,330 participants in total (Figure 6).

### ICSE SCIENCE FACTORY FAIRS ORGANISED

Country	Fair	Date	Participants
Croatia	Fair 1	20/02/2025	200
Croatia	Fair 2	29/01/2026	120
Cyprus	Fair 1	30/01/2025	60
Cyprus	Fair 2	17/05/2025	50+
Germany	Fair 1	14/02/2025	200+
Germany	Fair 2	23/10-25/10/2025	1000+
Portugal	Fair 1	30/11/2024	100+
Portugal	Fair 2	28/06/2025	100+
Türkiye	Fair 1	6/7/2024	200
Türkiye	Fair 2	11/6/2025	300+
<b>Total number of participants</b>			<b>2.330+</b>

Figure 6 ICSE Science Factory Fairs

Reported participant numbers varied considerably, ranging from smaller-scale stand-alone fairs with approximately 50–200 participants to large, embedded events reaching more than 1,000 visitors. This variation reflects differences in national contexts, hosting structures and embedding within larger public initiatives rather than differences in conceptual design. Participant figures should therefore be interpreted as indicative lower-bound estimates, particularly when fairs were integrated into open-access or multi-day events and precise counting was not feasible. In embedded, open-access formats, participant figures represent conservative estimates based on organiser documentation rather than exact attendance counts.

## 4.2 Formats and Settings of Local Fairs

Across partner countries, local fairs were held in various formats and physical settings. While the concrete manifestations varied by national context and available infrastructure, the analysis reveals recurring structural features that shaped how fairs functioned as partnership and engagement formats. These recurring structural features were not developed entirely anew within the ICSE Science Factory. Instead, they were informed by organisational principles and practical experience gained in the MOST project. The MOST-Fair Guidelines provided a reference framework for structuring event formats, clarifying stakeholder roles and aligning open schooling principles with public engagement. Within the ICSE Science Factory, these guidelines were applied flexibly and adapted to national contexts rather than replicated mechanically. This continuity ensured conceptual coherence across countries while allowing for context-sensitive variation in implementation.



## From Exhibitions to Interactive Engagement Spaces

Local fairs combined elements of an exhibition, a workshop, and a public event. Rather than following a single standardised format, partners adopted hybrid designs that allowed different forms of participation to coexist. These typically included:

- presentation formats, such as booths, posters or demonstrations, where schools and partners showcased project outcomes;
- interactive formats, including hands-on activities, experiments or guided demonstrations, enabling visitors to actively engage with STEM topics;
- communicative formats, such as informal discussions, short explanations, or guided tours, that facilitate dialogue between presenters and visitors.

This combination reflects the dual function of fairs within WP4. On the one hand, fairs served dissemination purposes by making project activities and results visible. On the other hand, their interactive components enabled direct exchange between actors who would not usually meet in formal educational settings. The absence of a rigid format allowed partners to adjust the balance between presentation and interaction in response to audience composition, institutional setting and partnership configuration.

### Settings and Spatial Organisation

The physical settings of local fairs varied across countries and included higher education institutions and locations embedded within larger public events such as science festivals, competitions or conferences. These settings influenced both the reach of the fairs and the types of interaction that were possible. Fairs hosted at universities or research institutions benefited from access to specialised spaces and infrastructures, such as laboratories or workshops, which reinforced the connection between school-based activities and academic environments and highlighted the role of higher education institutions as institutional anchors. Fairs embedded within broader public events enabled exposure to wider and more heterogeneous audiences, albeit sometimes at the expense of controlled participant flows and concentrated interaction. Across these different settings, spatial organisation played a critical role. Open layouts with multiple activity stations encouraged movement, informal encounters and spontaneous conversations, whereas more segmented arrangements supported focused engagement with specific activities. The design of spaces thus directly shaped the intensity and quality of interaction between partners, participants and visitors.

### Target Groups and Participation Structures

Local fairs were explicitly designed to address multiple target groups simultaneously. Core audiences included students and teachers involved in project activities, but fairs also reached parents, families, community members, enterprise representatives, researchers, and, in some cases, local decision-makers. Rather than segmenting events strictly by target group, most fairs relied on open participation structures. This openness enabled encounters across age groups, professional roles and institutional boundaries. At the same time, it required careful moderation and facilitation to ensure that activities remained accessible while retaining substantive content.

The analysis suggests that fairs created more differentiated interaction patterns when participation structures allowed for different levels of engagement. Visitors could choose between brief exploratory interactions and more in-depth conversations and activities. This flexibility promoted inclusivity without compromising the educational or scientific nature of the events.

### Organisational Implications for Partnership Work

The diversity of formats and settings illustrates that local fairs were not implemented as standardised events, but as context-sensitive partnership instruments. Their organisational design required coordination among multiple actors, including schools, higher education institutions, enterprises and community organisations. Importantly, the fairs drew on collaboration routines established during earlier WP4 activities. Responsibilities for preparation, facilitation and presentation were distributed across partners, reflecting the cross-sectoral nature of the partnerships. In this sense, formats and settings were not merely logistical choices, but expressions of how partnerships operated in practice. Overall, the analysis shows that local fairs did not follow a single fixed model. Their effectiveness depended on how well format, setting and audience were aligned in each context. This variation does not indicate inconsistency but reflects adaptation to local conditions. The following section examines how this structural variation was reflected in the thematic orientation of the fairs.

### 4.3 Thematic Orientation of Local Fairs

The thematic orientation of local fairs across partner countries reflects the three overarching focus areas of the ICSE Science Factory: Green Deal, Digitalisation and Health. While the emphasis of individual fairs depended largely on ongoing Open Schooling projects, Lighthouse Activities and implementation timelines, these themes functioned as a shared structuring framework across countries. They ensured conceptual coherence at project level, whereas the concrete projects presented at the fairs primarily reflected locally completed activities available for public presentation at the respective time.

#### Green Deal: Sustainability as a Cross-Cutting Reference Frame

Themes related to environmental sustainability, climate change and resource management featured prominently across fairs. Within this orientation, projects addressed issues such as energy use, mobility, urban design and ecological responsibility. In the fair setting, sustainability themes were typically presented through student-led investigations and applied problem-solving approaches. These projects connected formal learning with locally relevant environmental questions, illustrating how scientific inquiry can be situated within broader societal contexts.



Figure 7 Croatia, Second Fair, Green Deal example

At the second Croatian fair, student projects investigated climate-related urban challenges, including the impact of dark building facades on urban heat and biodiversity dynamics in the context of climate change. These examples demonstrate how sustainability themes were translated into locally grounded environmental inquiry rather than remaining at the level of abstract policy discourse.

## Digitalisation: Technologies, Practices and Critical Engagement

Digitalisation constituted a second major thematic strand. Projects in this area addressed digital tools, computational thinking, artificial intelligence and data analysis in relation to classroom practices and everyday environments. Rather than focusing solely on technical competence, the presented projects often combined data collection, interpretation and reflection on the use of digital tools.

- An illustrative example was presented at the second Portuguese fair, where students used Arduino-based sensor systems to monitor temperature, humidity and CO<sub>2</sub> levels in classrooms and analysed the relationship between environmental conditions and student well-being. The activity combined real-time data collection, statistical analysis and supervised use of artificial intelligence tools for data interpretation. This example illustrates how digitalisation was operationalised not merely as technical competence but as a research-based, interdisciplinary inquiry process linking technology, environmental awareness and critical reflection on data use.

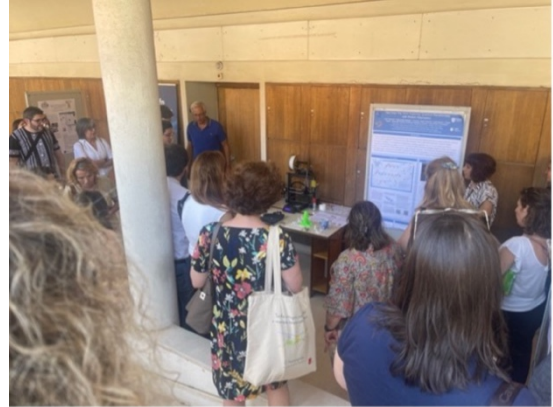


Figure 8 Portugal, Second Fair, digitalisation example

## Health: Science, Wellbeing and Societal Relevance

Health-related themes formed the third thematic cluster represented across fairs. These included nutrition, wellbeing and applied health-related inquiries. Health projects frequently combined scientific explanation with hands-on experimentation, allowing visitors to explore medical, nutritional or wellbeing-related questions in tangible ways. Health-related themes were operationalised through applied formats such as the dysphagia-focused molecular kitchen activities presented at both of the German fairs. Visitors conducted drip tests on thickened liquids and discussed nutritional and chemical aspects of swallowing disorders in collaboration with an enterprise partner. This example illustrates how health topics were positioned at the intersection of scientific knowledge, practical application and everyday relevance.



Figure 9 Germany Fairs, health examples

### Thematic Coherence and Local Adaptation

In all partner countries, the three thematic focus areas served as structuring principles rather than prescriptive content categories. The illustrative examples above demonstrate how these shared themes were translated into context-specific enquiries and engagement formats. Partners selected and combined themes based on local needs, existing activities, and partnership profiles. This resulted in different emphases across fairs. Interaction, exchange and visibility were central characteristics across all three thematic areas. Rather than producing distinct engagement logics, the themes provided a shared content architecture for presenting diverse Open Schooling projects. Thematic coherence at the project level coexisted with the pragmatic selection of locally available ac-

tivities. This balance between thematic coherence and contextual flexibility is analytically significant. It shows how a shared European framework can guide local implementation without enforcing uniformity. Thematic focus areas thus supported comparability at the project level while preserving responsiveness to local institutional and societal contexts.

Overall, the thematic focus of the local fairs demonstrates how WP4 contributed to integrating STEM engagement within wider societal discussions. By aligning the content of the fairs with the Green Deal, digitalisation and health, they positioned scientific learning and collaboration as socially situated practices connected to environmental, technological and health-related challenges. This thematic alignment with sustainability, digitalisation and health is consistent with the principles of Responsible Research and Innovation (RRI), which emphasise inclusion, societal relevance and responsiveness in science–education interfaces (European Commission, 2012; Owen et al., 2013).

Together, Chapters 4.1–4.3 provide an overview of how local fairs were positioned within WP4, the formats and settings used, and how thematic orientations were operationalised in different national contexts. This establishes a structural and thematic baseline for interpreting national variation. Chapter 5 builds on this foundation by analysing local fairs in greater depth, focusing on design decisions, observed networking dynamics, and implications for sustainability and transferability.

## 5. Local Fairs Across National Contexts

### 5.1 Design, Implementation and Embedding of Local Fairs

The local fairs held at the ICSE Science Factory were not conceived as standardised event formats to be replicated across countries. Instead, they were designed and implemented as context-sensitive instruments within the broader sequence of WP4 activities, following national kick-off meetings and conventions. Their form, scale and positioning reflect deliberate design decisions shaped by institutional landscapes, partnership constellations and practical constraints at a national level.

Across all five countries, the full national project partnerships jointly prepared and implemented fairs. Higher education institutions, teacher training providers, non-formal learning organisations and research centres joined forces, combining their complementary expertise and infrastructure to ensure that the fairs served as spaces for student presentations, stakeholder engagement and public visibility. Although the specific institutional roles varied between countries, the principle of national co-leadership and close coordination was a shared structural feature of all local fairs.

#### Stand-alone and Embedded Formats as Deliberate Design Choices

One of the most notable design differences between countries is the extent to which fairs are embedded within larger public or professional events. Two broad patterns emerge, which are not to be understood as hierarchical.

In Croatia and Cyprus, for example, fairs were primarily organised as stand-alone events hosted by higher education institutions and explicitly framed as local science or discovery days. These formats allowed for a clear focus on student projects and hands-on engagement, with participant numbers

ranging from 50 to 200. The relatively modest scale facilitated dense interaction between students, teachers, families and facilitators, but implied limitations in terms of geographic reach and audience diversity.

In contrast, in Germany, Portugal and Türkiye, fairs were deliberately incorporated into larger events such as well-established science competitions, public science days, municipal celebrations and international STEM conferences. In these cases, the fairs benefited from existing infrastructure, communication channels and visitor numbers. Participant numbers varied accordingly, ranging from around 100 at conference-based Portuguese fairs to over 1,000 visitors at German Science Days.



Figure 10 Türkiye, Second Fair

Communication and outreach strategies mirrored these format choices. Embedded fairs benefited from the communication infrastructures of their host events (e.g. conference websites and festival channels), whereas stand-alone fairs relied more strongly on targeted outreach through school and

institutional networks (e.g. direct emails and professional education networks). This suggests that the capacity for dissemination was shaped less by a uniform project communication model than by the communication ecosystems into which the fairs were integrated. However, these figures primarily reflect the embedding context rather than the intrinsic reach of the ICSE Science Factory activities themselves, meaning they are not comparable as indicators of impact.

The Turkish case clearly illustrates how embedding functions as a design variable rather than a fixed national characteristic. The first Turkish fair was integrated into an international STEM education conference, resulting in strong participation from researchers, enterprises, and policy-related actors, but comparatively limited involvement from schools due to the summer timing. The second fair, organised later as a stand-alone regional event, shifted the balance towards stronger school participation and more localised engagement, while retaining selected elements from the conference-based format. This contrast shows that embedding should be considered a strategic design variable rather than a fixed national trait. The Turkish example shows how the degree of integration into larger events can be adjusted in response to contextual learning, stakeholder composition, and participation dynamics. In this sense, embedding functions as an adaptive mechanism within the partnership strategy rather than as a structural constraint.

### Institutional Anchoring and Partnership Constellations

The design and implementation of fairs were closely linked to national institutional constellations. In all countries, universities or teacher education institutions acted as central anchors, providing venues, organisational capacity and academic legitimacy. At the same time, fairs were shaped by the active involvement of multiple national partners, each contributing specific resources and perspectives.

In **Germany**, for example, the joint work of the University of Education Freiburg, the University of Freiburg and the Schülerforschungszentrum Südwürttemberg enabled a broad activity profile that combined school-based open schooling projects, university-led workshops, non-formal learning activities and contributions from enterprises. This institutional breadth was particularly evident in embedded formats such as *Jugend forscht* and *Science Days*, where the ICSE Science Factory activities were interwoven with established public science programmes. The resulting diversity enhanced visibility and authenticity, but also increased organisational complexity, particularly in coordinating student participation and aligning schedules with school routines.

In **Cyprus** and **Croatia**, where partnership constellations were more compact and fairs were hosted primarily by higher education institutions, organisational processes were comparatively streamlined. Here, the institutional setting facilitated close collaboration between project partners and schools, as well as strong family involvement. However, opportunities for engagement with enterprises or policy actors were more limited and often depended on existing personal or institutional networks.

**Portugal** represents an intermediate configuration in which fairs were embedded in municipal and national STEM events. This setting enabled collaboration among universities, schools, and local authorities and supported strategic alignment with broader education initiatives while keeping organisational demands manageable.

## Activity Profiles and Modes of Participation

Despite differences in scale and embedding, fairs across countries shared a common emphasis on active participation. Students presented open schooling projects through posters, demonstrations and interactive explanations; lighthouse activities were implemented as workshops or challenges; and, in some cases, career talks or industry-led activities complemented the programme.

Nevertheless, the focus of activity profiles varied. Smaller, stand-alone fairs tended to prioritise hands-on stations and interaction between students and visitors, which often involved families and younger pupils. In contrast, larger embedded fairs allowed for a layered structure, combining student presentations with enterprise booths, workshops, career-oriented formats, and public science demonstrations. Germany and Türkiye exemplify this latter approach, in which visitors can move between student-led activities, institutional stands and industry contributions, resulting in a more diverse range of participation experiences. These differences again point to design choices shaped by context rather than deviations from a shared model. Fairs were not intended to offer identical experiences across countries, but to translate the core ideas of open schooling and cross-sectoral collaboration into locally meaningful formats.

## Interim Analytical Observations

Taken together, the design and implementation of local fairs demonstrate that format diversity is an analytical finding rather than a weakness. Stand-alone and embedded fairs each enabled different forms of engagement, visibility and partnership building, while imposing distinct constraints. The close collaboration among national project partners provided a stable organisational backbone across all contexts, allowing fairs to function as flexible interfaces among schools, higher education, non-formal learning environments, and external stakeholders. Subsequent sections examine how these design choices shaped observed networking effects and perceived value, as well as their implications for sustainability and transferability.

## 5.2 Networking Dynamics, Perceived Value and Structural Constraints

Across all countries, fairs functioned as temporary contact zones that brought together actors who do not routinely interact within formal education settings. At a minimum, this included students, teachers and higher education staff; in several contexts, enterprises, non-formal learning organisations, NGOs and public authorities were also present. Across countries, the visible presence of policy-related actors and “special guests” varied substantially and appeared contingent on national governance constellations and the embedding context of the event. In Türkiye, for instance, ministry-affiliated representatives and public coordinators were explicitly integrated into the fair environment, whereas in other countries the documented guest profile remained primarily academic and educational.

In stand-alone fairs (e.g. Croatia and Cyprus), networking primarily took place in direct, face-to-face interactions around student projects and hands-on activities. These encounters were typically characterised by extended conversations between students, teachers, families and facilitators, enabling

detailed explanations of project ideas and processes. Although the number of participants was limited, interaction density was high, and several organisers reported sending follow-up invitations to schools or receiving requests for continued collaboration.

