CodeWeek
Build your digital future

Discovery programme toolkit targeted at universities

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The Code4Europe Consortium

The Code4Europe project is implemented by the following Consortium of Partners:

	School	Acronym	Country
1	Junior Achievement Europe	JA Europe	Belgium
2	European Alliance to Save Energy ASBL	EUASE	Belgium
3	CityLab IKE	CityLab	Greece
4	Dzhuniar Achiyvmant Balgariya	JA Bulgaria	Bulgaria
5	Latvian Information and Communication Technology Association	Likta	Latvia
6	DIGITALEUROPE AISBL	DIGITALEUROPE	Belgium
7	European Parents Association	EPA	Belgium
8	Fundacion Junior Achievement Espana	JA Spain	Spain
9	NGO Junior Achievement Ukraine	JA Ukraine	Ukraine
10	Fundacja Koalicji na rzecz Polskich Innowacji	KPI	Poland
11	eSkills Malta Founδφγδσφγ δφγσδφγ sdfgsdf gdation	eSkills Malta	Malta
12	Matrix Internet	Matrix	Ireland
13	University Politehnica of Bucharest	UPB	Romania
14	Avanade Belgium SPRL	Avanade	Belgium
15	Euractive Media Network	Euractive	Belgium
16	Microsoft Ireland Research Ltd	Microsoft	Ireland
17	WIDE ANDCO	WIDE ANDCO	Luxembourg
18	All Digital Aisbl	All Digital	Belgium
19	CY.R.I.C Cyprus Research and Innovation Center Ltd	CY.R.I.C	Cyprus
20	European Center for Women and Technology Forening	ECTW	Norway
21	Profil Klett D.o.o.	Profil Klett	Croatia
22	UNI SYSTEMS Systimata Pliroforikis Monoprosopi Anonymi Emporiki Etairia	UNISYSTEMS	Greece
23	ATHINA – Erevnitiko Kentro Kainotomias stis Technologies tis Pliroforias, ton Epikoinonion kai tis Gnosis	Athena RC	Greece
24	Schuman Associates SCRL	Schuman	Belgium
25	Charlie Miller Group	Charlie Miller	Denmark

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27	Fondazione LINKS - Leading Innovation and Knowledge for Society	Fondazione LINKS	Italy
28	INTEL Technology Poland Spolka z Ograniczona Odpowiedzialnoscia	INTEL	Poland
29	INDIRE - Istituto Nazione di Documentazione per l'Innovazione e la Ricerca Educativa	INDIRE	Italy
30	Genc Basari Egitim Vakfi	JA Türkiye	Türkiye
31	Science on Stage Deutschland e.V.	Science on Stage	Germany
32	I Osnovna Skola Cakovec	O.S. ČAKOVEC	Croatia
33	National College of Ireland	NCI	Ireland
34	Narodna Koalicia pre Digitalne Zrucnosti a Povolania Slovenskej Republiky	Digitalna Koalicia	Slovak Republic
35	Cisco Systems Belgium	Cisco	Belgium
36	Bulgarian Ministry of Innovation and Growth	MIG	Bulgaria
37	Accenture SA	Accenture	Belgium
38	CoderDojo Belgium	CoderDojo	Belgium
39	Digitale Wolven	Digitale Wolven	Belgium
40	Terawe Technologies Limited	Terawe	Ireland
41	Simplon.Co	Simplon	France

No	Partner	Acronym	Country
1	Global Alliance for Youth	GA4Y	Switzerland
2	HP Inc Belgium	HP Inc Belgium	Belgium
3	SAP SE	SAP SE	Germany
4	Junior Achievement of Albania	JA Albania	Albania

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About the Code4Europe Project

With 2030 rapidly approaching and the digital decade target of 20 million ICT professionals in Europe still far out of reach, now is the time to bring together all of Europe's digital skills stakeholders from Youth Education, Civil Society, Digital Industry and Government to implement innovative new approaches to the digital upskilling of young people.

Code4Europe envisions to create a hugely successful, sustainable, and scalable digital education and upskilling initiative that will empower all young Europeans to embrace digital technologies and pursue a highly rewarding career in Digital. We intend to reach this goal by reimagining and growing EU Code Week, giving it a mandate to

- drive real change in digital education throughout Europe
- a focus on vastly increasing the number of young people who choose digital careers, and
- an emphasis on engaging the entire digital skills ecosystem in a common mission to close the digital skills gap in Europe by tackling the problem at its source.

Code4Europe will massively scale EU Code Week aiming to impact 25 million young people over the period of 2 years (01/07/2024 – 30/06/2026). We will maintain and build on the grassroots nature of the initiative, embrace and empower the existing Code Week community, and stay fully aligned with its core values. To implement our vision, we have created a Consortium of 45 committed and passionate organisations representing all the Digital Education & Skills Stakeholder groups needed to grow EU Code Week to unprecedented levels. Led by Junior Achievement Europe, Code4Europe will unite European Education and Digital Skills Communities within one integrated EU Code Week programme. (JA Europe, 2026)

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Discover Digital Programme

Introduction

The Discover Digital Programme (DDP) under Code4Europe is designed to support higher education institutions (HEI) with a focus on ICT and STEM in engaging directly with secondary school students. Throughout its sections, the document offers practical guidance for organising events such as campus visits, discovery days, and digital career orientation sessions. These activities help students in their senior cycle of secondary education to imagine themselves in technology careers and to understand the educational pathways that will lead them there.