In embedded fairs (e.g., Germany, Portugal, and Türkiye), networking occurred in more complex and heterogeneous environments. Here, ICSE Science Factory activities were interwoven with broader event programmes, leading to encounters with audiences that extended beyond the immediate project community. This setting enabled contact with enterprises, researchers from other institutions and policy-related actors, but also resulted in more fragmented interaction patterns, as visitors moved between multiple parallel activities. The German fairs illustrate this dynamic particularly clearly. Embedded within large-scale public science events, they enabled contact with a very broad audience, including families and representatives from non-formal learning institutions and enterprises. At the same time, organisers reported increased coordination demands and the need to actively mediate between different participation logics, ranging from short exploratory visits to more in-depth engagement with student projects.

### Perceived Value for Different Stakeholder Groups

Perceived value was articulated differently by stakeholder groups and varied with fair format and context. For students, fairs were widely described as opportunities for visibility, recognition and ownership. Presenting their work to audiences beyond their own classrooms, and in some cases receiving awards or informal recognition, was perceived as motivating, particularly for students from non-academic or vocational tracks. Across several contexts, students explicitly articulated this sense of ownership and relevance. At the first Croatian fair, one participant noted that open schooling projects allowed students to “work as scientists” and address “a useful problem” for their community. In Cyprus, students described hands-on activities as “not even feeling like a lesson,” emphasising the experiential and motivational dimension of participation. Such statements indicate that perceived value was closely linked to authenticity and public recognition rather than to content acquisition alone. These observations were reported most prominently in Croatia, Cyprus and Germany, but also appeared in smaller-scale settings where students interacted closely with visitors and facilitators.

For teachers, fairs were perceived as spaces for professional exchange and inspiration. In several countries, teachers reported gaining ideas for adapting open schooling or lighthouse activities to their own contexts, as well as valuing informal conversations with colleagues and higher education staff. In Portugal and Cyprus, this perceived value was closely linked to the opportunity to encounter student work developed outside one’s own school environment. This professional value dimension was reflected in teacher feedback. In Portugal, a visiting teacher suggested that the initiative should be “repeated in schools to motivate students towards science,” while another described cross-age interaction as “instructive and challenging.” In Cyprus, teachers expressed interest in inviting similar formats to their own institutions. These responses suggest that fairs operated not only as dissemination events but as professional learning encounters.

For external partners, including enterprises and non-formal learning organisations, fairs offered insight into school-based practices and student capabilities. In embedded formats, particularly in Ger-

many and Türkiye, organisers reported that enterprises valued the opportunity to engage with students in authentic settings, observe project-based work and explore potential future collaboration, even when immediate follow-up did not materialise. In Germany, organisers observed particular pride among students from vocational or intermediate-level schools when presenting to external audiences and receiving small awards. Recognition from enterprise partners and visitors appeared to reinforce students' perceived competence and social visibility. This suggests that perceived value for external stakeholders was intertwined with validation dynamics affecting students.

Career-oriented formats provide a useful illustration of how perceived value differed by design. In the first Turkish fair, career-related encounters took multiple forms, ranging from plenary-style inspirational talks to informal, booth-based exchanges. Two female members of a Women in STEM initiative, currently pursuing higher education in the United States, delivered conference talks focused on empowerment and future-oriented topics such as artificial intelligence. In parallel, a post-doctoral researcher presented her ongoing biomedical research at a booth, engaging visitors in direct conversation about scientific practice. The contrast between these two formats reveals two distinct forms of engagement within career orientation. The plenary-style talks operated primarily through symbolic visibility and collective inspiration, positioning role models within a formal conference setting. The booth-based biomedical exchange, by contrast, enabled situated, dialogic interaction in which visitors could ask detailed questions about research practice and career pathways. The contrast between these two formats reveals that career orientation within local fairs did not follow a uniform template but was shaped by the setting, audience composition, and event scale. Rather than representing a single activity type, career-related contributions functioned as adaptable interface formats that mediated among the educational, professional, and societal spheres.

### Constraints and Tensions

Alongside perceived value, organisers consistently reported constraints and tensions that shaped the scope and outcomes of fairs. A recurring issue concerned the mobilisation of schools and students, particularly regarding timing. In Cyprus and Türkiye, geographic distance or scheduling during holiday periods limited participation from some schools already involved in open schooling activities. Conversely, the second Turkish fair, held closer to the end of the school year, benefited from stronger school participation but required careful coordination with final academic obligations.

Organisational complexity emerged as a key tension in embedded formats. While integration into large events increased visibility and reduced some logistical burdens (e.g. venue provision, advertising), it also constrained programme flexibility and required alignment with external schedules and regulations. In Germany, for instance, coordinating student attendance at large public science events during school days required substantial preparatory work by teachers and organisers. Engagement with industry partners was described as uneven across contexts. In some cases, enterprises were highly visible and active contributors; in others, participation remained limited due to time constraints, competing priorities or uncertainty about appropriate roles within educational settings. These observations underline that cross-sectoral engagement cannot be assumed and often depends on existing relationships and carefully designed entry points.

Taken together, the observed networking effects and perceived value suggest that local fairs functioned as situated opportunities for encounter and exchange rather than as mechanisms producing uniform or measurable outcomes. The same design choices that enabled visibility and diversity of contacts also generated organisational tensions and uneven participation. These dynamics highlight the importance of understanding fairs not as isolated outputs, but as context-bound formats whose effects depend on timing, embedding and partnership constellations. The following section builds on these observations to examine implications for sustainability and transferability.

### 5.3 Implications for sustainability and transferability

The ten local fairs analysed in this report were conceived as time-bound public events situated at specific stages of the WP4 partnership development. Consequently, the sustainability of these initiatives cannot be evaluated through the lens of routine repetition or institutionalisation of a uniform format. Rather than functioning as recurring science festivals, the fairs operated as strategically positioned moments of interface between ongoing Open Schooling activities and broader public audiences.

Furthermore, national reflections consistently indicate that the design and implementation of such events necessitate a considerable coordination effort. The mobilisation of schools, the alignment of academic calendars, the organisation of transport and the assurance of industry participation have been shown to present considerable challenges across various contexts. The absence of dedicated plans to institutionalise the fairs as permanent formats should therefore not be interpreted as a lack of perceived value, but as recognition of their resource intensity. The contribution of the fairs to sustainability is less evident in terms of format continuity and more in the relational and organisational effects generated through their preparation and enactment.

#### Fairs as Cooperation Impulses and Interface Formats

Across countries, local fairs primarily functioned as catalytic interface formats within broader partnership development. Their value did not depend on repetition as standalone events, but on their capacity to increase visibility, accelerate interaction and consolidate emerging collaborations.

In several contexts, follow-up steps extended beyond symbolic exchange. In Cyprus, participating schools invited the project team to conduct in-class STEM activities shortly after the fair and extended cooperation through participation in a summer school. In Türkiye, companies initiated pilot collaborations on mentoring sessions and resource co-development, while other stakeholders offered to adapt digital learning tools for use in Lighthouse activities. Contacts established during Science Days in Germany have created possibilities for cooperation with external scientific institutions.

These examples indicate that fairs operated as cooperation impulses that strengthened and redirected ongoing partnership development. While the event format itself was not designed for routine continuation, collaboration processes initiated or intensified through the fairs continued beyond the one-day setting. In this sense, sustainability is better understood as relational and process-oriented than as the persistence of a specific event type.

In addition to direct follow-up activities, several national teams made use of the fairs through targeted dissemination strategies, including social media documentation and video content, and in some cases, press coverage. This increased visibility of Open Schooling activities extended beyond the event itself and contributed to the consolidation of its reputation within local ecosystems. Therefore, sustainability also operated through mediated visibility, not solely through organisational continuation.

### Embedding and Institutional Anchoring

A second set of implications concerns the relationship between format design and institutional anchoring. Embedded fairs integrated into established public events, conferences or competitions reduced organisational thresholds by drawing on existing infrastructures, audiences and communication channels. This strategy was particularly visible in Germany, Portugal and Türkiye, where integration into larger events amplified reach while distributing organisational demands.

However, embedding did not eliminate structural constraints. Industry participation required targeted engagement strategies and flexible participation formats, as time constraints repeatedly limited sustained involvement.

Stand-alone fairs in Croatia and Cyprus fostered strong local ownership and dense interaction, but relied more heavily on the hosting institutions' mobilisation capacity and logistical coordination. Reflections from several countries highlighted challenges related to school calendars, transport and last-minute changes, indicating that stand-alone formats require concentrated organisational effort.



Figure 11 Cyprus, First Fair

Neither approach guarantees sustainability. Rather, they illustrate different pathways of anchoring: integration into existing ecosystems versus consolidation within locally rooted partnership constellations. The Turkish case, in which a conference-based fair was followed by a regionally focused stand-alone fair, demonstrates how formats can be sequenced and adapted in response to contextual learning and capacity considerations.

## Transferability through Context-Sensitive Design

The diversity of fair formats across countries limits the scope for direct replication. Transferability does not lie in reproducing scale, duration or embedding configurations. Instead, the analysis points to several design sensitivities that may inform similar initiatives:

1. Shared organisational responsibility across national partners created stability while allowing flexibility in implementation.
2. Alignment with institutional calendars, infrastructures and stakeholder priorities strongly shaped participation and feasibility.
3. The combination of student-led presentations with interactive engagement formats consistently generated visibility and dialogue across contexts.

Beyond these design features, the fairs played a distinct role within the partnership structure. They contributed to recognition and cross-sector interaction and significantly amplified the visibility of distributed project formats, including Open Schooling activities, Lighthouse Activities and Career Talks. By bringing these activities together in a shared public setting, the fairs strengthened existing connections and increased their perceived coherence within local partnership contexts. From this perspective, the value of such events lies less in their frequency and more in their capacity to concentrate and showcase distributed work. Therefore, a limited number of strategically positioned public formats may strengthen connections within local partnerships without requiring permanent institutionalisation of the event format.

These observations do not constitute causal claims. Rather, they suggest that transferability depends less on copying formats and more on recognising when concentrated public interface moments can reinforce and make visible activities that are already taking place within local structural conditions.

Taken together, the local fairs contributed to sustainability by strengthening cooperation structures, expanding collaborative practices and increasing the public visibility of Open Schooling activities within national contexts. Their organisational and resource demands indicate that they are not designed as routine operational formats. Rather, their strategic role lies in functioning as episodic public moments within ongoing partnership development, where ongoing work becomes concentrated, visible and connected across sectors. From this perspective, variability between fairs is not a weakness but reflects adaptation to local conditions. Cross-sectoral engagement can be configured differently while remaining aligned with the ICSE Science Factory's overarching aims.

## 5.4 Cross-Country Synthesis: Key Patterns and Contrasts

The preceding sections have examined local fairs through three analytical lenses: design and embedding (5.1), observed networking dynamics and perceived value (5.2), and plausible implications for sustainability and transferability (5.3). This section consolidates these perspectives to identify recurring cross-country configurations and structurally relevant contrasts. The aim is not to introduce additional empirical material, but rather to highlight the patterns that emerge when national cases are examined in a comparative context.

### Embedding as a Structural Design Variable

A first cross-country pattern concerns the degree to which local fairs are embedded within larger events. Across contexts, embedding functioned less as a fixed national characteristic and more as a strategic design variable. Stand-alone fairs (e.g., Croatia, Cyprus) enabled concentrated interaction, high communicative density, and strong local ownership, albeit with limited reach. Embedded fairs (e.g., Germany, Portugal, Türkiye) expanded audience diversity and visibility by integrating into established science festivals, conferences, or competitions, while simultaneously increasing organisational complexity and fragmenting interaction patterns. The Turkish sequence, first a conference-embedded fair, later a regionally focused stand-alone fair, illustrates that embedding is not a structural constraint but an adaptive instrument. The shift between formats reflects contextual calibration rather than conceptual inconsistency. A further structural variable concerns temporal alignment with school calendars. Across several national reports, participation intensity and stakeholder composition were influenced by the proximity of fairs to examination periods or holiday phases. Timing thus operated not merely as a logistical parameter but as a design condition shaping participation patterns and the balance between school-based and external engagement.

### Interaction Logics and Participation Patterns

A second cross-country contrast concerns the structure of interactions. Smaller, standalone fairs tended to prioritise dialogue and sustained exchanges around student projects. In contrast, larger, embedded formats created multi-layered participation environments in which short exploratory encounters coexisted with more in-depth conversations. These differences do not indicate variation in conceptual alignment; however, they demonstrate how participation density, audience heterogeneity, and spatial configuration shape the character of networking effects. From a communities-of-practice perspective (Wenger, 1998; Wenger-Trayner & Wenger-Trayner, 2015), local fairs can be interpreted as boundary encounters that temporarily increase participation and make shared repertoires publicly visible. Career-oriented elements provide a particularly clear illustration of this: plenary-style role-model talks and booth-based research exchanges enabled distinct forms of engagement, such as symbolic visibility in a collective setting versus situated, dialogic interaction in smaller groups. The coexistence of such formats reflects deliberate design choices rather than inconsistency.

## Partnership Constellations and Institutional Anchoring

Across all countries, fairs were prepared and implemented through our project's collaborative national constellations. Universities and teacher education institutions served as organisational anchors, while schools, enterprises, and non-formal actors contributed complementary expertise.

Variation emerged primarily in the conditions and scope of external stakeholder engagement rather than in its strategic importance. Across all countries, both the consolidation of existing partnerships and the extension of networks were explicit objectives of the fairs. Embedded formats tended to provide access to broader and more heterogeneous audiences due to their integration into established public or professional events. Stand-alone fairs, in contrast, often enabled more concentrated interaction within already active partnership ecosystems while simultaneously creating opportunities for targeted outreach. These differences, therefore, reflect contextual conditions of visibility and audience composition rather than fundamentally distinct partnership strategies. In all cases, fairs functioned as interfaces for both reinforcing existing collaboration structures and exploring new connections.

## Sustainability and Transferability as Context-Sensitive Processes

Finally, the cross-country comparison supports the argument put forward in Section 5.3 that sustainability cannot be equated with the repetition of identical event formats. Instead, fairs functioned as episodic public moments within ongoing partnership development. They intensified visibility and interaction without being designed as recurring institutional formats. Their long-term relevance depended on follow-up interactions, institutional commitment, and alignment with local infrastructure, rather than on the persistence of the fair format itself. Accordingly, transferability lies less in replicating visible features such as scale, embedding and programme structure, and more in adapting core design sensitivities such as collaborative preparation across sectors, alignment with existing calendars and infrastructures, and the consistent integration of student-led, interactive elements.

Overall, the cross-country evidence suggests that format diversity is a fundamental aspect of the ICSE Science Factory approach. Variability between fairs reflects contextual responsiveness within a shared conceptual framework. From this perspective, the ten local fairs should not be viewed as attempts to implement a single standardised model, but instead as distinct enactments of open schooling principles within their respective partnership ecosystems. This variability does not indicate fragmentation, but demonstrates how cross-sectoral interface formats can be calibrated to local structural conditions while maintaining strategic coherence at the project level.

## 6. Sustainability Pathways in Local Partnership Ecosystems

The sustainability of local fairs within the ICSE Science Factory cannot be assessed based on the continued repetition of the same event formats. Rather than constituting standalone institutional structures, fairs functioned as time-limited public formats within broader partnership contexts. Sustainability therefore relates less to repeating the event itself and more to whether the collaboration practices, relationships and coordination routines developed around the fairs continued beyond the project phase. This section contextualises the fair format within the national sustainability strategies developed under Work Package 4 (WP4) and identifies implications for the longer-term development of cross-sectoral partnerships.

### 6.1 Strengthening and Extending Partnership Networks

- National sustainability strategies developed within WP4 primarily focused on strengthening cross-sectoral cooperation structures, expanding Open Schooling activities and identifying pathways for continued collaboration beyond the project duration. Across countries, local fairs were positioned within these strategies as networking interfaces rather than as autonomous formats requiring institutionalisation.

In this context, fairs contributed to sustainability in three relational ways:

#### 1. Reinforcement of existing partnerships.

The collaborative preparation and implementation of fairs required coordination between universities, schools, enterprises and non-formal learning organisations. These coordination routines, task division, shared moderation, and joint communication constitute transferable partnership practices that can persist beyond the specific event.

#### 2. Expansion of stakeholder constellations.

Particularly in embedded formats, fairs enabled contact with actors outside the immediate project network, including science institutions, enterprises and local authorities. National sustainability documents indicate that such contacts were considered potential starting points for follow-up cooperation, even where no formal agreements were concluded during the project period. However, national reflections also indicate that sustained industry engagement required targeted and flexible participation formats, as time constraints repeatedly limited continuous involvement.

#### 3. Increased visibility of partnership work.

By making collaborative activities publicly visible, fairs contributed to strengthening the recognition of cross-sectoral cooperation within local educational landscapes. While this visibility does not guarantee continuation, it does strengthen the legitimacy of partnership-based approaches within participating institutions. These relational dimensions align with the broader WP4 assumption that the sustainability of STEM engagement depends on stable cooperation structures rather than individual activity formats. The strengthened cooperation structures have already extended beyond the for-

mal project framework. Building on the established Community of Practice and cross-country collaboration routines, partners have initiated further joint professional development formats, including additional “1h4teachers” online sessions addressing international classroom cooperation, Career Talks and the pedagogical use of digital tools developed within the project. The continuation of such formats beyond the project duration illustrates how relational consolidation can translate into sustained teacher engagement and ongoing collaboration.