The Programme is conceived as a bridge between secondary and tertiary education, addressing a critical juncture in the student journey. As they enter the final years of secondary school, young people often face a paradox. A few of them might feel overwhelmed by the abundance of opportunities and are unsure how to navigate the choices in front of them. Others disengage from the prospect of further study, perceiving higher education as distant or irrelevant. Both attitudes risk limiting their potential (Vulperhorst et al., 2022). DDP responds to this challenge by offering structured guidance, tailored advice, and most importantly the chance to experience what a future educational path in STEM might look and feel like. Through engaging, memorable activities, students are encouraged to see beyond the immediate horizon of examinations and transition, and to envision a career that is not only professional and economically viable but also personally fulfilling. Alongside student-focused activities, the DDP will include initiatives that engage parents, guardians, and families, confirming that HEI will stand by young people throughout higher education and into future careers, determined to fulfil expectations.

This document provides a comprehensive set of initiatives that HEI can adapt to their own contexts. Recognising the diversity of academic calendars, geographical reach, and resource availability across Europe, DDP guidelines are

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deliberately flexible. Institutions may select from a menu of initiatives ranging from short, focused interventions to extended programmes of engagement. Examples include interactive in-school and on-campus orientation modules, and role model schemes inspiring secondary students through the testimonials and event mentorship from current undergraduates that demystify STEM complexity and present moments of campus life. Each activity is designed to be scalable, allowing HEI to tailor their involvement to local needs while maintaining alignment with the overarching objectives of the Programme.

It is recommended that HEI combine as many of the suggested activities as possible, thereby offering secondary school students a holistic experience. A single campus visit may spark curiosity, but a sequence of engagements such as a digital career orientation moment, followed by an immersive open day and capped with a mentorship event creates a sustained narrative of possibility. The cumulative effect is to build confidence, broaden horizons, and instil a sense of belonging within the STEM community.

Implementing DDP is not only an exercise in outreach. It is also an opportunity for HEI to promote their own strengths and distinctiveness. Participation signals membership in an innovative community of third-level education providers committed to shared European goals. By engaging actively, HEI contribute to the achievement of the 2026 objectives of Code4Europe and to the 2030 target of the Digital Decade (EU Commission, 2025). This target is the creation of 20 million ICT professionals who will guarantee Europe's competitiveness and technological sovereignty. In this sense, the Programme is both local and continental. It empowers individual students while reinforcing Europe's collective capacity to thrive in a digital future.

The document embodies a dual ambition. At the micro level, it seeks to inspire and guide individual learners at a pivotal stage of their educational journey. At the macro level, it positions HEI as agents of transformation within a broader European strategy. By adopting and adapting the activities herein, institutions can simultaneously strengthen their profile and contribute to the shared vision of Europe's digital leadership, competitiveness and social cohesion (European Commission, 2024b). The passion that drives this Programme is rooted in the conviction that every student deserves the chance to see themselves in STEM, and that every institution has a role to play in making that vision tangible.

Programme Goals & Expected Outcomes

According to the 2025 Eurostat report on tertiary education statistics, in 2023 almost 15% of students in tertiary education choose engineering, which is the second most popular field after business, administration and law. Of those enrolled in engineering, 72% are male, and engineering accounts for one in four male students at tertiary level across Europe. Interestingly, according to Eurostat, third-level enrolments in neither Information Technology nor Natural Sciences exceed 10% of student choices. While enrolments in Natural Sciences show a balanced distribution between sexes, female students remain markedly under-represented in Information Technology (Eurostat, 2025).

DDP aims to amplify the collective voice of Code4Europe partner institutions by creating a compelling call to action for students. The message aims to encourage students to see STEM and digital subjects as both an exciting choice for their third-level studies today, and as a pathway to rewarding, future-proof careers tomorrow. The initiative positions partner institutions not only as places of learning but as innovative hubs where digital skills are connected to their practical applications in society and industry. At the core of this vision is inclusivity – girls should see STEM not as a

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closed club, but as a space where they can shine, fit in, and lead the change towards a more inclusive community. By doing so, we seek to rebalance participation and unlock talent that is urgently needed across Europe.

The DDP goals are as follows:

- **Inspire secondary students to pursue studies in digital and STEM fields.** Through interactive workshops, summer camps, and outreach events throughout the year, HEIs will spark curiosity and confidence among young people. By presenting STEM as creative, problem-solving disciplines that address real-world challenges, from computing, to sustainability to cybersecurity, DDP initiatives aim to shift perceptions away from stereotypes. Inspiration will come not only from academic staff but also from relatable student ambassadors and alumni who can share their journeys into digital and scientific careers.
- **Showcase HEI programmes, student life, and career potential in tech.** HEIs will highlight the breadth of their digital and STEM offerings, from computer science and engineering to data analytics and geospatial technologies. Beyond the curriculum, they will emphasise the richness of student life, including student societies, local competitions, and hackathons. Career pathways will be made visible through employer partnerships, internships, and graduate success stories, ensuring that students see a direct line from their studies to meaningful work in the domains of technology and research.
- **Reassure families of HEI commitment to holistically supporting young people through higher education and into STEM careers.** Families play a decisive role in shaping students' choices. DDP will provide tangible evidence that studying STEM at an HEI supports young people not only during their studies but also as they transition into employment.
- **Build bridges between schools, HEI, and the tech industry.** By linking secondary schools with HEI and industry partners when possible in certain student outreach activities, HEIs will create a continuum of engagement that shows students how technology careers look in the real-world, and how they can be part of them, bringing their unique skillsets and personalities. Industry mentors, open days, and hands-on projects will provide authentic experiences that showcase digital skills applications. These bridges will also help teachers and guidance counsellors to integrate up-to-date knowledge of technology careers into their advice.