## 6.2 Institutional anchoring pathways

National sustainability strategies reveal different ways in which partnership work can continue, even when local fairs are not held annually.

In some contexts, sustainability is pursued by integrating it into existing institutional formats, such as established science festivals, municipal education events, or conference structures. Embedded fairs have demonstrated that integration into existing infrastructures reduces organisational thresholds and facilitates recurring participation within broader ecosystems. National reflections further indicate that temporal positioning within the academic year significantly affected participation intensity. Fairs organised close to examination periods or holiday phases required increased coordination efforts, whereas alignment with active teaching phases facilitated school engagement. Timing thus emerges as a structural anchoring variable rather than a purely logistical parameter.

In other contexts, sustainability is linked to locally rooted cooperation structures, such as teacher networks, regional STEM initiatives, and newly formed collaboration platforms. Here, fairs served as milestones within ongoing partnership developments rather than recurring flagship events. In some cases, reflections indicate that regional concentration of partner institutions and participating schools facilitated coordination and follow-up engagement. This suggests that partnership density and institutional proximity can function as stabilising conditions within local ecosystems. Importantly, no country reported a dedicated strategy aimed at making the fair format itself a permanent structure with secured annual funding. Instead, sustainability planning concentrated on:

- continuation of Open Schooling projects,
- teacher professional development formats,
- mentoring and networking structures,
- and the integration of activities into institutional mandates.

This reinforces the interpretation put forward in Chapter 5 that local fairs should be understood as catalytic elements within evolving ecosystems, rather than as ends in themselves.

## 6.3 Financial Anchoring within Existing Infrastructures

Financial sustainability discussions within WP4 did not focus on establishing the local fair format as a recurring, independently funded event structure. Instead, national sustainability strategies focused on continuing selected educational activities and partnership routines rather than institutionalising the fair format itself. National reflections repeatedly emphasised the organisational effort required to plan and implement local fairs. This included coordination with schools, alignment with academic calendars, transport logistics, communication with families, and targeted engagement of industry partners, all of which required concentrated resources within a limited time frame. In several contexts, industry actors expressed interest but were limited in their ability to commit to sustained involvement due to time constraints. These structural conditions suggest that the fair format requires substantial coordination capacity and institutional commitment. Against this background, the absence of dedicated financial continuation models for the fair format should not be interpreted as a lack of perceived value. Rather, it reflects a strategic choice to embed educational practices and cooperation structures within existing institutional mandates instead of institutionalising the event format itself. Where fairs were embedded in established science festivals, conferences or municipal initiatives, financial feasibility relied on shared infrastructure, communication channels and arrangements with the host event. This approach drew on existing venues, audiences and communication structures, reducing the need to develop separate infrastructure from scratch. In stand-alone contexts, however, resource mobilisation relied more heavily on institutional commitment and partner contributions, meaning that repetition depended on locally available capacity.

This pattern clarifies the role of fairs within WP4. They operated as catalytic moments within partnership development rather than as financially autonomous units requiring separate long-term budgets. Financial sustainability was therefore primarily pursued by continuing selected educational formats and partnership activities, particularly Lighthouse Activities, Career Talks, teacher training formats, mentoring structures and network development, which were strengthened or made visible through the fairs. In some contexts, elements of Open Schooling continued, albeit without higher education institutions assuming a permanent coordinating role.

## 7. Conclusions and Outlook

### 7.1 Key insights

The ten local fairs show that cross-sectoral partnership formats in open schooling cannot be standardised without losing sensitivity to local conditions. Instead of converging towards a single model, implementation diversified across countries while remaining aligned with shared conceptual principles. In each context, the fairs functioned as time-limited public events. They created concentrated spaces of interaction in which collaboration became publicly visible and open to negotiation across institutional boundaries. Their relevance did not depend on scale or spectacle, but on their capacity to connect actors who do not routinely interact within formal education systems. At the same time, national reflections consistently emphasised the considerable coordination effort required for planning and implementation. Mobilising schools, aligning academic calendars, organising transport, and securing industry participation demanded concentrated institutional capacity within limited time frames. These constraints indicate that such interface formats are structurally demanding and

context sensitive. This resource intensity limits their suitability as routine or large-scale operational formats. Interface events of this type require concentrated coordination capacity and cannot be treated as easily scalable instruments within education systems.

Embedding proved to be a strategic governance variable rather than a mere logistical decision. Whether implemented as stand-alone events or integrated into larger science festivals, conferences or competitions, fairs reflected calibration to institutional infrastructures, professional networks and opportunities for public visibility. Format diversity, therefore, signals adaptive governance within shared conceptual parameters. Importantly, in several contexts, the fairs initiated or accelerated follow-up cooperation beyond the one-day setting. These included school-based activities, mentoring collaborations, participation in subsequent events and exploratory industry partnerships. Thus, the longer-term relevance of the fairs did not depend on format repetition, but on consolidating relationships and anchoring cooperation within ongoing partnership development. Within the temporal scope of a three-year project framework, these developments indicate plausible continuation pathways rather than fully institutionalised structures. Taken together, the cross-country evidence suggests that structural variability is not a weakness to be corrected, but a normal feature of context-sensitive open schooling collaboration.

## 7.2 Implications for policy and practice

At policy and institutional levels, the findings highlight three considerations relevant to the coordination of cross-sectoral open schooling partnerships. These considerations align with the idea of education systems as interconnected ecosystems that require cross-sectoral coordination, distributed implementation capacity and alignment with existing institutional infrastructures (OECD, 2018).

**Firstly**, cross-sectoral collaboration benefits from strategically positioned, high-visibility interface formats that are institutionally anchored yet operationally flexible. Such formats do not function primarily as recurring events, but as episodic consolidation moments within broader partnership development. Rather than funding isolated stand-alone events, governance frameworks may prioritise coordination approaches that strengthen and make visible activities already taking place across sectors.

**Secondly**, universities and teacher education institutions acted as conceptual and institutional anchors within partnership constellations. Their organisational capacity and institutional legitimacy enabled cooperation with schools, enterprises and civil society actors. However, national reflections indicate that sustained implementation depends on shared ownership and distributed capacity within local ecosystems. Industry engagement, in particular, required flexible participation models and targeted coordination. Expressions of interest from private-sector actors did not automatically translate into sustained involvement, as time constraints and differing organisational logics repeatedly limited continuous participation. Long-term partnership development, therefore, depends on shared responsibility rather than centralised coordination.

**Thirdly**, embedding within existing science festivals, conferences or competitions emerged as a resource-aware strategy. Integration into established infrastructures allowed visibility gains without

constructing parallel organisational systems. At the same time, embedded formats did not eliminate coordination demands, but redistributed them across existing structures.

Overall, these implications suggest that sustainable open schooling ecosystems depend less on permanent funding of specific event formats and more on institutional integration, governance alignment and relational durability across sectors.

### 7.3 Outlook: Ecosystem Continuation and Adaptive Transfer

Continuation pathways are structurally conditioned by regional partnership density, institutional integration and alignment with recurring public or professional events. In some contexts, regional clustering of partner institutions and schools facilitated coordination and follow-up engagement, suggesting that geographic proximity can stabilise ecosystem development.

Transferability does not lie in reproducing visible features such as duration, programme structure or scale. Instead, it depends on adapting core design principles, including cross-sectoral preparation, student-centred participation, strategic embedding and alignment with institutional calendars and resource landscapes. The ICSE Science Factory experience, therefore, supports a context-sensitive understanding of open schooling partnership instruments. Local fairs should not be viewed as replicable event templates, but as adaptive interface mechanisms that can be recalibrated to diverse educational and institutional conditions. Variability is not a transitional phase towards standardisation, but an inherent characteristic of cross-sectoral collaboration in diverse contexts.

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## 9. Annexes

### Annex A: ICSE Science Factory Fair National Reports

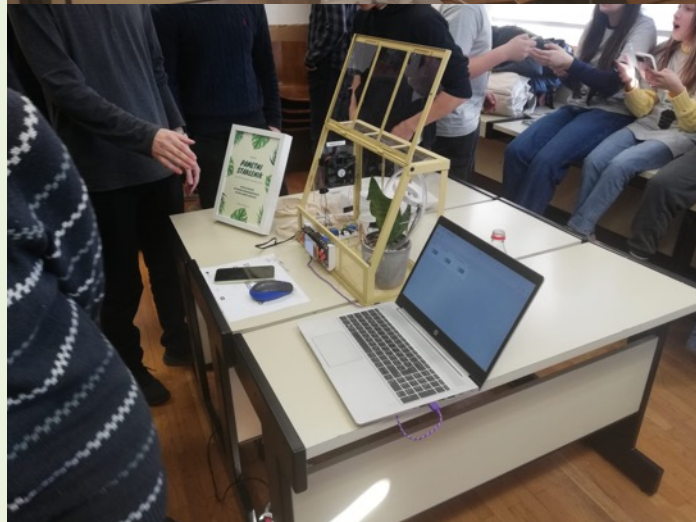
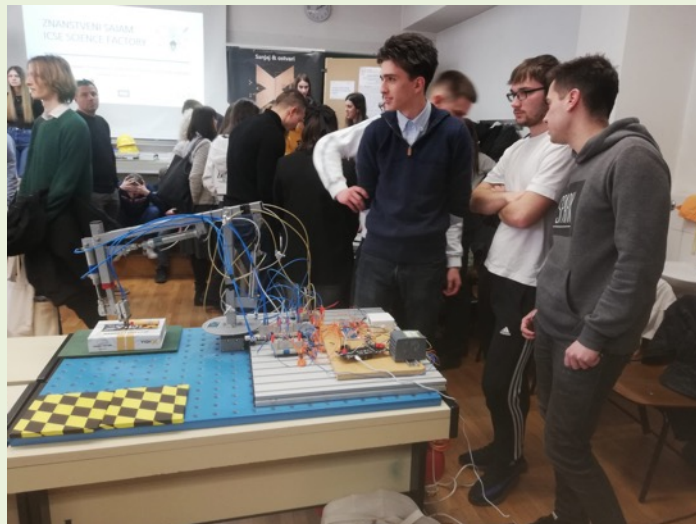
#### First Fair Reports

#### Country: Croatia

<b>Topic</b>	Presentation of open schooling projects in STEM
<b>Type of fair</b> (was the fair virtual, hybrid or in person; stand-alone or part of a larger fair)	In person, stand-alone
<b>Date of fair</b>	20th of February, 2025
<b>Duration</b> (number of hours or days)	3 hours
<b>Advertising</b> (list the modes and describe campaign)	<p>Advertise on official web page, printed posters (below).</p> 
<b>Participants</b> (project and non-project, no names are required only roles/institution/business they represent)	<p><b>Participants from the project:</b> Faculty of Science, Faculty of Electrical Engineering and Computing, Croatian Mathematical Society, VID I</p> <p><b>Participants beyond the project:</b> teachers and students from participating schools</p>
<b>How were the different project partners presented?</b> Please describe. (posters, stands on fair, plenary session, career talks, interactive activity, challenge,	<p><b>Presentation of supported open schooling:</b> Posters, stands, presentations, knowledge/research exchange</p> <p><b>Presentation of Lighthouse Activities/Real-life problem-solving:</b> Incorporated in some open schooling projects</p> <p><b>Presentation of career talks:</b></p>

<p>knowledge/research exchange, co-creation activities, etc.)</p>	<p>Incorporated in some open schooling projects  <b>Presentation of partners from Science:</b>          Incorporated in some open schooling projects  <b>Presentation of partners from Enterprises:</b>          Company VIDI organized a special category of projects  <b>Presentation of partners from non-formal learning institutions:</b>  <b>Presentation of partners from community institutions:</b></p>
<p><b>Description of special (award) ceremony</b> (if any – please provide programme).</p>	<p>After all the (17) presentations of the open schooling projects, a meeting was held to discuss to whom will the prizes go. There were eight categories to award, best project in the following categories: sustainability, health, digitalization, elementary school students, high school students, technical implementation, code, presentation.</p>
<p><b>Programme of the fair</b></p>	<p><b>14:00</b> - Registration of participants and setting up posters and materials in hall  <b>14:30</b> - Project presentations with PowerPoint materials  <b>15:30</b> - Project presentations with posters and demonstrations of VIDI X projects  <b>16:15</b> - Announcement of awarded projects  <b>16:45</b> - Socializing with snacks</p>
<p><b>Special guests who attended</b> (such as ministry officials, artists etc. please include details of position/role)</p>	<p>Prof. Mirko Planinić, dean of Faculty of Science; Prof. Luka Grubišić, head of Mathematics Department of Faculty of Science</p>
<p><b>Photos and testimonials</b> (these may include quotations from interviews or from feedback provided by participants. Please obtain permissions for any photos you include).</p>	







“We like these projects because students can express their ideas and ultimately show their maximum creativity and innovation, which is often difficult and complex in the regular education system.”

“This project is extremely useful for schools because it connects teachers of STEM fields, gives students an insight into how science is connected and how mathematics and other sciences are applied in real life.”

“The students worked on a useful problem, they felt like they were contributing to the community with their solutions that they offered, so they worked as scientists, and this is completely different from how they usually work in school.”

“This concept of open education is a good opportunity for the students for the future because they have mastered all the

	<p>phases of project learning, which remains with them permanently, and it is relevant because students who are oriented towards science will certainly work on a project one day.”</p>
<p><b>Dissemination/Media coverage of the event</b> (please include details including screenshots, links or photos if available)</p>	<p>The fair was video recorded from which we will make a short video presentation for dissemination (in progress). An article for the press media will be published (in progress). For all the participant who presented their open schooling projects, a diploma, bag and t-shirt were provided (below).</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="text-align: right; margin-top: 20px;">  <p><b>POTVRDA</b></p> <p>za sudjelovanje u aktivnostima OTVORENOG ŠKOLOVANJA i prvog ZNANSTVENOG SAJMA u sklopu projekta IOSE Science Factory pod vodstvom Prirodoslovno-matematičkog fakulteta Sveučilišta u Zagrebu.</p> <p>U Zagrebu, 20. veljače 2025.</p> <p><i>Matija Bašić</i> doc. dr. sc. Matija Bašić voditelj projekta</p>  </div>
<p><b>Progress in setting up a sustainable cross-sectoral partnership</b></p>	<p>We have collaborated with a company VID. The dissemination will encourage other schools, companies and experts to join the new round of open schooling activities.</p>
<p><b>Reflections and Lessons Learned</b></p> <ul style="list-style-type: none"> <li>• What worked well</li> <li>• Challenges encountered</li> <li>• Suggestions for improvement</li> </ul>	<p>The presentations of all teams were well prepared and at a high level of quality. Some projects had extraordinary outputs and have engaged students in interdisciplinary learning.</p> <p>It was a first science fair organized by the project team, so we were not sure how to make certain decisions about the program</p>

	<p>as the teams arrived from different parts of the country and travelled on the day of the fair. We have learned that all projects need to have a dedicated time and should be validated, for example mentioned in the final part of the fair.</p> <p>We also think that the number of teams was almost maximal for our capacities as no one in the project team is a professional event manager, but academics and professionals working in STEM. We will still need more time to reflect would it be better to organize to fairs with smaller number of teams – in both cases there are organizational challenges.</p>
<b>Other</b> (anything you wish to share which is not covered in the above points)	The fair was held at the Faculty of Science, Department of Mathematics. About 200 people attended the fair.