Target Audiences

DDP is designed to engage a diverse set of audiences who enact and influence the future of STEM and digital education to ensure Europe's technological leadership, starting by recognising the differences in national educational systems (European Commission, 2026). Cascading from the programme's goals, it primarily targets students at secondary levels, encouraging them to view STEM not only as an academic choice but as a pathway to meaningful, future-proof careers in a digitally advanced European society. At the same time, the programme reaches teachers and guidance counsellors, equipping them with up-to-date knowledge to advise students effectively. Families are also addressed and reassured that HEIs will provide holistic support during the transition from study to employment. Finally, industry partners are engaged to build bridges between education and the workplace, ensuring that young people experience authentic pathways into technology careers.

For the purpose of standardised action across European education systems, student targets considered in this document are those attending Upper Secondary School years, as defined in the third level of the 2011 International Standard Classification of Education (ISCED 3) (Eurostat, 2026).

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Target	Target type	Activities
Senior Cycle Students (Non-Final Year)	**Growth audience** – future adopters whose perceptions and choices shape long-term demand	School visits Interactive workshops Summer camps Outreach events Inspiration from student ambassadors and alumni
Final Year Students	**Conversion audience** – decision-makers at the point of choice, ready to be converted into active participants	Open Days A taste of student life (competitions, hackathons) In-school HEI showcases Graduate success stories
Teachers & Guidance Counsellors	**Gatekeeper audience** – trusted intermediaries and influencers who shape perceptions and guide decisions	School-academia collaborations Participation in Open Days and hands-on projects Workshops on ICT career knowledge to qualify their advice
Families	**Reassurance audience** – key stakeholders whose confidence is essential for student commitment	Ambassadors providing evidence of holistic support during studies Guidance through transition into employment Emphasis on students' wellbeing and support with consistent career services
Industry Partners	**Enabling audience** – ecosystem actors who enrich, amplify and extend programme impact	Mentorship initiatives Joint projects with HEI Students' authentic exposure to real-world technology careers

These audiences collectively strengthen the ecosystem of STEM education and skills development across Europe. Each target group's involvement is essential to sustaining momentum, ensuring that digital and STEM pathways remain visible, attractive, and aligned with societal and economic needs. By engaging students, educators, families, and industry partners in a coordinated way, DDP contributes to a more inclusive and future-ready source of talent where each student is considered as an individual, with their own view of their future career considered.

Key Outcomes

Determining clear outcomes is essential to ensure that DDP achieves meaningful impact and provides transparent criteria for evaluating success. Outcomes must align closely with the programme's goals and target audiences, while being tied to measurable indicators that can be tracked over time. By defining outcomes in advance, member institutions can demonstrate the value of their initiatives, adjust strategies where needed, and communicate results effectively to stakeholders.

Student engagement and reach

A primary outcome is the number and demographics of student attendees across secondary school grades. Tracking participation by school year, gender, and geographic distribution will allow institutions to assess whether the programme's initiatives are reaching their intended audiences. Attention will be paid to female participation in STEM and digital activities, given the persistent under-representation previously highlighted by Eurostat statistics and recently confirmed by the Gender Equality Index 2025. Success here will be measured not only by absolute numbers but by evidence of a more balanced participation across genders and regions (Institute for Gender Equality, 2025).

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Shifts in perception and interest

Another key outcome is the percentage increase in STEM interest among students following attendance and participation in DDP activities. Surveys administered before and after school visits, workshops, camps, and outreach events will capture changes in attitudes, confidence, and motivation. Indicators may include the proportion of students reporting greater enthusiasm for STEM subjects, increased awareness of career opportunities, or a stronger sense of belonging in digital disciplines. For female students, outcomes will be measured in terms of reduced perception of STEM as a "closed club" and increased identification with role models presented as part of the programme. Examples of possible questionnaire templates are provided, and further insights on localising and tailoring these surveys can be found in the database of the 2022 Programme for International Student Assessment (PISA) of the Organisation for the Economic Cooperation and Development (OECD, 2022).

Pathways to further engagement

Follow-up actions are critical to sustaining momentum. Outcomes will include the number of students signing up for Open Days after school visits and in-school HEI showcases, joining mailing lists to remain updated on further initiatives or subscribe to school-to-college orientation blogs, or registering for competitions and hackathons. These actions demonstrate that initial inspiration is translating into concrete steps toward further exploration of STEM pathways. Institutions will track conversion rates from outreach events to formal enrolments, including data from prospective student interviews where possible, providing evidence of the programme's effectiveness in guiding students from awareness to commitment.

Strengthening teacher and counsellor involvement

For teachers and guidance counsellors, outcomes will focus on their integration of updated knowledge achieved through training workshops into classroom practice and career guidance. Indicators may include the number of educators participating in school-academia alignment initiatives, the extent to which they incorporate ICT career information into guidance sessions, and feedback on the usefulness of programme resources. Success will be measured by evidence of teachers being more engaged, and in turn acting as multipliers, extending the programme's reach beyond direct student participants through their communication channels (e.g., social media).