## Country: Cyprus

Topic/Motto	Science for Everyone: A Day of Science & Discovery!
Type of fair (was the fair virtual, hybrid or in person; stand-alone or part of a larger fair?)	The fair was in-person and stand-alone, as it was an open day at the university organized specifically for students, parents and teachers. It was not part of a larger fair, but rather a dedicated event that took advantage of a public holiday for schools in Cyprus to maximize participation.
Date of fair	30 January
Duration (number of hours or days)	1 day/ 15:00-19:00
Advertising (list the modes and describe campaign)	<ul style="list-style-type: none"> <li>• Cyprus Pedagogical Institute networks</li> <li>• Direct email invitations were sent.</li> <li>• Educators and organizers shared information within their professional and academic circles.</li> <li>• Social Media posts</li> </ul>
Participants (project and non-project, no names are required only roles/institution/business they represent)	<p>Participants from the project:</p> <ul style="list-style-type: none"> <li>• CPI members as a project partner</li> <li>• Teachers participating in the activities</li> </ul> <p>Participants beyond the project:</p> <ul style="list-style-type: none"> <li>• Scientists from UNIC Health Department</li> </ul>
How were the different project partners presented? Please describe. (posters, stands on fair, plenary session, career talks, interactive activity, challenge,	<p>The different project partners were actively engaged through various interactive and participatory formats, ensuring a dynamic and engaging experience for students and parents. Their presence was integrated into the event as follows:</p> <ol style="list-style-type: none"> <li>1. <b>Interactive Activities &amp; Challenges</b></li> </ol>

<p>knowledge/research exchange, co-creation activities, etc.)</p>	<ul style="list-style-type: none"> <li>○ Cyprus Pedagogical Institute facilitated the Balloon Rocket Challenge at Station 1, where students built rockets and participated in a friendly competition.</li> <li>○ The University of Nicosia (UNIC) Department of Health participated in Station 2 (Biology Lab), where two female biologists led hands-on experiments, likely including DNA extraction and discussions on human genetic variation.</li> <li>○ The Spaghetti Tower Challenge (Station 3) allowed participants to engage in a structural engineering task, fostering teamwork and problem-solving skills.</li> </ul> <p><b>2. Demonstrations &amp; Hands-On Technology</b></p> <ul style="list-style-type: none"> <li>○ A 3D Printing Station (Station 4) showcased cutting-edge technology, allowing participants to explore how 3D modeling and printing work in STEM fields.</li> </ul> <p><b>3. Co-Creation &amp; Knowledge Exchange</b></p> <ul style="list-style-type: none"> <li>○ Light, Shadows &amp; Perception (Station 5) encouraged students to explore the intersection of science with art and creativity.</li> </ul> <p><b>4. Engagement with Scientists &amp; Experts</b></p> <ul style="list-style-type: none"> <li>○ The presence of scientists, educators, and university researchers provided opportunities for direct interaction, allowing students and parents to ask questions, discuss scientific topics, and gain insight into potential STEM careers.</li> </ul>
<p>Description of special (award) ceremony (if any – please provide programme).</p>	<ul style="list-style-type: none"> <li>● <b>Balloon Rocket Challenge:</b> The students with the fastest rocket received a small prize.</li> <li>● <b>Certificates of Participation:</b> Given to all students as recognition of their involvement with a small gift from the university.</li> </ul>
<p>Programme of the fair</p>	<p><b>Programme of the Science Fair</b></p> <p><b>Location:</b> University Campus</p> <p><b>Date:</b> 30 January (Schools Closed)</p> <p><b>Time:</b> 15:00-19:00</p> <ul style="list-style-type: none"> <li>● <b>Opening Session</b></li> </ul> <p><b>Welcome &amp; Introduction</b></p> <ul style="list-style-type: none"> <li>● Brief welcome by organizers and university representatives.</li> <li>● Overview of the Science Fair and its interactive stations.</li> </ul>

	<p><b>Hands-On Science Stations (Rotating Sessions)</b> Participants rotated among <b>five interactive science stations</b>, engaging in hands-on experiments and challenges.</p> <p><b>Balloon Rocket Challenge</b> (Cyprus Pedagogical Institute)</p> <ul style="list-style-type: none"> <li>• Students built and raced balloon-powered rockets.</li> <li>• The fastest rocket received an award.</li> </ul> <p><b>Biology Lab Experiments</b> (UNIC Department of Health)</p> <ul style="list-style-type: none"> <li>• DNA extraction from bananas.</li> <li>• Exploration of human genetic variations (e.g., missing muscles).</li> <li>• Discussion with two female biologists.</li> </ul> <p><b>Spaghetti Tower Challenge</b></p> <ul style="list-style-type: none"> <li>• Students used spaghetti and marshmallows to build the tallest and most stable structure.</li> <li>• Focus on engineering and teamwork.</li> </ul> <p><b>3D Printing Exploration</b></p> <ul style="list-style-type: none"> <li>• Demonstration of 3D printing technology.</li> <li>• Discussion on real-world applications in STEM.</li> </ul> <p><b>Light, Shadows &amp; Perception</b></p> <ul style="list-style-type: none"> <li>• Understand how light and shadows affect perception.</li> <li>• Explore how the same image or shadow can be interpreted in multiple ways.</li> <li>• Connect science with creativity, imagination, and storytelling.</li> <li>• <b>Award Ceremony &amp; Closing Session</b></li> </ul> <p><b>Special Award Ceremony</b></p> <ul style="list-style-type: none"> <li>• Recognition of students' participation.</li> <li>• Awards for fastest rocket, tallest spaghetti tower, and most creative shadow theater.</li> <li>• Closing remarks from organizers and scientists.</li> <li>• <b>End of the Science Fair</b></li> </ul>
<p>Special guests who attended (such as ministry officials, artists etc. please include details of position/role)</p>	<p>No special guests</p>
<p>Photos and testimonials (these may include quotations from interviews or from feedback provided by participants. Please obtain permissions for any photos you include).</p>	<p><b>Participant Feedback &amp; Testimonials</b> During the event, researchers from the program approached students, parents, and teachers to gather feedback about their experience. The responses were overwhelmingly positive, reflecting enthusiasm for hands-on science learning.</p> <p><b>Student</b> <span style="float: right;"><b>Feedback:</b></span></p> <p><i>"I never knew science could be this fun! I wish we had activities like this at school. it would make learning so much more exciting."</i></p> <p><i>"Building a rocket and racing it was amazing! I learned how air makes it move, and I didn't even feel like I was in a lesson."</i></p>

**Parent**

**Feedback:**

*"It was great to see my child so engaged in science. Instead of spending the day at home, we had a constructive experience at the university, working with real scientists!"*

*"The fact that we could actively participate in the activities as parents made it even more special. It felt like we were learning together."*

*"Visiting a real lab was the highlight of my day. Seeing where scientists work and experiment was an eye-opening experience for both me and my child."*

**Teacher**

**Feedback:**

*"We were so impressed by the event that we would love to invite you to our school for a similar experience. This is exactly the kind of engagement students need!"*

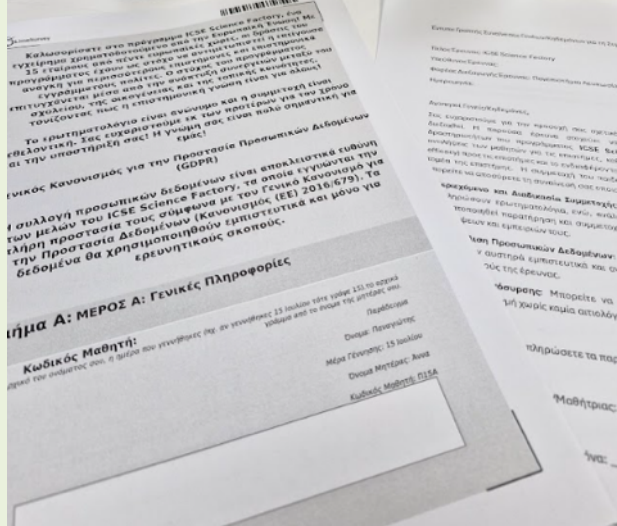
**Overall**

**Atmosphere:**

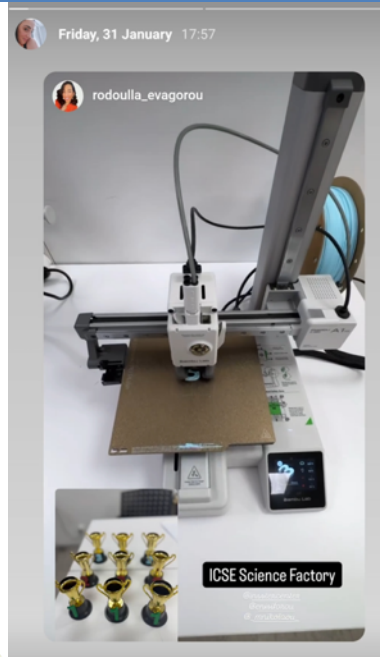
The event was filled with enthusiasm and curiosity, and everyone was pleased with the experience. Many participants expressed their excitement about science and the value of interactive learning.







Dissemination/Media coverage of the event (please include details including screenshots, links or photos if available)




**Μαρία Evagorou**  
31 Ιαν · 🌐

Ευχαριστούμε τα παιδιά και τους γονείς του Α' Δημοτικού Σχολείου Μακεδονίτισσας που μας επισκέφθηκαν στο UNIC τη μέρα των γραμμάτων για ένα απόγευμα γεμάτο επιστήμη και τεχνολογία! Because STEM rocks! [Insster UNIC Department of Education - Τμήμα Παιδαγωγικών Σπουδών Myrtani Pieri Γιώργος ΤσαλακόςEfi A. Ni...](#) Δείτε περισσότερα

📌 Ο χρήστης **Σύνδεσμος Γονέων Α' Δημοτικού Σχολείου Μακεδονίτισσας** είναι με τους **Insster Research Center** και **University of Nicosia**. [Ακολουθήστε](#)  
31 Ιαν · 🌐

Ένα δημιουργικό απόγευμα απόλαυσαν τα παιδιά μας με δραστηριότητες STEAM!!! Ιδιαίτερες ευχαριστίες στο [University](#) ... Δείτε περισσότερα




 Ο χρήστης **Σύνδεσμος Γονέων Α' Δημοτικού Σχολείου Μακεδονίτισσας** είναι με τους **Insster Research Center** και **University of Nicosia**.  
 31 Ιαν · 🌐

Ένα δημιουργικό απόγευμα απόλαυσαν τα παιδιά μας με δραστηριότητες STEAM!!! Ιδιαίτερες ευχαριστίες στο **University of Nicosia** και το **Insster research center**



Progress in setting up a sustainable cross-sectoral partnership

The Science Fair not only provided a hands-on learning experience for students and parents but also **strengthened cross-sectoral collaborations** between educational institutions, researchers, and schools. As a result of the event's success, new opportunities for long-term partnerships have emerged:

**1. School Visit Invitation – February 24th**

- Following the positive reception of the activities, teachers invited the ICSE Science Factory team to visit their school on February 24th.
- This visit will allow us to bring similar interactive STEM activities directly into the classroom, further promoting hands-on science learning in formal education settings.

**2. Participation in Summer School – June 2025**

- The ICSE Science Factory has also been invited to participate in a summer school in June, extending our engagement beyond the Science Fair.
- This collaboration will provide students with an extended opportunity to explore science in an informal learning environment, reinforcing key STEM concepts in a fun and engaging way.

**Impact on Cross-Sectoral Collaboration**

- The invitations to schools and summer programs demonstrate the growing interest in integrating interactive science activities into educational settings.
- The partnership between ICSE Science Factory, universities, schools, and parents is evolving into a more sustainable and long-term collaboration.

	<ul style="list-style-type: none"> <li>This initiative aligns with ICSE Science Factory’s mission to bridge formal and informal learning environments, ensuring continued student engagement with STEM beyond one-day events.</li> </ul>
<p>Reflections and Lessons Learned</p> <ul style="list-style-type: none"> <li>What worked well</li> <li>Challenges encountered</li> <li>Suggestions for improvement</li> </ul>	<p><b>What Worked Well</b></p> <ol style="list-style-type: none"> <li><b>High Engagement &amp; Positive Feedback</b> <ul style="list-style-type: none"> <li>Students were fascinated by the activities and expressed enthusiasm about learning science in a hands-on way.</li> <li>Parents appreciated that their children spent the public holiday constructively at the university instead of staying at home.</li> <li>Teachers saw the value of the activities and invited ICSE Science Factory to their schools, demonstrating the event's impact beyond just one day.</li> </ul> </li> <li><b>Diverse &amp; Interactive Activities</b> <ul style="list-style-type: none"> <li>The variety of stations (rockets, biology lab, engineering challenge, 3D printing, light &amp; shadows) ensured that different interests and learning styles were accommodated.</li> <li>Having a mix of competitive, experimental, and creative activities made the event engaging for all ages.</li> </ul> </li> <li><b>Cross-Sectoral Collaboration</b> <ul style="list-style-type: none"> <li>The participation of universities, researchers, and the Cyprus Pedagogical Institute enriched the activities and provided authentic STEM role models.</li> <li>The presence of female scientists in the biology lab was particularly important for promoting gender representation in science.</li> </ul> </li> <li><b>Strengthened Partnerships</b> <ul style="list-style-type: none"> <li>The event led to new collaborations, including a school visit in February and participation in a summer school in June, which helps sustain long-term engagement.</li> </ul> </li> </ol> <p><b>Challenges Encountered</b></p> <ol style="list-style-type: none"> <li><b>Mobilization of Students and Teachers from Other Cities</b> <ul style="list-style-type: none"> <li>A major challenge was transportation and mobilization, as the event took place in Nicosia, making it difficult for students and teachers from other cities who participate in Open Schooling (OS) activities to attend.</li> </ul> </li> </ol>

	<ul style="list-style-type: none"> <li>○ The distance and logistical constraints limited the participation of some schools already involved in the program.</li> </ul> <p><b>2. Expanding the Network Beyond Existing OS Participants</b></p> <ul style="list-style-type: none"> <li>○ On the positive side, the event provided an opportunity to engage and invite schools that were not previously involved in the Open Schooling program, thereby expanding the network and introducing more educators and students to the initiative.</li> </ul>
<p>Other (anything you wish to share which is not covered in the above points)</p>	<p><b>Strengthening Community Engagement</b></p> <ul style="list-style-type: none"> <li>• The event demonstrated the importance of bringing together students, parents, educators, and researchers in a shared space for scientific exploration.</li> <li>• Many parents expressed interest in future science-related events, showing that family engagement in STEM education can be a key area to develop further.</li> </ul> <p><b>Bridging Informal and Formal Science Learning</b></p> <ul style="list-style-type: none"> <li>• The event reinforced the need for more hands-on, inquiry-based science learning in schools.</li> <li>• The feedback from both students and teachers indicated that integrating more Open Schooling activities into the curriculum would make learning more engaging and meaningful.</li> </ul> <p><b>Looking Ahead: Sustaining the Momentum</b></p> <ul style="list-style-type: none"> <li>• The invitations to visit a school on February 24th and participate in the summer school in June show that the event has created momentum for continued engagement.</li> <li>• Future collaborations could explore long-term partnerships with schools to implement ongoing Open Schooling activities throughout the academic year.</li> </ul>

**Country: Germany**

Topic/Motto	
Type of fair (was the fair virtual, hybrid or in person; stand-alone or part of a larger fair?)	In person; part of a larger fair (Jugend Forscht)

Date of fair	14.02.2025
Duration (number of hours or days)	6 h
Advertising (list the modes and describe campaign)	Social media, Mail Campaign, Website
Participants (project and non-project, no names are required only roles/institution/business they represent)	Participants from the project: schools, universities, student research centres  Participants beyond the project: schools, families
How were the different project partners presented? Please describe. (posters, stands on fair, plenary session, career talks, interactive activity, challenge, knowledge/research exchange, co-creation activities, etc.)	<p>Presentation of supported open schooling: Stands on the fair with posters. Student creations from the projects were presented at these stands from</p> <p>Presentation of Lighthouse Activities/Real-life problem-solving: Mini workshops/interactive activities</p> <p>Presentation of career talks: Living library with experts</p> <p>Presentation of partners from Science: Posters, interactive activities</p> <p>Presentation of partners from Enterprises: Host (SICK)</p> <p>Presentation of partners from non-formal learning institutions: Interactive activities</p> <p>Presentation of partners from community institutions: Poster of the junior boy scouts Gengenbach (Wölflinge)</p>
Description of special (award) ceremony (if any – please provide programme).	Official awards ceremony with presentation of prizes and short speeches
Programme of the fair	Open programme, everybody could join our activities and stands at any time during the whole fair.
Special guests who attended (such as ministry officials, artists etc. please include details of position/role)	

Photos and testimonials (these may include quotations from interviews or from feedback provided by participants. Please obtain permissions for any photos you include).



Bild: 3D printed cookie cutters by the boyscouts in Gengenbach



Gift Card for students participating at the fair – Bubble tea, making to the “molecular cuisine OS projects”



Workshop: Building balloon cars



Presentation of an Open Schooling project



Award ceremony

Dissemination/Media coverage of the event (please include details including screenshots, links or photos if available)	<a href="https://www.instagram.com/p/DF-DLjiiPKm/?img_index=1">https://www.instagram.com/p/DF-DLjiiPKm/?img_index=1</a>  <a href="https://www.linkedin.com/posts/international-centre-for-stem-education_eu-icse-stem-activity-7295387642366427136-yBhS?utm_source=share&amp;utm_medium=member_desktop&amp;rcm=ACoAADY7b_gB2Y-RSHqFVxKvarL-MJpSXInn51nQ">https://www.linkedin.com/posts/international-centre-for-stem-education_eu-icse-stem-activity-7295387642366427136-yBhS?utm_source=share&amp;utm_medium=member_desktop&amp;rcm=ACoAADY7b_gB2Y-RSHqFVxKvarL-MJpSXInn51nQ</a>  <a href="https://icse.ph-freiburg.de/kurzberichtet/icse-science-factory-messe/">https://icse.ph-freiburg.de/kurzberichtet/icse-science-factory-messe/</a>
Progress in setting up a sustainable cross-sectoral partnership	
Reflections and Lessons Learned <ul style="list-style-type: none"> <li>• What worked well</li> <li>• Challenges encountered</li> <li>• Suggestions for improvement</li> </ul>	The students were very proud of their work and presentation and the fact, that they received small prizes, especially as they came not from the academic secondary school system, but from vocational or intermediate-level schools.
Other (anything you wish to share which is not covered in the above points)	

### Country: Portugal

Topic/Motto	
Type of fair (was the fair virtual, hybrid or in person; stand-alone or part of a larger fair?)	The ICSE fair was run as part of the International Educating City Day celebrations. This event was organized by CML/QPO and activities carried out under the ICSEfactory project were included.
Date of fair	November 30, 2024
Duration (number of hours or days)	1 day (10:00-17:30)
Advertising (list the modes and describe campaign)	<ul style="list-style-type: none"> <li>• Advertisement through the QPO website</li> <li>• Publicity through QPO and IE-ULisboa social networks</li> <li>• Contacts via email</li> </ul>
Participants (project and non-project, no names are required only roles/institution/business they represent)	Participants from the project: <ul style="list-style-type: none"> <li>• CML/QPO members as a project partner</li> <li>• Members of IE-ULisboa as a project partner</li> <li>• ISEL members as a project partner</li> </ul>

	<ul style="list-style-type: none"> <li>• Open schooling project leaders</li> </ul> <p>Participants beyond the project:</p> <ul style="list-style-type: none"> <li>• Elementary and Secondary Teachers</li> <li>• Enterprises in the field of education             <ul style="list-style-type: none"> <li>○ Inovlabs</li> </ul> </li> <li>• General public of all ages</li> </ul>
<p>How were the different project partners presented? Please describe. (posters, stands on fair, plenary session, career talks, interactive activity, challenge, knowledge/research exchange, co-creation activities, etc.)</p>	<p>Each of the different partners was allocated their own space (stand), which used it as a publicity space (posters and exhibition of prototypes/work carried out within the scope of open schooling). In this space, some activities related to the thermal efficiency of buildings, olive trees, 3D printing (plastic cycle) and city lighting were also demonstrated. Not only were members of the project (IE-Lisboa, ISEL, QPO) present at these stands, but also teachers and students who were involved in open schooling.</p> <p>Additionally, the company Inovlabs was present with a solar car that it used as a means of transport for fair visitors.</p>
<p>Description of special (award) ceremony (if any – please provide programme).</p>	<p>There was no such practice.</p>
<p>Programme of the fair</p>	<p>Figure 1 shows the Public Fair Program. In general terms, the fair was organized by workshops where various activities were offered to participants.</p>  <p>Figure 1. Programme of Fair.</p>
<p>Special guests who attended (such as ministry officials, artists etc. please include details of position/role)</p>	<p>There were no special guests.</p>
<p>Photos and testimonials (these may include quotations from in-</p>	<p>Photos:</p>

interviews or from feedback provided by participants. Please obtain permissions for any photos you include).











**Testimonials:**

During the event, several testimonies were shared, of which some illustrative ones stand out.

For example, some of the younger participants said that “it was really fun, it was really good” and some adults recognized that “the activities were very relevant”.

In the particular case of a teacher who visited the fair, the suggestion was that we should “repeat the initiative in schools to motivate students towards science”.

According to a teacher who is an open schooling leader “the dynamics between participants and coming into contact with a very different age groups than usual was very instructive and challenging”.

Dissemination/Media coverage of the event (please include details including screenshots, links or photos if available)

The fair was reported in social networks. Links are given below, and some images are shared as examples.





[https://www.facebook.com/icsefactPT/?locale=pt\\_PT](https://www.facebook.com/icsefactPT/?locale=pt_PT)

[https://www.instagram.com/p/DDeSPvoMzFL/?fbclid=IwY2xjawHHi7pleH-RuA2FibQIxMAABHWOE\\_3J2jm6ElhQi7QQQ6gPIM3SUN-JEeQLiN6XqXdWKyZIdCiP-WaDba\\_jg\\_aem\\_NOV84ThbVB6WxuaGj\\_uyBQ&img\\_index=1](https://www.instagram.com/p/DDeSPvoMzFL/?fbclid=IwY2xjawHHi7pleH-RuA2FibQIxMAABHWOE_3J2jm6ElhQi7QQQ6gPIM3SUN-JEeQLiN6XqXdWKyZIdCiP-WaDba_jg_aem_NOV84ThbVB6WxuaGj_uyBQ&img_index=1)

[https://www.facebook.com/photo/?fbid=122198522972192244&set=pcb.122198523272192244&locale=pt\\_PT](https://www.facebook.com/photo/?fbid=122198522972192244&set=pcb.122198523272192244&locale=pt_PT)

[https://www.facebook.com/photo?fbid=122198523026192244&set=pcb.122198523272192244&locale=pt\\_PT](https://www.facebook.com/photo?fbid=122198523026192244&set=pcb.122198523272192244&locale=pt_PT)

[https://www.facebook.com/photo/?fbid=982328050604619&set=pcb.982320710605353&locale=pt\\_PT](https://www.facebook.com/photo/?fbid=982328050604619&set=pcb.982320710605353&locale=pt_PT)

[https://www.facebook.com/photo/?fbid=982328593937898&set=pcb.982320710605353&locale=pt\\_PT](https://www.facebook.com/photo/?fbid=982328593937898&set=pcb.982320710605353&locale=pt_PT)

[https://www.facebook.com/photo/?fbid=982329343937823&set=pcb.982320710605353&locale=pt\\_PT](https://www.facebook.com/photo/?fbid=982329343937823&set=pcb.982320710605353&locale=pt_PT)

<p>Progress in setting up a sustainable cross-sectoral partnership</p>	<p>The fair was visited by families but also by teachers who showed interest in open schooling and lighthouse activities. Furthermore, it was an opportunity to establish contact with the company Inovlabs with which a possible partnership could be considered.</p>
<p>Reflections and Lessons Learned</p> <ul style="list-style-type: none"> <li>• What worked well</li> <li>• Challenges encountered</li> </ul>	<ul style="list-style-type: none"> <li>• What worked well</li> </ul> <p>Overall, the event met our expectations. Being held on a Saturday in a space that families usually visit, it was an excellent opportunity to give visibility to the project's activities to a wider audience. Furthermore,</p>

<ul style="list-style-type: none"> <li>Suggestions for improvement</li> </ul>	<p>being included in the event commemorating the International Day of Educating Cities 2024, its relevance was also amplified. In addition to citizens, there was also a visit from teachers who saw the event announced and who showed interest in the project's activities. From our point of view, the fair was a success, and many advantages were recognized to having the Fair as part of a larger event rather than as a stand-alone event.</p> <ul style="list-style-type: none"> <li>Challenges encountered</li> </ul> <p>In terms of challenges, one of the challenges was holding this event outdoors in November. Although we have a relatively mild climate in Lisbon, even in November, it was found that in the morning the weather was not very inviting for outdoor walks. Fortunately, the afternoon proved to be a pleasant surprise, and it was at that time that we had a large number of visitors.</p> <p>Another challenge was getting open schooling leaders to bring students together to present their work. These works had been developed in the previous academic year and some teachers no longer had them as students. Still, some students were present with their teachers.</p> <ul style="list-style-type: none"> <li>Suggestions for improvement</li> </ul> <p>Our perspective is that the 2<sup>nd</sup> Fair will take place in June 2025, which corresponds to the last month of the school year. This Fair will be part of a national STEM conference that is being organized by our institution (IE-ULisboa). In this way, we foresee greater and easier mobilization and participation of teachers, students, researchers and companies.</p>
<p>Other (anything you wish to share which is not covered in the above points)</p>	<p>---</p>

**Country: Türkiye**

<p>Topic/Motto</p>	<p><b>STEM Expo &amp; ICSEfactory Local Fair</b></p>
<p>Type of fair (was the fair virtual, hybrid or in person; stand-alone or part of a larger fair?)</p>	<p>The ICSE local fair was run as part of the 5<sup>th</sup> International STEM Education Conference held on July 6-7, 2024. The STEM Expo part of this conference was held regularly. However, the STEM Expo section in 2024 was designed as ICSEfactory Local Fair and added to the conference program. The activities carried out within the scope of ICSEfactory were also included in this context</p>
<p>Date of fair</p>	<p>July 6, 2024</p>
<p>Duration (number of hours or days)</p>	<p>1 day (13:30-18:30)</p> <ul style="list-style-type: none"> <li>13:30-14:30 Opening Speech</li> <li>14:30-18:30 Fair</li> </ul>
<p>Advertising (list the modes and describe campaign)</p>	<ul style="list-style-type: none"> <li>Promotion through the conference website</li> <li>Promotion through social media</li> </ul>

	<ul style="list-style-type: none"> <li>• Telephone interviews and invitations to companies and entrepreneurs working in this field.</li> </ul> <p>Contact via email</p>
<p>Participants (project and non-project, no names are required only roles/institution/business they represent)</p>	<p>Participants from the project:</p> <ul style="list-style-type: none"> <li>• Members from Hacettepe University as a project partner</li> <li>• Members from ÖÖV as a project partner</li> <li>• Open schooling project leaders</li> <li>• Researchers who have previously conducted lighthouse activities within the scope of the project</li> <li>• Our convention members <ul style="list-style-type: none"> <li>○ Texas Instrument</li> <li>○ Dora Toy</li> <li>○ Renko</li> <li>○ Stemist box</li> <li>○ Einstein/Foruier Education</li> </ul> </li> </ul> <p>Participants beyond the project:</p> <ul style="list-style-type: none"> <li>• STEM teachers from Turkey, Azerbaijan, Kazakhstan, Turkmenistan</li> <li>• Scientix Turkey Coordinator and Team</li> <li>• Researchers from universities in Turkey and different countries</li> <li>• Post doctoral researchers from Turkish universities</li> <li>• Research and Innovation centers <ul style="list-style-type: none"> <li>○ Başakşehir Living Lab</li> <li>○ EXPERIMENT</li> </ul> </li> <li>• Companies in the field of STEM education <ul style="list-style-type: none"> <li>○ Robot basket</li> <li>○ Lego Education</li> <li>○ Indi Toys</li> <li>○ MKU Technology/Raitoy</li> </ul> </li> <li>• Participating public of all ages</li> </ul>
<p>How were the different project partners presented? Please describe. (posters, stands on fair, plenary session, career talks, interactive activity, challenge, knowledge/research exchange, co-creation activities, etc.)</p>	<p>Presentation of supported open schooling:</p> <ul style="list-style-type: none"> <li>• A presentation titled "Open Schooling: ICSE Science Factory" was made during the conference. Both the general aims of the project were mentioned and open schooling was explained in more detail. In the local fair part, open schooling projects were shared by project leaders, students and researchers at the exhibition stands. A poster for each project and the project product or process, if any, were shown.</li> </ul> <p>Presentation of Lighthouse Activities/Real-life problem-solving:</p> <ul style="list-style-type: none"> <li>• The lighthouse activity named "Escape room for a Sustainable World" was implemented as a workshop. In</li> </ul>

this workshop, what lighthouse activities are and their purposes were also mentioned. In addition, posters of lighthouse activities developed and implemented by both Hacettepe University and ÖÖV within the project were exhibited.

#### Presentation of career talks:

- There were different applications for the career talk part. The first of these Two female students who are part of the Women In STEM group and who continue their college education in the USA were invited and they were given a speech at the conference. The titles of their speeches were "Empowering Women in STEM: Breaking Barriers, Inspiring Change" and "Integrating Artificial Intelligence in STEM Education: Enhancing Learning Through Innovative Technologies". Secondly, in the fair section, we provided a booth for a researcher who is a researcher at a university abroad but came to Hacettepe University Faculty of Medicine for a post-doc. She told the participants about her work on "Capturing molecular messages from the brain in the blood to better understand neurological conditions". Participants visited the booth and interacted with him.

#### Presentation of partners from Science:

- Scientix Turkey team informed the participants about their work in the field of STEM in the exhibition area and in the opening speeches.
- In the exhibition area, scientists, researchers, teachers, postgraduate students, entrepreneurs, company officials, representatives of the Ministry of Education, exchanged information and information about the ICSEfactory project.

#### Presentation of partners from Enterprises:

- Entrepreneurs were provided with booths in the fairgrounds to promote their products and tell their stories. For example, one of the participants introduced the creative writing stories and cards developed for children, while MKU Technology shared its school kits and development processes for STEM education.
- DENEYAP, the team that supports the development of Turkey's youth in STEM fields and raises them as entrepreneurial individuals who innovate, introduced the micro card controllers and chips they have developed and explained how they are used in children's education.

	<ul style="list-style-type: none"> <li>• Başakşehir Living lab is both an entrepreneurship valley and a non-formal learning institution. They shared the robot technologies developed in their entrepreneurship activities and innovation hubs.</li> </ul> <p>Presentation of partners from non-formal learning institutions:</p> <ul style="list-style-type: none"> <li>• DENEYAP and Başakşehir Living Lab are places that provide trainings in this context and carry out joint work with the Ministry of Education. They contributed to the fair in this context.</li> </ul> <p>Presentation of partners from community institutions:</p> <ul style="list-style-type: none"> <li>• Stemist Box, Dora Toy, Texas Instrument, which took part in our convention, contributed to the process with lighthouse activities by making interactive applications in the fair area.</li> </ul>																																															
<p>Description of special (award) ceremony (if any – please provide programme).</p>	<p>There was no such practice. We did not think of making such an application within the scope of the local fair. We can make such an application in the 2nd Local fair.</p>																																															
<p>Programme of the fair</p>	<p>Since the fair is part of the STEM PD conference, Figure 1 shows the conference program. The main part of the fair is the fair area starting with the Opening Ceremony followed by the booth fairs. Apart from that, there is a general presentation about 1 project, 1 Lighthouse workshop, 1 career talk session.</p> <div data-bbox="683 1279 1433 1845" data-label="Table"> <table border="1"> <thead> <tr> <th colspan="4">Conference Programme</th> </tr> <tr> <th>Time</th> <th>Friday (July 5)</th> <th>Saturday (July 6)</th> <th>Sunday (July 7)</th> </tr> </thead> <tbody> <tr> <td>08:30-09:00</td> <td></td> <td>Registration</td> <td>Registration</td> </tr> <tr> <td>09:00-10:00</td> <td></td> <td>Parallel Sessions 1 (Oral Presentations)</td> <td>Parallel Sessions 3 (Oral Presentations)</td> </tr> <tr> <td>10:00-10:15</td> <td></td> <td>Coffee Break</td> <td>Coffee Break</td> </tr> <tr> <td>10:15-11:15</td> <td></td> <td>Parallel Sessions 2 (Oral Presentations)</td> <td>Parallel Sessions 4 (Oral Presentations)</td> </tr> <tr> <td>11:30-12:30</td> <td></td> <td>Workshops 1</td> <td>Workshops 2</td> </tr> <tr> <td>12:30-13:30</td> <td></td> <td>Lunch</td> <td>Lunch</td> </tr> <tr> <td>13:30-14:30</td> <td>(OPTIONAL) Pre-conference trip</td> <td>Opening Ceremony (Invited Speakers Session)</td> <td>Workshops 3</td> </tr> <tr> <td>14:30-15:30</td> <td>(Istanbul Museum of The History of Science and Technology in Islam)</td> <td rowspan="2">STEM Expo &amp; ICSEfactory Local Fair (14:30-18:30)</td> <td>Brokerage Event</td> </tr> <tr> <td>15:45-16:15</td> <td>(Only pre-registered participants)</td> <td>Evaluation and Closure</td> </tr> <tr> <td></td> <td>13:00-17:00</td> <td></td> <td></td> </tr> </tbody> </table> </div> <p>Figure 1. General Programme of conference</p> <p>Figure 2. shows the keynote speeches before the Fair. These speeches are structured in the context of the ICSE Science Factory</p>	Conference Programme				Time	Friday (July 5)	Saturday (July 6)	Sunday (July 7)	08:30-09:00		Registration	Registration	09:00-10:00		Parallel Sessions 1 (Oral Presentations)	Parallel Sessions 3 (Oral Presentations)	10:00-10:15		Coffee Break	Coffee Break	10:15-11:15		Parallel Sessions 2 (Oral Presentations)	Parallel Sessions 4 (Oral Presentations)	11:30-12:30		Workshops 1	Workshops 2	12:30-13:30		Lunch	Lunch	13:30-14:30	(OPTIONAL) Pre-conference trip	Opening Ceremony (Invited Speakers Session)	Workshops 3	14:30-15:30	(Istanbul Museum of The History of Science and Technology in Islam)	STEM Expo & ICSEfactory Local Fair (14:30-18:30)	Brokerage Event	15:45-16:15	(Only pre-registered participants)	Evaluation and Closure		13:00-17:00		
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project. While the first speech was about the innovative aspects of universities, the 2nd speech was about another EU funded project, Scientix, which was about Scientix Turkey's practices and what it means to be part of the Scientix team as a teacher. The 3rd talk is about DENEYAP workshops and Teknofests, a structure that aims to raise non-formal and entrepreneurial youth.

July 6, 2024 - Opening Ceremony*			
13:30-14:30			
July 6, 2024- Saturday: Invited Speakers			
Moderator: Prof. Dr. İlknur Güven			
Time	Author(s)	Title	Room
13:30-14:30	Prof. Dr. Atilla Arıkan	Welcome & Innovative Aspects of Ibn Haldun University	ITBF B23 Amfi (Conference Hall)
	Dr. Tunç Erdal Akdur	Scientix Türkiye	
	M. Burak Aygen	T3 Foundation & Teknofest on the journey of National Technology Initiative	

Figure 2. Opening Ceremony

The images below show Open Schooling Projects, Lighthouse events and posters in the stand area, companies and entrepreneurs in the convention, and companies outside the convention.