Family confidence and support

Demonstrating family buy-in will be essential to ensuring that students feel supported in their decisions (Brown et al., 2019). Outcomes here will include levels of parental confidence in STEM pathways, measured through surveys and feedback sessions as part of the DDP initiatives. Indicators may capture perceptions of institutional support, reassurance about career prospects, and satisfaction with student wellbeing support and transition services.

Together, these outcomes provide a comprehensive framework for evaluating DDP. By measuring student engagement, shifts in perception, follow-up actions, educator involvement, and family confidence, institutions can demonstrate impact across all target groups. Outcomes are not static, instead they serve as benchmarks for continuous improvement, ensuring that the programme remains responsive, inclusive, and future-oriented.

Target Group	Outcome	Indicator (KPI)
Senior Cycle Students (Non-Final Year)	Increased interest and confidence in STEM and digital subjects	Number of attendees at workshops, camps, outreach events Gender balance of participants Percentage increase in STEM interest post-event (survey)
Final Year Students	Greater visibility of programmes, student life, and career pathways	Sign-ups for Open Days and blog/updates mailing lists

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		Participation in competitions, hackathons Micro-internship placements and success stories
Teachers & Counsellors	Integration of updated ICT career knowledge into advice and teaching	Number of teachers engaged in school-academia collaborations Feedback on usefulness of programme resources Evidence of ICT career info in guidance sessions
Families	Higher confidence in STEM pathways and institutional support	Family attendance at information sessions Survey results on family reassurance Evidence of satisfaction with student wellbeing and transition services

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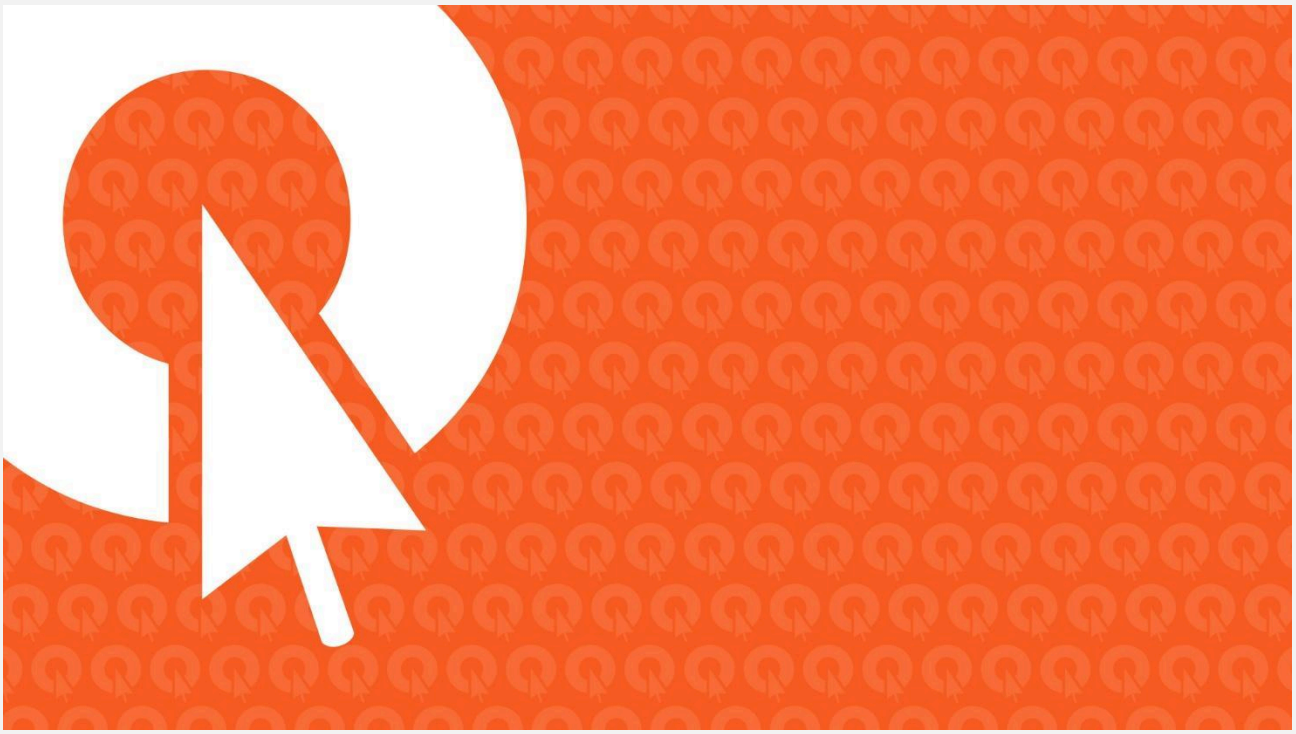

Essential Preparation for STEM Engagement Activities

Contact list creation and maintenance

For the design and organisation of DDP initiatives to address secondary school students, a reliable list of contacts of school-level decision-makers is essential. Across EU countries, the process may vary in detail, but it follows a common structure grounded in transparency, accuracy, and GDPR compliance.

In this document, all organisational steps and all the timelines, where applicable, should be interpreted as indicative and should be adjusted to national academic customs/calendars and local school systems.

The first step is identifying authoritative national sources. An official registry of recognised primary and secondary schools can be sourced from the national Department of Education, or a national coordination agency. These registries may include school names, addresses, and general contact emails. HEI marketing leads and event organisers should begin by downloading or requesting these datasets, which are often publicly available or accessible upon formal enquiry.

Once the base list is secured, organisers should identify role-specific contacts such as principals, career counsellors, guidance officers, or parent-representative bodies[1]. This is best done by visiting each school's website and extracting the relevant names and emails into a structured spreadsheet. Where direct emails are not published, the school's general address can be used with messages addressed to the appropriate role in the headline. The organising staff should internally manage dataset maintenance, although it can also serve as a high-value extracurricular volunteer activity for undergraduate and postgraduate students interested in communications, data stewardship, or outreach.

[1] Note: the terminology may vary by country.

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Organisers should also check for national aggregators that already collect school-facing information. In Ireland, for example, TYhub.ie curates opportunities for students in the first year of the senior cycle (i.e., Transition Year or TY in Ireland) and acts as a centralised information point for other audiences of interest, as well as a visibility window for HEI initiatives. Similar platforms may exist in other EU countries. In more collaborative regional markets, HEI may even consider developing a shared outreach portal modelled on TYhub.ie, enabling institutions to build sustained visibility and coordinate more impactful STEM initiatives.

Contacts may also be sourced through professional social media platforms such as LinkedIn, which can be useful for identifying principals, and guidance counsellors when school websites lack direct information. However, this method should be used with caution as profiles may be outdated, incomplete, or self-reported. Any contact gathered from LinkedIn or similar platforms must be clearly tagged in the mailing list with its source, ensuring transparency, traceability, and GDPR-compliant record-keeping.

If an HEI does not use a CRM, an effective mailing campaign can be run for example with Microsoft 365 tools, e.g., Word for templates, Excel for contact lists, and Outlook for email distribution. This system is low-cost, and fully internal, although it requires manual updates and offers limited automation. Alternatively, specialised online platforms, such as Mailchimp or Brevo, provide professional templates, analytics, and automated workflows both as free tools and with paid options. Their advantages are scale and ease of use, but they involve external data processing, potential subscription costs, and stricter GDPR considerations compared with an internal Microsoft-based workflow.

GDPR Compliance

Survey tools and data collection must be managed locally by every HEI, in line with their national regulations and institutional policies while ensuring General Data Protection Regulation (GDPR) compliance. Templates are indicative and must be adapted or reduced to ensure proportionality.

Under GDPR (European Union, 2016), the HEI acts as the data controller, responsible for ensuring that contact information is processed transparently, according to EU and national laws and regulations, and only for legitimate educational outreach. EU guidance from the European Commission and the European Data Protection Board provides the authoritative framework for this activity. All emails should include a disclaimer such as: "Your contact information has been sourced from publicly available school directories for the purpose of educational outreach. You may request correction or removal of your data at any time." An opt-out line must also be included.

Under Article 30 of the EU General Data Protection Regulation, every organisation that processes personal data for structured outreach must maintain records of processing activities, including how, why, and by whom personal data is managed for STEM-outreach projects. See Appendix 1.

For STEM-promotion initiatives, a register of processing activities should include:

- Data categories
- Purpose of processing
- Legal basis
- Retention period
- Access controls
- Opt-out mechanism
- Data processing and security measures

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Delivering an impactful DDP

As we have seen so far, DDP is designed as a coordinated, high-impact framework for STEM outreach and third-level promotional activity, bringing together schools, higher education institutions, and other stakeholders under a single, coherent strategy. Its purpose is to strengthen the pipeline of future STEM talent by creating meaningful, age-appropriate encounters between learners and the world of science, technology, engineering, and mathematics in the context of formal academic learning. At the same time, DDP keeps the focus on the impact generated by individual experiential formats. Rather than relying on isolated initiatives, DDP structures engagement into two mirroring frameworks that together broaden access, deepen awareness, and support informed decision-making among prospective students. The programme recognises that young people benefit from both early exposure to STEM in their own learning environments and from opportunities to experience the atmosphere, expectations, and possibilities of higher education first-hand. By combining outreach that travels to schools with initiatives that bring students into HEI, DDP ensures that engagement is both accessible and aspirational, engaging and rewarding, meeting learners where they are while also inviting them to imagine where they could go.

The guidance presented in this deliverable is intended as a flexible, non-prescriptive toolkit. HEIs are encouraged to adapt, prioritise, and combine activities according to their local context, resources, and national education systems.

STEM On Tour

The first framework focuses on bringing STEM directly into secondary schools and community settings. This includes HEI organisation of activities such as the following:

- School visits
- Interactive sessions and participation in external STEM-related events
- Attendance at college fairs where students can explore pathways, programmes, and career options.

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The aim is to reach students in familiar environments, reduce barriers to engagement and spark curiosity through direct contact with STEM ambassadors, educators, and role models. By meeting students where they already are, STEM On Tour helps demystify STEM subjects, provides early guidance and builds confidence among learners who may not yet see themselves as future STEM students.

STEM In

The second framework centres on creating opportunities for secondary school students to physically enter a third-level institution and experience college life from the inside. This includes Open Days, campus visits, themed workshops, and events that allow students to meet current learners, alumni and lecturers in their environment, explore facilities, and gain a realistic sense of the academic and social atmosphere within a specific HEI. STEM In is designed to make higher education tangible, relatable and welcoming, helping students visualise themselves in a college setting and understand the pathways available to them. These experiences play a crucial role in shaping aspirations, supporting informed choices, and strengthening the connection between schools and higher education providers.