6 Temmuz 2024 - STEM Expo			
ICSEfactory Local Fair			
14:30-18:30			
ICSE Science Factory Fair			
International Centre for STEM Education			
6 Temmuz, 2024- Cumartesi: STEM Expo- ICSEfactory Local Fair			
Moderatör: Metin Şardag			
Saat	Yazar(lar)	Başlık	Yer
14:30-18:30	Onur Can İlkayaz Metin Şardag	Ne Kadar Sağlıklı Bir Çevrede Yaşıyoruz?	Medya ve Etkinlik Merkezi Zemin Kat
	Ece Efe Metin Şardag	Eğlen Öğren Etkinliği: Sağlıklı Bir Öğün Nasıl Olmalı ?	
	Mustafa Kara	Hikaye Ve Masal Kartları Ile 1. Sınıfta Üretici Yazarlık	
	Ayşenur Aytekin Çiğdem Güney Kayahan Eşengül Soylu	Görmeye Engel Yok!	
	Betül Şen Gümüş	Bisikletli Kompost Makinesi	
	Zeynep Ünlü	Dijitalden Somuta: Çocukların Yaratıcılığı ve Okul Toplum Projesi	
	Zeynep Erciyas Toz	Sürdürülebilir Bir Dünya İçin STEM Entegrasyonlu Galaxy Protectors Projesi	
	Onur Aydın Betül Şen Gümüş	Pet Journey: Bir Okul Toplum Projesi	
	Sabina Rahimova	Cocuklarda Yaratıcı Düşüncenin Gelişimi	
	Adam Bennett	Capturing Molecular Messages From The Brain In The Blood To Better Understand Neurological Conditions	
	Dj Negma	Dj Negma & Dj Workshop	
	Gökhan Kaya	Escape Rooms As A Classroom Material	

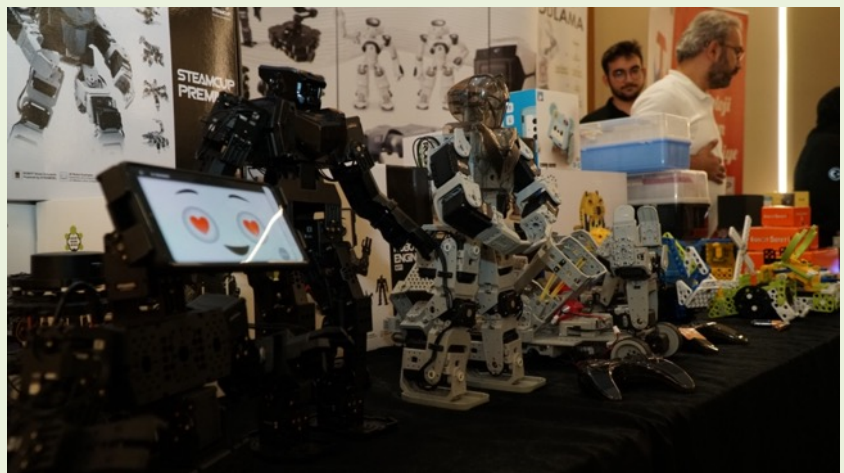
Metin Şardag	Güvenli Parola
Gökhan Kaya	Dikkat Işık!
Filiz Demirci	Dijitalleşme Odaklı Eğlen ve Öğren Etkinlikleri
Esmâ Hazal Yılmaz	C Vitamini Araştırması
Seda Çalık	Yapay Zekayla Kodlama
Mehmet Söğüt	Sürdürülebilir Şehirler İçin Karbon Emisyonunu Azaltan Yeşil Çatılar
Bettül Şen Gümüş	Egzersiz Koridoru
Bettül Şen Gümüş	Doğa Dostu Gübre:Kompost
Bettül Şen Gümüş	İndi Oyuncak
	Mku Teknoloji / Raitoy
	Rentech Science Center Products And Areas
	Stemist Box
	Deneyap
	Teknokta-Lego
	Robotsepeti
	Dora Toy
	Başakşehir Living Lab
	STEMxr
	Meta 3D
	Texas Instruments
	Einstein

Special guests who attended (such as ministry officials, artists etc. please include details of position/role)

- Dj Negma- He is an expert in the field of computer science who works in the field of computer science and gives artificial intelligence trainings at the university level and is also a DJ artist. By giving this role in the fairground, we wanted to show both the different aspects of scientists and to reveal the interdisciplinary structure of music and science.
- Scientix Turkey Coordinator (Dr. Tunç Erdal Akdur)- participated in the event at the Ministry of Education, Department of Innovative Technologies.
- M. Burak Aygen- Turkey Technology Team Leader
- Burcu Türkkan- Istanbul Provincial Directorate of National Education STEM Coordinator

Photos and testimonials (these may include quotations from interviews or from feedback provided by participants. Please obtain permissions for any photos you include).











STEM PD

HOME COMMITTEES PUBLICATIONS SUBMISSIONS GÖZETMENLER STEM EXPERTS EVENTS CONTACT LOGIN

www.icse-sciencefactory.com www.stempd.net/sohb-gonder/

**ICSE Science Factory**

**ICSE Science Factory Fair**

**Ne Kadar Sağlıklı Bir Çevrede Yaşıyoruz?**

Onur Can İLKVAZ, Melih ŞARDAĞ

UV ışınları ve Manyetik alanın ne olduğu, insan sağlığına etkileri, günün hangi saatlerinde UV ışınlarına maruz kalmamamız gerektiği, hangi elektronik araçları Manyetik alanından insanların çok etkilendiği üzerine yaptığımız gerçekleştirecektir.

**Sürdürülebilir Bir Dünya İçin STEM Entegrasyonlu Galaxy Protectors**

Zeynep Erçiyas Toz

Projeimizdeki çalışma 7-15 yaş arası öğrencilere yöneliktir. Sürdürülebilir Kalkınma Hedefleri, James Webb Uzay Teleskobu ve STEM entegrasyonu ile gezegenler, yıldızlar, galaksiler ve evren hakkında bilimsel bilgilerin kazandırılması hedeflenmiştir.

**Eğilen Öğren Etkinliği: Sağlıklı Bir Öğün Nasıl Olmalı?**

Ece EFE

Etkinlikte, yediğimiz besinlerin sağlıklı olup olmadığının farkına varmasını ve sağlıklı bir öğünün nasıl olması gerektiğinin sorgulanması hedeflenmiştir.

**Capturing Molecular Messages From The Brain In The Blood to Better Understand Neurological Conditions**

**Hikaye ve Masal Kartları ile 1. Sınıfta Üretici Yazdırık**

**Çocuklarda Yaratıcı Düşüncenin Gelişimi**









Dissemination/Media coverage of the event (please include details including screenshots, links or photos if available)

It was reported in many different media channels. News links are given below. An image of one of them is shared as an example.

<https://www.haber7.com/guncel/haber/3440042-istanbulda-9-ulkeden-akademisyen-ogretmen-ve-bilim-meraklilari-bulustu>

<https://www.haberler.com/guncel/uluslararasi-stem-pd-konferansi-ibn-haldun-universitesi-nde-gerceklesti-17500943-haberi//>

<https://www.eshahaber.com.tr/haber/istanbul-da-9-ulkeden-akademisyen-ogretmen-ve-bilim-meraklilari-bulustu-165007.html>

<https://www.sondakika.com/amp/haber-uluslararasi-stem-pd-konferansi-ibn-haldun-univers-17500945/>

<https://www.24saatgazetesi.com/istanbulda-9-ulkeden-akademisyen-ogretmen-ve-bilim-meraklilari-bulustu>

<https://kamuhaber.xyz/ibn-haldun-universitesi-rektoru-yapay-zeka-ile-dunya-donusuyor/>

<https://www.bizimsakarya.com.tr/istanbulda-9-ulkeden-akademisyen-ogretmen-ve-bilim-meraklilari-bulustu>

**HABERLER** › **GÜNCEL**

## İstanbul'da 9 ülkeden akademisyen, öğretmen ve bilim meraklıları buluştu

İbn Haldun Üniversitesinin ev sahipliğini yaptığı Uluslararası STEM PD Konferansı'nda, 9 ülkeden akademisyen, öğretmen ve bilim meraklıları bir araya geldi.



GİRİŞ 08.07.2024 17:19 • GÜNCELLEME 08.07.2024 17:24 / + Aa - /   

**K**onferansın açılışında konuşan İbn Haldun Üniversitesi rektörü Prof. Dr. Atilla Arkan yapay zeka ile **dünyada** yaşanan dönüşüme dikkat çekti.

Arkan "Bugün içinde bulunduğumuz dünyada temelde iki tane

Progress in setting up a sustainable cross-sectoral partnership

Many companies, academics and teachers, both in and out of the convention, attended the Local Fair. Discussions were held to get involved in the activities of the Project and to be a part of this ecosystem. For example, one of the participating companies shared the science kits they developed with our project team and requested us to use them in Lighthouse activities and to give them feedback for the development of these kits.

Reflections and Lessons Learned

- What worked well
- Challenges encountered
- Suggestions for improvement

- What worked well

It actually met our expectations in many ways. The participants showed interest in both the open schooling activities and other aspects of the project. It was fruitful in terms of multi-directional communication and exchange of ideas between researchers, entrepreneurs, public, teachers and students. The increased visibility of the project and the willingness to take and use the project products to be evaluated by practitioners or to develop their own classroom practices was positive. The booth area was full and

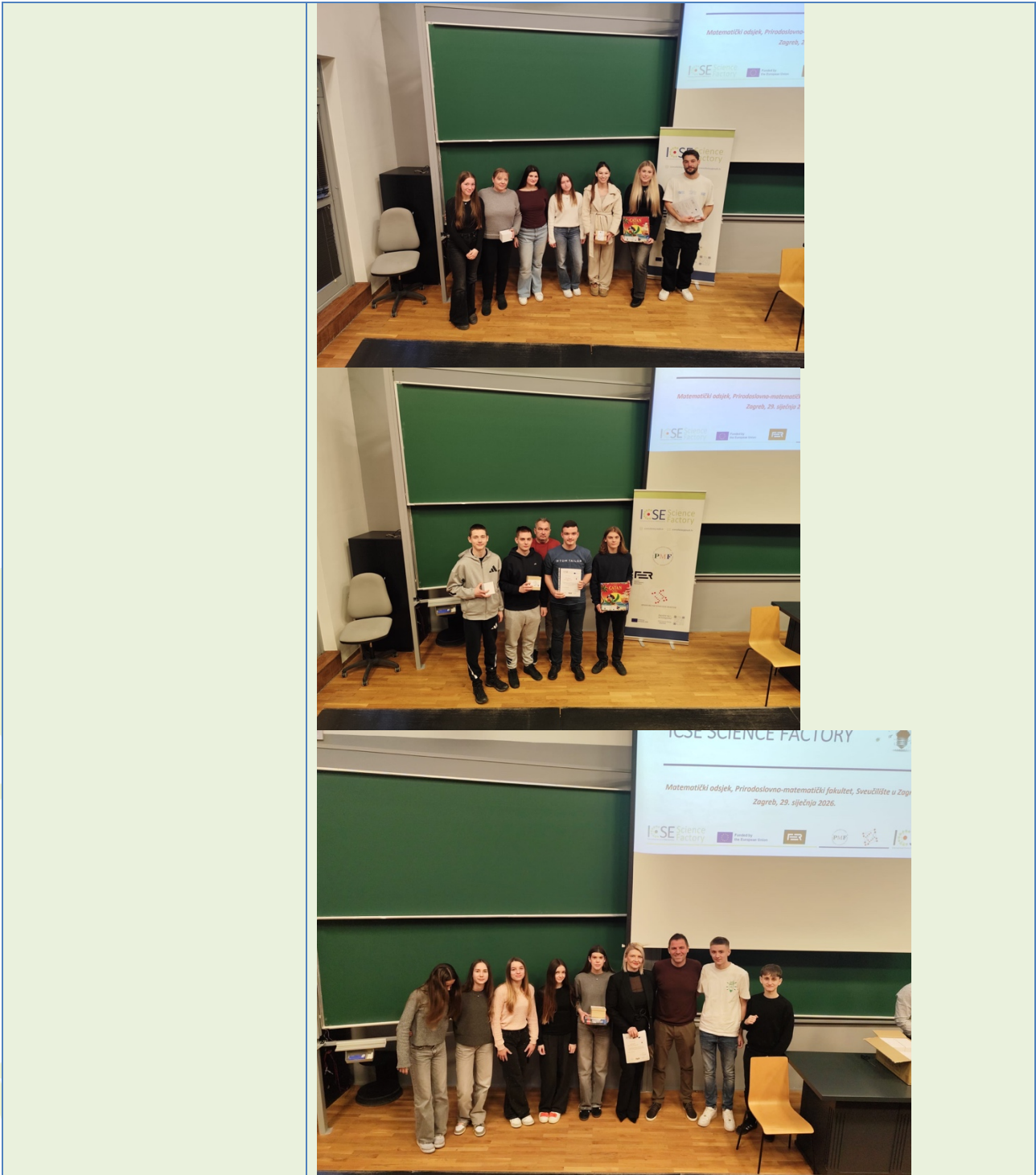
	<p>both the companies and the people who came to the fair were pleased with the intense participation. The project information session, career talks and LHA workshops we had outside the main time of the fair were very useful. There are many advantages to having the Fair as part of a conference rather than as a stand-alone event. For example, the diversity of the participants, the readiness and motivation of a highly prepared and motivated group to participate in the fair, the cost, venue and advertising expenses, or the fact that the work is done with less effort.</p> <ul style="list-style-type: none"> <li>Challenges encountered Since we did it in July, it was difficult to ensure school participation. There was a process of both economic support and persuasion of families, especially for the inclusion of students. Last minute cancellations or changes can undermine the process. It was also a strategy for us not to choose the time when schools were open. Because when the school is open, there may be reluctance to participate in these activities, which are seen as after school activities, when the school intensity or the workload of the families is high.</li> <li>Suggestions for improvement We are planning to organize Local fair 2 in Ankara in May-June 2025, the last months of the school year. We think that the fact that both project partners are in Ankara and the OS activities are mostly in this region will make it easier for school and student participation. Apart from that, supporting the local fair with side applications (career talk, LHA workshop and opening ceremony/plenary talks) worked well and we plan to repeat them.</li> </ul>
<p>Other (anything you wish to share which is not covered in the above points)</p>	

## Second Fair Reports

### Country: Croatia

<b>Topic/Motto</b>	
<b>Type of fair</b> (was the fair virtual, hybrid or in person; stand-alone or part of a larger fair)	In person, stand-alone
<b>Date of fair</b>	29th January 2026
<b>Duration</b> (number of hours or days)	4 hours
<b>Advertising</b> (list the modes and describe campaign)	<p>Advertise on official web page, printed posters (below).</p> 
<b>Participants</b> (project and non-project, no names are required only roles/institution/business they represent)	<p><b>Participants from the project:</b> Faculty of Science, Faculty of Electrical Engineering and Computing, Croatian Mathematical Society</p> <p><b>Participants beyond the project:</b> Students and teachers from 11 schools.</p>
<b>How were the different project partners presented?</b> Please describe. (posters, stands on fair, plenary session, career talks, interactive activity, challenge, knowledge/research exchange, co-creation activities, etc.)	<p><b>Presentation of supported open schooling:</b> Presentations, knowledge/research exchange</p> <p><b>Presentation of Lighthouse Activities/Real-life problem-solving:</b> Participants received toolkits for LHA about smart plants</p> <p><b>Presentation of career talks:</b></p> <p><b>Presentation of partners from Science:</b></p>

	<p>Three lectures by scientists from Faculty of Science, Faculty of Electrical Engineering and Computing</p> <p><b>Presentation of partners from Enterprises:</b></p> <p><b>Presentation of partners from non-formal learning institutions:</b></p> <p><b>Presentation of partners from community institutions:</b></p>
<p><b>Description of special (award) ceremony</b> (if any – please provide programme).</p>	<p>After all the presentations of the open schooling projects, in the closing ceremony all presenting teams were awarded with certificates, T-shirts, toolkit for smart plants and an educational game. The specific merits of each project were emphasized and the main lessons learned were repeated for all participants. Each team took a photo.</p>
<p><b>Programme of the fair</b></p>	<p><b>13:15</b> Greetings  <b>13:30</b> Educational-scientific lectures          Climate change - prof. Ivana Herceg Bulić, Faculty of Science          Blue dot - dr. Filip Turčinović, Faculty of Electrical Engineering and Computing          Robots can touch – prof. Matko Orsag, Faculty of Electrical Engineering and Computing  <b>14:30</b> Presentation of robots and socializing with snacks  <b>15:00</b> Project presentations (two groups: grades 6-8 and 9-12)  <b>16:15</b> Closing ceremony</p>
<p><b>Special guests who attended</b> (</p>	<p>Prof. dr. sc. Ivančica Ternjej, dean of Faculty of Science          Prof. dr. sc. Luka Grubišić, head of Mathematics Department of Faculty of Science</p>
<p><b>Photos and testimonials</b>          (these may include quotations from interviews or from feedback provided by participants. Please obtain permissions for any photos you include).</p>	









**Dissemination/Media coverage of the event**  
(please include details including screenshots, links or photos if available)

An article for the press media will be published (in progress). For all the participant who presented their open schooling projects, a diploma, bag and t-shirt were provided (below). Also each team received a toolkit for smart monitoring of plants – based on successful lighthouse activities and branded by the project.




**POTVRDA**

za sudjelovanje u aktivnostima OTVORENOG ŠKOLOVANJA  
I prvog Znanstvenog Sajma u sklopu projekta  
ICSE Science Factory pod vodstvom  
Prirodoslovno-matematičkog fakulteta Sveučilišta u Zagrebu.

U Zagrebu, 20. veljače 2025.

*Matija Bašić*  
doc. dr. sc. Matija Bašić  
voditelj projekta



	
<p><b>Progress in setting up a sustainable cross-sectoral partnership</b></p>	
<p><b>Reflections and Lessons Learned</b></p> <ul style="list-style-type: none"> <li>• What worked well</li> <li>• Challenges encountered</li> <li>• Suggestions for improvement</li> </ul>	
<p><b>Other</b> (anything you wish to share which is not covered in the above points)</p>	<p>The fair was held at the Faculty of Science in the Department of Mathematics. About 120 people attended the fair.</p>

**Country: Cyprus**

<p>Topic/Motto</p>	<p>Science and Technology Fair</p>
<p>Type of fair (was the fair virtual, hybrid or in person; stand-alone or part of a larger fair?)</p>	<p>The fair was in person and organized as a stand-alone event at the University of Nicosia campus</p>
<p>Date of fair</p>	<p>17/5/2025</p>
<p>Duration (number of hours or days)</p>	<p>2 hours</p>
<p>Advertising (list the modes and describe campaign)</p>	<p>The fair was promoted through a targeted online campaign.</p> <ul style="list-style-type: none"> <li>• Announcements were shared via the University of Nicosia's official social media channels, reaching a broad academic and local audience.</li> </ul>

	<ul style="list-style-type: none"> <li>Email invitations were also sent through our contact networks, including educators, students and community stakeholders.</li> </ul>
Participants (project and non-project, no names are required only roles/institution/business they represent)	<p>Participants from the project:</p> <ul style="list-style-type: none"> <li>Students participating in the ICSE Science Factory project, who presented their Lighthouse Activities</li> <li>Pre-service teachers from the University of Nicosia, who designed and implemented activities.</li> </ul> <p>Participants beyond the project:</p> <ul style="list-style-type: none"> <li>Families, educators and local community members who attended the event as visitors and engaged with the exhibits</li> <li>Students and teachers from other Open Schooling initiatives, who had previously collaborated with the ICSE Science Factory team in joint actions. Their participation in the fair served to strengthen existing partnerships, sharing their experiences and extending the project's reach into the wider educational community.</li> </ul>
How were the different project partners presented? Please describe. (posters, stands on fair, plenary session, career talks, interactive activity, challenge, knowledge/research exchange, co-creation activities, etc.)	<p>Project partners were represented indirectly through the interactive activities and Lighthouse Activities developed within the ICSE Science Factory framework. Specifically:</p> <ul style="list-style-type: none"> <li>Students and pre-service teachers presented interactive, hands-on activities that were designed for the project.</li> <li>The fair included co-creation and knowledge exchange moments, where participants interacted with presenters, asked questions, and engaged in scientific exploration.</li> <li>Informational materials and verbal references to the ICSE Science Factory and its European partner network were made throughout the event to acknowledge the broader collaborative context.</li> </ul> <p>While there was no plenary session or career talks, the activities themselves embodied the spirit and outcomes of the partnership, showcasing the project's impact in a highly visible and participatory way.</p>
Description of special (award) ceremony (if any – please provide programme).	No special ceremony
Programme of the fair	There was no strict, scheduled programme. The fair followed an open-stand format, where visitors could freely explore and engage with a variety of science and technology activities at different stations. Each stand was hosted by students or pre-service teachers who guided participants through the experiments or challenges. The informal structure encouraged curiosity, interaction, and hands-on learning. Light refreshments (drinks and snacks) were also offered, creating a welcoming and community-oriented atmosphere.
Special guests who attended (such as ministry officials, artists)	No special guests

<p>etc. please include details of position/role)</p>	
<p>Photos and testimonials (these may include quotations from interviews or from feedback provided by participants. Please obtain permissions for any photos you include).</p>	<p>Photos available in the folder</p>
<p>Dissemination/Media coverage of the event (please include details including screenshots, links or photos if available)</p>	 

	 <p><a href="https://paideia-news.com/panepistimio-leykosias/2025/05/28/megali-epityxia-oloklirothike-to-festibal-epistimis-texnologias-sto-panepist-leykosias/">https://paideia-news.com/panepistimio-leykosias/2025/05/28/megali-epityxia-oloklirothike-to-festibal-epistimis-texnologias-sto-panepist-leykosias/</a></p>
<p>Progress in setting up a sustainable cross-sectoral partnership</p>	<p>The science and technology fair served as an opportunity to strengthen collaborations between the University of Nicosia, schools, community and local educational stakeholders. By involving pre-service teachers, students from project schools, and participants from other Open Schooling initiatives, the event fostered connections that go beyond individual activities.</p> <p>The fair demonstrated clear potential for sustainability through:</p> <ul style="list-style-type: none"> <li>• Repeated collaboration with certain schools.</li> <li>• The involvement of future educators who are being trained in Open Schooling methodologies.</li> <li>• Increased visibility of the ICSE Science Factory project within the broader educational community in Cyprus.</li> </ul> <p>These elements contribute to the foundation of a sustainable, cross-sectoral partnership that links schools, teacher education programs, and the local community.</p>
<p>Reflections and Lessons Learned</p> <ul style="list-style-type: none"> <li>• What worked well</li> <li>• Challenges encountered</li> <li>• Suggestions for improvement</li> </ul>	<p>What worked well:</p> <ul style="list-style-type: none"> <li>• The open-stand format allowed for continuous interaction between participants and presenters, encouraging curiosity and hands-on engagement.</li> <li>• The involvement of pre-service teachers was a key success, as they applied pedagogical strategies from their training in real settings.</li> </ul>




	<ul style="list-style-type: none"> <li>• Collaboration with students from previous Open Schooling projects added value and visibility to the fair, strengthening continuity and outreach.</li> </ul> <p>Challenges encountered:</p> <ul style="list-style-type: none"> <li>• Limited time for preparing materials and coordinating logistics among all participants.</li> <li>• Some schools and community members expressed interest but were unable to attend due to scheduling conflicts, highlighting the need for more advance notice.</li> <li>• Difficulty in visibly showcasing the European partnership behind the activities in the absence of dedicated booths or partner representatives.</li> <li>• Engaging industry partners proved challenging, as several responded that they did not have the time to participate, despite initial interest. This highlights a broader issue of aligning educational initiatives with the schedules and priorities of the private sector.</li> </ul> <p>Suggestions for Improvement:</p> <ul style="list-style-type: none"> <li>• Include a welcome stand or info corner dedicated to explaining the ICSE Science Factory, its goals, and its European partners.</li> <li>• To address low industry engagement, consider inviting industry partners as “guests of honor” for specific time slots, reducing their time commitment while still ensuring presence.</li> <li>• Create pre-defined, easy-to-join activity roles for industry professionals to make their involvement more manageable and time-efficient.</li> <li>• Include a feedback corner (e.g., sticky notes or quick QR-based form) to gather insights from participants for future improvements.</li> <li>• Begin outreach to schools and community stakeholders well in advance to allow for better scheduling and participation.</li> <li>• Consider engaging students in documenting the event (photos, interviews, social media content) to boost ownership and visibility.</li> </ul>
Other (anything you wish to share which is not covered in the above points)	

**Country: Germany**

Topic/Motto	ICSE Science Factory Fair at the Science Days
Type of fair	In person; part of a larger fair
Date of fair	23.-25.10.2025

Duration (number of hours or days)	3 days
Advertising (list the modes and describe campaign)	Social media, Mail Campaign, Website
Participants (project and non-project, no names are required only roles/institution/business they represent)	<p>Participants from the project: students, teachers, representatives from ICSE, University of Freiburg, SFZ Tuttlingen, Würzteufel Company</p> <p>Participants beyond the project: schools, families</p>
How were the different project partners presented? Please describe. (posters, stands on fair, plenary session, career talks, interactive activity, challenge, knowledge/research exchange,	<p>Open Schooling Projects:</p> <ul style="list-style-type: none"> <li>• Students participating in the “Forest Pharmacy” project presented the dandelion massage oil, lavender lipstick, ribwort plantain ointment, and spruce needle tincture they had made. They played a game with visitors in which they had to match medicines to the plants they contained, and then gave away their products as prizes.</li> <li>• Students from the project “Talking Tree” presented their methods and findings on city trees in the time of climate change.</li> <li>• Two groups of students brought along the escape games they had developed, which visitors could play on site.</li> <li>• Students presented a project in which they cooked meals for residents of a nursing home that were suitable for people with swallowing difficulties but still tasty (pureed and thickened). Visitors could have a look at such a meal and get explanation on how it was made.</li> <li>• Students presented a research project on extracting rubber from Russian dandelions with a poster and showing results.</li> <li>• Students presented a research project on green solar parking lots with a poster and explanations.</li> <li>• Students presented a research project on food of the future with a poster, examples and explanations.</li> </ul> <p>Lighthouse Activities:</p> <ul style="list-style-type: none"> <li>• Visitors could build upcycling vehicles with SFZ Südwürttemberg.</li> </ul>

<p>co-creation activities, etc.)</p>	<ul style="list-style-type: none"> <li>• Visitors could play Escape Games by ICSE.</li> <li>• University of Freiburg conducted workshops on tree rings.</li> </ul> <p>Career Talks:</p> <ul style="list-style-type: none"> <li>• Visitors learn through a game which women invented things such as extra-thin eyeglass lenses, Wi-Fi, and the parachute, and engage in conversation about these topics.</li> </ul> <p>Project Partners:</p> <ul style="list-style-type: none"> <li>• Würzteufel company had a stand where visitors could thicken liquids with the company's dysphagia products and conduct a drip test together with an expert from the company. There were also products like "egg salt" kala namak to taste and a take home as giveaways.</li> <li>• The main project partners ICSE, SFZ Südwürttemberg and University of Freiburg presented their institutions.</li> <li>• Futur F, an associated partner, sponsored the memory used for the career talk presentation and was present with a poster on gender equality.</li> </ul>
<p>Description of special (award) ceremony</p>	<p>none</p>
<p>Programme of the fair</p>	<p>Thursday October 23th:</p> <ul style="list-style-type: none"> <li>• forest pharmacy (OSP)</li> <li>• solar parking lots (OSP)</li> <li>• extracting rubber from Russian dandelions (OSP)</li> <li>• food of the future (OSP)</li> <li>• food for people with swallowing problems (OSP)</li> <li>• upcycling vehicles (LHA)</li> <li>• ICSE Escape Games (LHA)</li> <li>• Tree rings (LHA)</li> </ul> <p>Friday October 24th:</p> <ul style="list-style-type: none"> <li>• Talking tree (OSP)</li> <li>• Student Escape Games (OSP)</li> <li>• food for people with swallowing problems (dysphagia) (OSP)</li> <li>• Female inventors (ICaT + associated partner)</li> <li>• Würzteufel (Industry Partner)</li> <li>• ICSE Escape Games (LHA)</li> <li>• Tree rings (LHA)</li> </ul> <p>Saturday October 25th:</p> <ul style="list-style-type: none"> <li>• Student Escape Games (OSP)</li> <li>• food for people with swallowing problems (OSP)</li> <li>• Female inventors (ICaT + associated partner)</li> <li>• Würzteufel (Industry Partner)</li> <li>• ICSE Escape Games (LHA)</li> </ul>

	<ul style="list-style-type: none"> <li>• Tree rings (LHA)</li> </ul>
<p>Special guests who attended</p>	
<p>Photos and testimonials (these may include quotations from interviews or from feedback provided by participants. Please obtain permissions for any photos you include).</p>	<div data-bbox="312 517 1342 808">  <p>OSP forest pharmacy</p> </div> <div data-bbox="312 880 1015 1294">  <p>OSP food of the future;      OSP extracting rubber from Russian dandelions</p> </div> <div data-bbox="312 1335 1158 1686">  <p>OSP talking tree</p> </div>



OSP Escape Games



OSP dyphagia cooking



LHA upcycling vehicles



LHA tree rings



LHA Escape Games



ICaT Female Inventors' Memory



Würzteil company

Dissemination/Media coverage of the event (please include details including screenshots, links or photos if available)

Instagram:

- <https://www.instagram.com/p/DQL3RbuD11C/>
- [https://www.instagram.com/p/DQOaVmwkV\\_1/](https://www.instagram.com/p/DQOaVmwkV_1/)
- <https://www.instagram.com/p/DQBjdUtyWY7/>
- More to come

LinkedIn:

- <https://www.linkedin.com/feed/update/urn:li:activity:7387762904428863488>
- <https://www.linkedin.com/feed/update/urn:li:activity:7387405361990799360>
- More to come

Facebook:

- <https://www.facebook.com/InternationalCentreforSTEMEducation/posts/pfbid02F8BjQboqAopDPwrLR3a4VwVq12r5fUeSt-NJYeTKnkDjxRfcbvBQAMAEKJYFnbNGal>
- <https://www.facebook.com/InternationalCentreforSTEMEducation/posts/pfbid0CMksY714q2QRibiL1DPxQbtVJXdxT4cvRaPbi2WhGwXTscdvGJDF7wz2MfQFsQQK1>

	<ul style="list-style-type: none"> <li>• <a href="https://www.facebook.com/InternationalCentreforSTEMEducation/posts/pfbid02kkw9zBpurPFYZAZ62TXzbxHpUffZRruoyki2rDyXV5sq25MVYoSCV2wqKVAPBYxnl">https://www.facebook.com/InternationalCentreforSTEMEducation/posts/pfbid02kkw9zBpurPFYZAZ62TXzbxHpUffZRruoyki2rDyXV5sq25MVYoSCV2wqKVAPBYxnl</a></li> <li>• More to come</li> </ul> <p>Newsletter:</p> <p>Newsblog:</p> <p>Report on School Homepage: <a href="https://rotteck.de/aktuelles/neues-aus-dem-schulleben/meldung/nachwuchsforscher-bei-den-science-days/">https://rotteck.de/aktuelles/neues-aus-dem-schulleben/meldung/nachwuchsforscher-bei-den-science-days/</a></p>
Progress in setting up a sustainable cross-sectoral partnership	<p>The following people we met at the fair were interested in cooperation:</p> <ul style="list-style-type: none"> <li>• Mathelabor of KIT (University of Karlsruhe) on 3d printing</li> <li>• Kreismedienzentrum in Villingen on Escape Games</li> <li>• Several individuals who have relatives with swallowing problems and want to take part on our course on the topic developed during the</li> </ul>
Reflections and Lessons Learned	<ul style="list-style-type: none"> <li>• The 16 students who presented their forest pharmacy open schooling project had a lot of fun and checked IDs to ensure that the alcohol-based tincture was only given to adults. The combinations of showing/giving away products and a quizlike game worked very well for the format.</li> <li>• A challenge was the organisation of getting students to the fair (For us: coordinating requests for presentation times, frequently changing arrangements; For teachers: applying to the school administration for permission to leave, finding a substitute for cancelled classes.)</li> <li>• Integrating the factory fair into a bigger event brings the advantage of a big number of visitors, but also organizational challenges.</li> </ul>
Other	

### Country: Portugal

Topic/Motto	
Type of fair (was the fair virtual, hybrid or in person; stand-alone or part of a larger fair?)	The ICSE fair (in person) was run as a part of the III Nacional STEM Education Conference.

Date of fair	June 28, 2025
Duration (number of hours or days)	half day
Advertising (list the modes and describe campaign)	<ul style="list-style-type: none"> <li>• Advertisement through the IE-Lisboa</li> <li>• Publicity through IE-ULisboa social networks</li> <li>• Contacts via email</li> </ul>
Participants (project and non-project, no names are required only roles/institution/business they represent)	<p>Participants from the project:</p> <ul style="list-style-type: none"> <li>• Members of IE-ULisboa as a project partner</li> <li>• ISEL members as a project partner</li> <li>• OSA project leaders</li> <li>• Students that participated in OSA</li> </ul> <p>Participants beyond the project:</p> <ul style="list-style-type: none"> <li>• Elementary and Secondary Teachers</li> <li>• General public of all ages</li> <li>• Parents of the presenting students</li> </ul>
How were the different project partners presented? Please describe. (posters, stands on fair, plenary session, career talks, interactive activity, challenge, knowledge/ research exchange, co-creation activities, etc.)	<p>OSA project leaders prepared posters to present their OSA. Each of the different group of students was allocated their own space (stand), which used it as a publicity space (posters and exhibition of prototypes/work carried out within the scope of OSA). One group of students opted for a room to present their work.</p>
Description of special (award) ceremony (if any – please provide programme).	There was no such practice.
Programme of the fair	<p>The fair included the exhibition of posters and works, and it was part of the III National STEM Education Conference held at IE-ULisboa.</p> <p>Figure 1 shows the Public Fair Poster and Figure 2 shows the Conference Program.</p>



Figure 1



Figure 2


<p>Special guests who attended (such as ministry officials, artists etc. please include details of position/role)</p>	<p>There were no special guests.</p>
<p>Photos and testimonials (these may include quotations from interviews or from feedback provided by participants).</p>	<p>Photos:</p>

Please obtain permissions for any photos you include).