Together, these two frameworks form a harmonic, mutually reinforcing approach that expands reach, deepens engagement, and supports long-term STEM participation. HEIs may implement either framework independently or combine both for greater impact. The use of both is encouraged but not required, and institutions may choose the model that best suits their outreach strategy.

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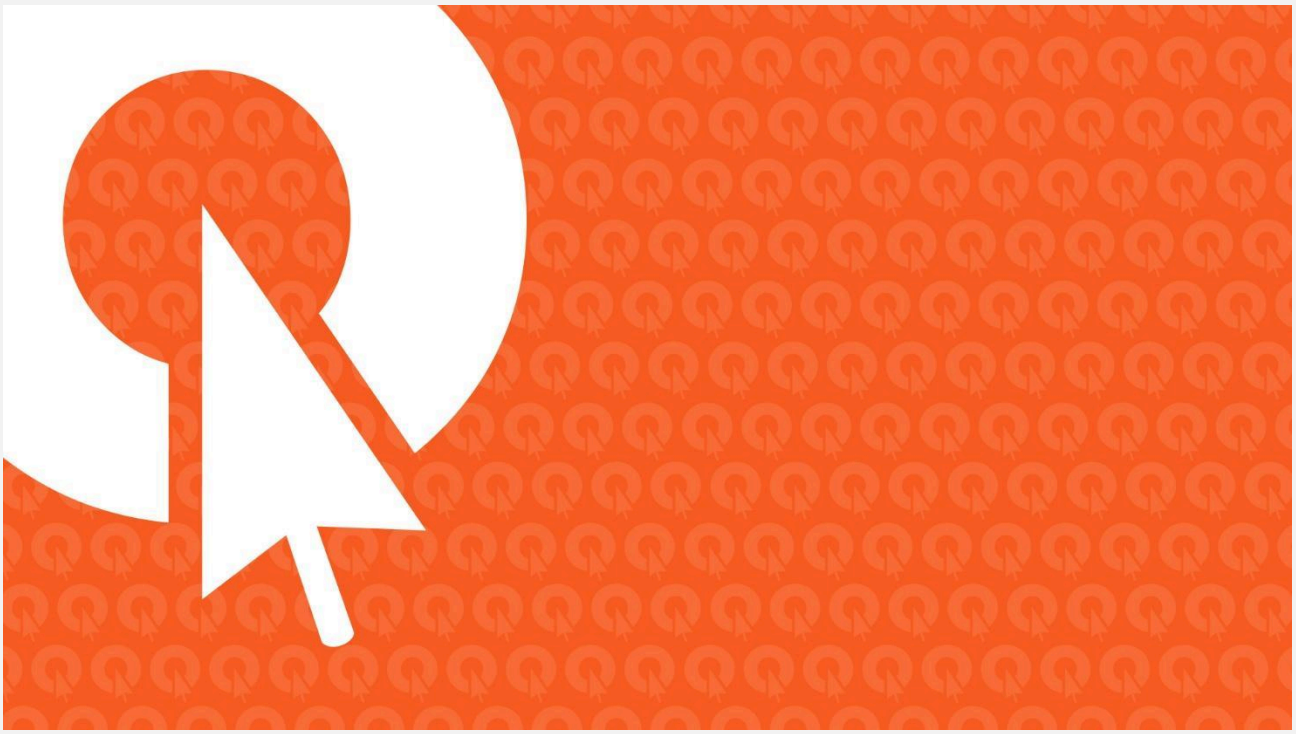

STEM On Tour

STEM On Tour is the core component of DDP, designed to bring higher education directly into schools and community settings. Its purpose is to make STEM pathways visible, accessible, and engaging for secondary-level learners by meeting them in their own environment and offering meaningful encounters with STEM disciplines, student role models, and third-level opportunities. Rather than waiting for students to visit a campus, STEM On Tour brings the campus experience to them, helping demystify STEM subjects and encouraging students to imagine themselves pursuing further study in these fields. This approach is particularly effective for reaching students who may not yet see themselves as future STEM learners or who may face barriers to accessing traditional outreach events.

At the same time, STEM On Tour strengthens relationships between HEI and schools. By offering structured, well-planned visits, institutions demonstrate their commitment to widening participation, supporting guidance counsellors, and providing clear, reliable information about pathways, support, and opportunities. When delivered effectively, a school visit becomes more than a promotional activity – it becomes an educational experience that sparks curiosity, builds confidence, and supports informed decision-making. The following sections outline the organisation of school visits in detail, from initial outreach to implementation, logistics and delivery.

School visits

Outreach to schools

The first step in planning a school visit is establishing contact with the schools' designated contact persons (whether principals, teachers, guidance counsellors, or parent representatives) identified earlier. This initial communication should introduce the institution, outline the purpose of the visit, and offer a selection of potential dates. It is helpful to discuss the expected number of students, the preferred focus of the visit, and any curricular links that may be

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relevant. Keeping the tone open, collaborative, and flexible sets the foundation for a smooth planning process and signals respect for the schools' schedules and priorities.

Logistics

Once the schools express interest, follow up with a clear confirmation of all logistical details. This includes:

- Visit date
- Arrival time
- Presenters' group size
- Audio-video requirements
- Accessibility requirements

Confirming these elements early ensures that the institution can prepare appropriately and that the school feels supported throughout the process. Clear communication at this stage reduces uncertainty and helps both sides anticipate what is needed for a successful visit.