<https://www.facebook.com/share/p/1DqVan2xjH/?mibextid=wwX-lfr>  
<https://www.instagram.com/p/DLPxhGTs9DY/?igsh=NHdrY2g4b3k5aWhu>  
[https://icsesf.ie.ulisboa.pt/iii-conferencia-nacional-stem/?fbclid=IwY2xjawM3v3RleH-RuA2FlbQIxMAABHg6rNYF4T7GhqGFI8JsQV6\\_Wlt\\_xVEBCdwcttTUIsHWA8zztR3KS4cmxWobh\\_aem\\_v200z1HYUvQsQAnEg3QJ5Q](https://icsesf.ie.ulisboa.pt/iii-conferencia-nacional-stem/?fbclid=IwY2xjawM3v3RleH-RuA2FlbQIxMAABHg6rNYF4T7GhqGFI8JsQV6_Wlt_xVEBCdwcttTUIsHWA8zztR3KS4cmxWobh_aem_v200z1HYUvQsQAnEg3QJ5Q)

 **ICSE Factory PT**  
 1 min · 🌐

#digitalização #ICSEFactoryPT #icsefactory #inteligenciaartificial #ieulisboa #feiraciencia #teachertraining #OpenSchooling #artificialintelligence #sustentabilidade #lighthouseactivities #sciencefair #icsefactorypt #GreenDeal #Educação #saúde #Inovação #Sustentabilidade #AI #IA 🚀 ✨ III Conferência Nacional de Educação STEM ✨ 🎓

No passado dia 28 de junho organizámos a III Conferência Nacional de Educação STEM no Instituto de Educação da Universidade de Lisboa.

📺 Partilhamos convosco alguns momentos especiais deste dia dedicado à Educação STEM.

👉 Destaque especial para a nossa Feira de Ciências, onde pudemos testemunhar projetos inovadores, experiências fascinantes e o entusiasmo contagiante de jovens cientistas e educadores.

🙌 Obrigado a todos que participaram e tornaram este evento num verdadeiro sucesso!



<https://www.facebook.com/share/p/17E4r65FKd/?mibextid=wwXlfr>

	<a href="https://www.instagram.com/p/DOtem15ESUK/?igsh=MXg3d2phdWU3aTg5ZQ==">https://www.instagram.com/p/DOtem15ESUK/?igsh=MXg3d2phdWU3aTg5ZQ==</a>
Progress in setting up a sustainable cross-sectoral partnership	The fair was visited by families but also by teachers who showed interest in OSA.
<p>Reflections and Lessons Learned</p> <ul style="list-style-type: none"> <li>• What worked well</li> <li>• Challenges encountered</li> <li>• Suggestions for improvement</li> </ul>	<ul style="list-style-type: none"> <li>• <b>What worked well</b> Being held as an integral part of the III National STEM Education Conference provided an excellent platform to showcase the project's activities to a diverse and engaged audience. The timing coincided with the end of the academic year, when students' projects were fresh and teachers were available to participate actively. The integration within the larger STEM conference significantly amplified the event's relevance and reach. We welcomed not only educators and students but also researchers, and families who showed genuine interest in the innovative projects presented. From our perspective, the fair was a success, and we recognized many advantages to having the Science Fair as part of this major educational event rather than as a standalone initiative.</li> <li>• <b>Challenges encountered</b> One of the main challenge was the timing coinciding with university entrance exam preparation period and the beginning of summer holidays. Many students were either focused on preparing for their university access exams or had already started their vacation period, which affected their availability to participate in the fair. This resulted in some difficulty in securing student participation and required additional effort to coordinate with those who were still available.</li> <li>• <b>Suggestions for improvement</b> Based on the success of integrating the Science Fair into the III National STEM Education Conference, we recommend maintaining this model for future editions while adjusting the timing to optimize student participation. We suggest scheduling future conferences slightly earlier in the academic year, perhaps in May or early June, to avoid conflicts with university entrance exam preparation and summer holidays. This would ensure greater student availability and participation. Additionally, we recommend expanding the dedicated space for the Science Fair and potentially creating themed sections to better organize the diverse range of projects. Establishing clearer presentation guidelines and providing more structured interaction time between students, educators, and industry professionals would also enhance the educational impact and networking opportunities for all participants.</li> </ul>
Other (anything you wish to share which is not covered in the above points)	---

**Country: Türkiye**

Topic/Motto	<b>Open Schooling Local Fair</b>
Type of fair (was the fair virtual, hybrid or in person; stand-alone or part of a larger fair?)	<p>The ICSE local fair II was organised as a standalone event, designed to bring together diverse stakeholders and highlight the outcomes of open schooling practices. The fair was structured into several distinct sections, each with a specific focus and audience engagement strategy.</p> <p><b>Section 1: Display of Open Schooling Projects and Posters</b> In this area, schools, teachers, and students showcased their open schooling projects. Posters illustrated the process, challenges, and results of the initiatives, while visual materials such as photos, diagrams, and models allowed visitors to better understand the scope of the activities. This section provided an excellent opportunity for knowledge exchange, enabling participants to share ideas and good practices, while also sparking inspiration for future projects.</p> <p><b>Section 2: Workshop-Style LHA Activities</b> This section was dedicated to hands-on workshops, designed in the spirit of Lighthouse Activities (LHAs). Small groups of participants took part in interactive sessions that encouraged collaborative problem-solving, creativity, and experiential learning. The workshops provided participants of different age groups with an opportunity to directly engage with scientific concepts, try out new methods, and reflect on the role of open schooling in addressing real-world challenges.</p> <p><b>Section 3: Company and Firm Stands with Scientific Activities</b> In the third section, companies, firms, and external stakeholders who had previously taken part in the Convention were given space to set up stands. These stands were not only for presenting their products or services but also for actively engaging the audience with scientific demonstrations, experiments, and interactive activities. This setting encouraged stronger ties between the educational community and industry, allowing students and teachers to explore potential career pathways, while companies demonstrated their commitment to supporting education and innovation.</p> <p>Altogether, the fair provided a dynamic platform where education, research, and industry intersected, fostering collaboration, curiosity, and community engagement.</p>
Date of fair	June 11, 2025

Duration (number of hours or days)	1 day (09:30-11:30)
Advertising (list the modes and describe campaign)	<ul style="list-style-type: none"> <li>• Promotion through social media</li> <li>• Telephone interviews and invitations to companies and entrepreneurs working in this field.</li> <li>• Contact via email</li> <li>• Local advertisement via schools</li> </ul>
Participants (project and non-project, no names are required only roles/institution/business they represent)	<p>Participants from the project:</p> <ul style="list-style-type: none"> <li>• Members from Hacettepe University as a project partner</li> <li>• Members from ÖÖV as a project partner</li> <li>• Open schooling project leaders</li> <li>• Researchers who have previously conducted lighthouse activities within the scope of the project</li> <li>• Our convention members:             <ul style="list-style-type: none"> <li>○ Dora Toy</li> <li>○ Renko</li> <li>○ Einstein/Foruier Education</li> <li>○ TÜBİTAK</li> <li>○ Hypera AI</li> </ul> </li> <li>• NGO's</li> <li>• Public organisation representatives</li> <li>• Researchers from universities in Turkey and different countries</li> <li>• Participating public of all ages</li> </ul>
How were the different project partners presented? Please describe. (posters, stands on fair, plenary session, career talks, interactive activity, challenge, knowledge/research exchange, co-creation activities, etc.)	<p>The ICSE Science Factory local fair provided a rich and diverse environment for presenting project partners and their contributions. The different partners were represented through multiple formats, each designed to maximize visibility, interaction, and knowledge sharing:</p> <p><b>Posters &amp; Project Displays:</b> Academic and school partners showcased their open schooling projects with posters, visual materials, and short descriptions of their approaches. This allowed visitors to walk through and explore the variety of initiatives at their own pace.</p> <p><b>Stands at the Fair:</b> Companies, NGOs, and local organisations had stands where they interacted directly with participants. These stands were designed to highlight their role in the project, their contributions to open schooling, and their broader social/educational missions. Many included small-scale demonstrations, brochures, and interactive showcases.</p> <p><b>Convention Meeting with Students and Teachers</b> In addition to the fair and other presentation formats, a special event</p>

titled “*Convention Meeting with Students and Teachers*” was organised. This session brought together students and teachers who had been directly involved in implementing open schooling projects with the broader group of stakeholders participating in the Convention.

The meeting was structured as an evaluation and reflection activity, where participants could openly share their experiences, challenges, and achievements. Students presented their perspectives on how open schooling projects affected their learning, motivation, and engagement with science. Teachers reflected on classroom practices, collaboration with external stakeholders, and the benefits and obstacles they encountered during the project implementation process.

Stakeholders—such as companies, NGOs, universities, and policymakers—actively contributed by listening to these first-hand accounts, asking questions, and providing feedback. The dialogue created a valuable two-way learning process, where both educators and stakeholders exchanged insights on how open schooling could be further improved and sustained.

The session fostered an atmosphere of co-creation and collective evaluation, ensuring that the voices of students and teachers were at the centre of the Convention. It also strengthened the connection between educational practice and the supporting ecosystem of partners, aligning local experiences with the broader goals of the project.

**Interactive Activities & Challenges:**  
Several partners organised hands-on activities, science challenges, and games, especially targeted towards young participants. These sessions were highly participatory and allowed partners to demonstrate their expertise in an engaging and practical way.

**Knowledge & Research Exchange:**  
University and research partners shared their ongoing studies, methods, and results through poster sessions and facilitated discussions. This created a platform for deeper exchange with teachers, researchers, and policymakers attending the fair.

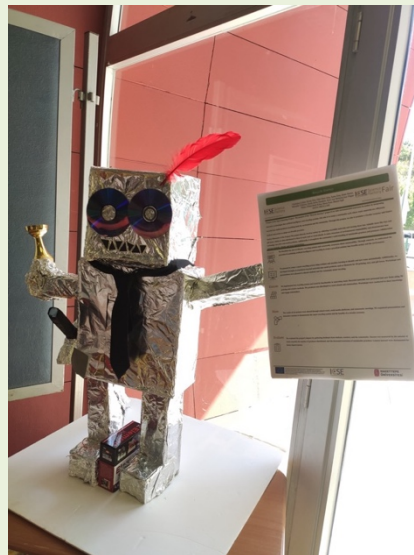
Altogether, the fair ensured that each partner had multiple opportunities to be visible and actively engaged. Rather than a single format, the presentation of partners was deliberately multi-layered, combining static displays with dynamic and interactive encounters, thus highlighting the collaborative and participatory ethos of the ICSE Science factory project.

<p>Description of special (award) ceremony (if any – please provide programme).</p>	<p>There was no such practice. We did not think of making such an application within the scope of the local fair.</p>
<p>Programme of the fair</p>	<p>The programme of the ICSEfactory Local Fair was designed to create a dynamic and engaging experience for all participants, combining demonstrations, exhibitions, interactive workshops, and reflective discussions.</p> <ul style="list-style-type: none"> <li> <p><b>Opening Science Show</b> The fair began with an engaging science show delivered by an educational materials and science kits company that had previously taken part in the Convention. Using their own products, the company presented a series of lively experiments and demonstrations, setting the tone for an inspiring and hands-on event.</p> </li> <li> <p><b>Open Schooling Projects &amp; Posters</b> Following the opening, the section dedicated to open schooling projects was launched. Project coordinators and students presented their work through posters and displays, facilitating direct interaction and dialogue with visitors. This created an excellent opportunity for participants to learn about the processes and outcomes of different initiatives while engaging directly with the project leaders.</p> </li> <li> <p><b>LHA Activities in Open and Indoor Spaces</b> In parallel with the poster sessions, Lighthouse Activities (LHAs) were conducted both in outdoor areas and selected indoor spaces. These workshops provided participants with the chance to take part in practical, inquiry-based activities, enhancing their experience through direct experimentation and collaborative problem-solving.</p> </li> <li> <p><b>Closing and Convention Meeting</b> At the end of the fair, the exhibition and workshop sections were concluded, and a selected group of participants joined the Convention team for a dedicated <i>Convention Meeting</i>. In this session, students, teachers, and stakeholders reflected on the outcomes of the open schooling projects, exchanged feedback, and discussed ways of sustaining collaboration.</p> </li> </ul>
<p>Special guests who attended (such as ministry officials, artists etc. please include details of position/role)</p>	<ul style="list-style-type: none"> <li> <p>Hakan Osman Sert- Board Member, Tohumluk Foundation</p> <p>The Tohumluk Foundation is an active and effective civil society organisation that develops art and education-focused projects and carries the vision of establishing a meaningful connection between</p> </li> </ul>

rural and urban communities, acting on the principle that ‘villagers and city dwellers should learn from each other’.

- Handan Çankaya- Ankara Representative, Tohumluk Foundation
- Kubilay Cengiz- Sports Expert, Ministry of Youth and Sports.

Photos and testimonials (these may include quotations from interviews or from feedback provided by participants. Please obtain permissions for any photos you include).









Dissemination/Media coverage of the event (please include details including screenshots, links or photos if available)

It was reported in many different media channels. News links are given below. An image of one of them is shared as an example.

<https://onceogretmenvakfi.org.tr/index.php/icse-science-factory-kapsaminda-local-fair-etkinligi-acik-okullasma-projelerinin-sunumu-ve-degerlendirilmesi/>

[https://www.linkedin.com/posts/stem4you-972892250\\_openschooling-icsefactory-localfair-activity-7338158448615772160-rTZe?utm\\_source=share&utm\\_medium=member\\_desktop&rcm=ACoAADjl1kBhWyfiBE6WrawxETCe\\_uJn4-erKQ](https://www.linkedin.com/posts/stem4you-972892250_openschooling-icsefactory-localfair-activity-7338158448615772160-rTZe?utm_source=share&utm_medium=member_desktop&rcm=ACoAADjl1kBhWyfiBE6WrawxETCe_uJn4-erKQ)

<https://www.tohumlukvakfi.org/post/tohumluk-vakf%C4%B1-maya-okullar%C4%B1-bilim-%C5%9Fenli%C4%9Fi-ne-kat%C4%B1ld%C4%B1>

<p>Progress in setting up a sustainable cross-sectoral partnership</p>	<p>At the second Local Fair in Ankara, the cross-sectoral partnership dimension was further strengthened. Alongside teachers, students, and academics, a wider range of local stakeholders—including NGOs, companies, and public representatives—actively participated in the event. The fair created new opportunities for dialogue and collaboration, where partners discussed how they could contribute to open schooling activities and become part of the project ecosystem.</p> <p>For example, several companies that had not been present at the first fair expressed their willingness to co-develop educational resources with the project team. One local stakeholder initiated a pilot collaboration on career talks and mentoring sessions for students, while another company offered to adapt its digital learning tools for use in upcoming Lighthouse activities. These engagements demonstrate how the fair served as a platform not only for dissemination but also for building sustainable, practice-oriented partnerships that can continue beyond the project lifetime.</p>
<p>Reflections and Lessons Learned</p> <ul style="list-style-type: none"> <li>• What worked well</li> <li>• Challenges encountered</li> <li>• Suggestions for improvement</li> </ul>	<p><b>What worked well</b></p> <p>The second ICSE Local Fair in Ankara (May–June 2025) fulfilled our expectations in many respects. The timing, at the end of the school year, allowed for stronger school participation compared to the previous edition. Students and teachers were actively involved, showing great interest in both the open schooling activities and the additional programme elements. The event once again proved to be fruitful in terms of multi-directional communication and exchange of ideas among researchers, entrepreneurs, public stakeholders, teachers, and students. The increased visibility of the project was evident, with many participants expressing willingness to take and use project products in their own classrooms or to adapt them for their professional practice. The booth area was lively throughout the day, and both companies and visitors appreciated the intense interaction. Side sessions such as the project information briefing, career talks, and LHA workshops complemented the fair and provided added value. Overall, combining the fair with these supportive activities contributed to a richer programme and enhanced participant satisfaction.</p> <p><b>Challenges encountered</b></p> <p>While the timing at the end of the school year improved school participation, it also brought some challenges. Due to the busy academic calendar, teachers and students had to balance final school duties with attendance at the fair. Although participation was higher, ensuring consistent engagement across different schools still required close communication and coordination with school administrations.</p> <p>Another challenge was related to logistics and transportation, particularly for schools located outside Ankara. While local schools were able to participate more easily, additional support and planning were required for those travelling from surrounding provinces.</p>

	<p>Suggestions for improvement</p> <p>Looking ahead, we plan to strengthen the structure of the fair even further by:</p> <p>Maintaining the timing in late spring, which has proven effective for school involvement.</p> <p>Expanding the range of interactive activities (career talks, LHA workshops, plenary/ceremonial sessions) since these elements were highly appreciated by both students and teachers.</p> <p>Establishing earlier and stronger communication with schools to avoid last-minute cancellations and to integrate the fair into their annual activity plans.</p> <p>Increasing support mechanisms (e.g., transport subsidies, coordination with families) to ensure broader and more inclusive participation.</p> <p>With both project partners based in Ankara and most OS activities concentrated in this region, Local Fair II demonstrated that regional clustering of partners and schools creates a strong foundation for participation and sustainability. For the next edition, building on these advantages while addressing logistical challenges will further enhance the quality and impact of the fair.</p>
<p>Other (anything you wish to share which is not covered in the above points)</p>	