Hand-outs and materials

Effective school visits require a range of materials to support communication, engagement, and follow-up. These include:

- Slide presentations
- Brochures, flyers, and programme guides
- QR codes linking to admissions information, courses, scholarships, news, and blogs
- Consent forms for photography or media created by every HEI, in line with their national regulations and institutional policies while ensuring GDPR compliance
- Consent forms for collecting feedback created by every HEI, in line with their national regulations and institutional policies while ensuring GDPR compliance
- Feedback forms (digital or paper)

Preparing presentation decks and ensuring that printed hand-outs and other materials are up-to-date and ready in advance will ensure a professional, cohesive experience, as well as an effective return on promotional investment.

Different templates of the presentation to be delivered should be prepared in advance, and the relevant deck delivered as needed based on time availability, students' grade, and school vocation. Presentation templates should be customised for each visit (in line with any agreements made with the school contact).

Key roles in the HEI team on tour

School Partnerships Lead

The School Partnerships Lead oversees the calendar of visits, leads the organisation of each visit, managing logistics, communication, and content. They function as the main point of contact for the school and ensure that all elements of the visit align with the programme's objectives and the schools' requirements.

Faculty, Staff, Alumni, and Students

Faculty members, staff, alumni, and student ambassadors deliver the core content of the visit. They lead workshops, presentations, and demonstrations, engaging directly with students. Their expertise and enthusiasm are central to creating an inspiring and informative experience. See Appendix 2.

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Implementation timeline

A structured timeline is essential for delivering a smooth, well-organised visit (for an outline please consult Appendix 3).

4–6 weeks before the event

Begin planning by booking rooms or confirming school facilities, depending on whether the visit is in a classroom or in a common area in the school, such as the gym or a theatre hall. Room booking processes vary by institution and may involve constraints on the use of laptops, monitors, and audio-video tools, so early contact with the relevant department is advisable. This is also the time to recruit staff, speakers, and student ambassadors to genuinely represent the HEI to prospective students and their families. Former students may take longer to respond, so allow sufficient time and aim to confirm participants at least two weeks before the event. A variety of voices also ensures different perspectives: a lab technician, a librarian, and a career counsellor can offer worthwhile narratives that stem from their personal experience dealing with generations of students. Early planning also allows time for communication and promotion, helping reach a wider audience, such as families and teachers.

2–3 weeks before the event

Confirm the list of participants, prepare presentation materials, and test any technical setups. This includes slide decks, videos, demonstrations, and any equipment required for workshops. It is important to note that all presenters should be briefed, well prepared to deliver their content in the context of the overall presentation, and a rehearsal should be organised for every presenter to be comfortable with their role. Clear communication with the school at this stage ensures that both sides are aligned and ready. The event is included in the CodeWeek website.

1 week before the event

Finalise all materials, including brochures, flyers, QR codes and any marketing content. Prepare consent forms if photography or media coverage is planned. Conduct a full run-through of the visit and pack all necessary kits. This final preparation phase ensures that the team is confident and ready for delivery. If interactive moments are included, test any devices, ensure chargers are available, and prepare awards and certificates for participants and challenge winners.

Event day

Ice breaker

Engaging students from the very first moment is essential to ensure the presentation feels dynamic, relevant, and distinct from a typical classroom activity. A simple way to set the tone is to open with a few light icebreakers that encourage participation without putting pressure on anyone. One option is a quick "Guess the Pathway" activity, where well-known figures in sports, music, and other unexpected fields are named and students guess which degree those role models connect to, highlighting the surprisingly broad range of STEM routes. This can be swapped or accompanied by a brief prompt inviting students to recall what science meant to them at age ten and what technology meant at age six, uncovering early impressions that often spark humour and curiosity at a time when teenagers feel entitled to "grown-up" status. To capture the room's mood, an emoji check-in can be run through a survey app that allows students to select an emoji on their phones when STEM and college-related words are mentioned (e.g., "mathematics", "no homework", etc.), providing an instant visual snapshot of how the group is feeling about the idea of college and STEM subjects.

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Formal HEI presentation

A formal presentation delivered by higher education representatives should balance clear information with opportunities for genuine interaction. Before moving into structured content, it is useful to set expectations for the session, outline the flow of the presentation and signal that student participation is encouraged throughout. Establishing an open, approachable tone helps reduce the sense of distance that students may feel when engaging with institutional speakers. Presenters should also be mindful that many attendees arrive with limited knowledge of higher education pathways, and that clarity, accessibility of language, and reassurance are essential components of effective communication. Creating this foundation supports a more meaningful exchange during the interactive portion of the session.

Q&A sessions extending up to one third of the available time should be planned to allow students to ask questions to HEI representatives or directly to current learners, when included in the presenters' group. This can help them gain authentic insights into college life. At any stage in the presentation (but mostly during the Q&A session), HEI representatives should be prepared to respond to questions that highlight concerns, doubts, and individual insecurities coming from both students and parents in the audience.

Interactive components

Interactive elements transform a visit from a passive experience into an engaging one. Short workshops, coding challenges, engineering tasks, or live demonstrations help bring STEM subjects to life and give students a taste of what studying these disciplines feels like. These activities can be organised as individual tasks or team challenges, with teams arranged in advance by the school contact person to ensure inclusivity and diversity of skills. An individual certificate or a sticker (or both) confirming participation in the interactive initiative can make the visit memorable and encourage students to see themselves as active participants in STEM learning.

Wrap-up

Before the end of the session, invite everyone to submit their feedback on the presentation. This can be done by showing a QR code linking directly to an online survey form. However, a few printed forms (or a short URL) should also be available for anyone who needs them.

The visit should conclude in a welcoming space such as a canteen, lounge, or learning commons area. This is the ideal moment to distribute brochures, programme guides, or flyers and to highlight upcoming events such as Open Days or Discovery Days. Encouraging students to visit the HEI campus for future activities helps maintain engagement and reinforces the institution's openness and accessibility. A clear closing message ensures that students leave with a sense of possibility and direction.

At this stage, HEI representatives should make themselves available to interact with students who did not feel comfortable asking their questions in the formal Q&A session but prefer a one-to-one conversation. An informal conversational tone can be the key to gaining trust and sparking confidence.

Interactive sessions and participation in external STEM-related events

Beyond school visits, a key component of STEM On Tour involves bringing higher education into wider community spaces through interactive sessions and participation in external STEM-focused events. These activities extend the reach of outreach efforts, allowing HEI to engage with potential students in environments that feel informal, dynamic, and curiosity-driven. They also create opportunities to connect with learners and other stakeholder groups who may not be reached through school-based initiatives alone, including younger students, families, and local community groups.

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Participation in external events further amplifies the visibility of DDP initiatives. These events may be STEM-specific (e.g. science festivals) or more general (e.g. community fairs and public engagement days). This is an opportunity to highlight programmes, research strengths, and student achievements while contributing to a broader culture of STEM engagement. It also positions the institution as an active, accessible presence within the community, reinforcing the message that STEM is for everyone.

Interactive sessions can take many forms, but they share a common purpose: offering hands-on, engaging experiences that make STEM tangible. These may include short workshops, live demonstrations and science-in-action showcases, problem-solving challenges, coding tasters, robotics activities, or VR experiences. The emphasis is on participation rather than passive observation, giving broader audiences the chance to experiment, ask questions, and explore concepts in a way that feels playful and exploratory. When delivered by faculty, researchers, or student ambassadors, these sessions also provide authentic role models who can speak directly about their pathways and experiences.

Together, interactive sessions and external event participation complement school visits by offering a different mode of engagement: informal, hands-on, and community-centred. They help build excitement around STEM, strengthen institutional visibility, and create memorable experiences that can spark long-term interest in STEM pathways.

A clear example of this approach is the celebration of national and local scientists, mathematicians, engineers, and explorers. Ireland, for instance, commemorates the discovery of the quaternion formula with an annual event known as Hamilton's Walk, held every 16 October and widely attended by schools, children and teenagers with their families, and STEM outreach enthusiasts. The walk begins at the Dunsink Observatory and continues down to Broom Bridge on the Royal Canal, the very spot where, on that same day in 1843, the then Head of the Dublin Observatory, William Rowan Hamilton, paused on his route from the city centre to inscribe on the bridge stones the formula of his four-dimensional numerical system. That system, quaternions, is now used in fields ranging from flight dynamics to videogame graphics (University of Galway, 2022). By adopting similarly compelling narratives each year for an ever-changing audience of prospective STEM students and key influencing groups, HEIs can generate meaningful impact across all the expected key outcomes outlined above.

Attendance at college fairs

A further element of the STEM On Tour framework involves the active participation of HEI in college fairs, career expos and guidance-focused events, sometimes organised by schools but more often offered by regional education networks or government-funded community groups. These fairs provide a concentrated environment where students can explore multiple pathways in one place, comparing programmes, and gathering information directly from institutional representatives. For HEI, they offer a strategic opportunity to present STEM options clearly, accessibly, and in a format that supports informed decision-making.

College fairs attract a wide range of attendees within DDP's target audience: from students who already have a strong interest in STEM to those who are still uncertain about their future direction. This diversity makes fairs an ideal setting for quick, attention-catching interactions in a high-energy environment, rather than lengthy one-to-one conversations. Engagement at fairs is often brief and fast-paced, so HEI representatives focus on creating clear, accessible touchpoints that help students identify relevant pathways quickly. Visual materials, short explanations, and interactive elements support this type of high-flow engagement, ensuring that key messages are communicated even in a noisy or crowded setting. When current learners or recent graduates are included in the delegation, the impact is even stronger: their presence adds authenticity and relatability, offering students a snapshot of college life,

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workload, challenges, and opportunities through concise, experience-based exchanges that fit the rhythm of the event.

Participation in fairs also strengthens visibility and institutional presence within the wider educational ecosystem. By presenting STEM pathways and disciplines, HEI can demonstrate the breadth of opportunities available and help students understand how STEM connects to real-world careers, emerging industries, and societal challenges.

College fairs are not only informational; they are relational. They allow HEIs to build connections with guidance counsellors, teachers, and parents, who play a significant role in shaping students' decisions. These interactions help reinforce trust, clarify misconceptions around STEM, ensure that accurate, up-to-date information circulates within the school community, and help build a robust, up-to-date school contact list.

Within the STEM On Tour framework, attendance at college fairs complements school visits and interactive sessions by offering a structured, high-visibility platform for outreach. It ensures that students encounter STEM pathways in multiple contexts, increasing the likelihood that they will find the information, encouragement, and inspiration they need to consider a future in STEM.

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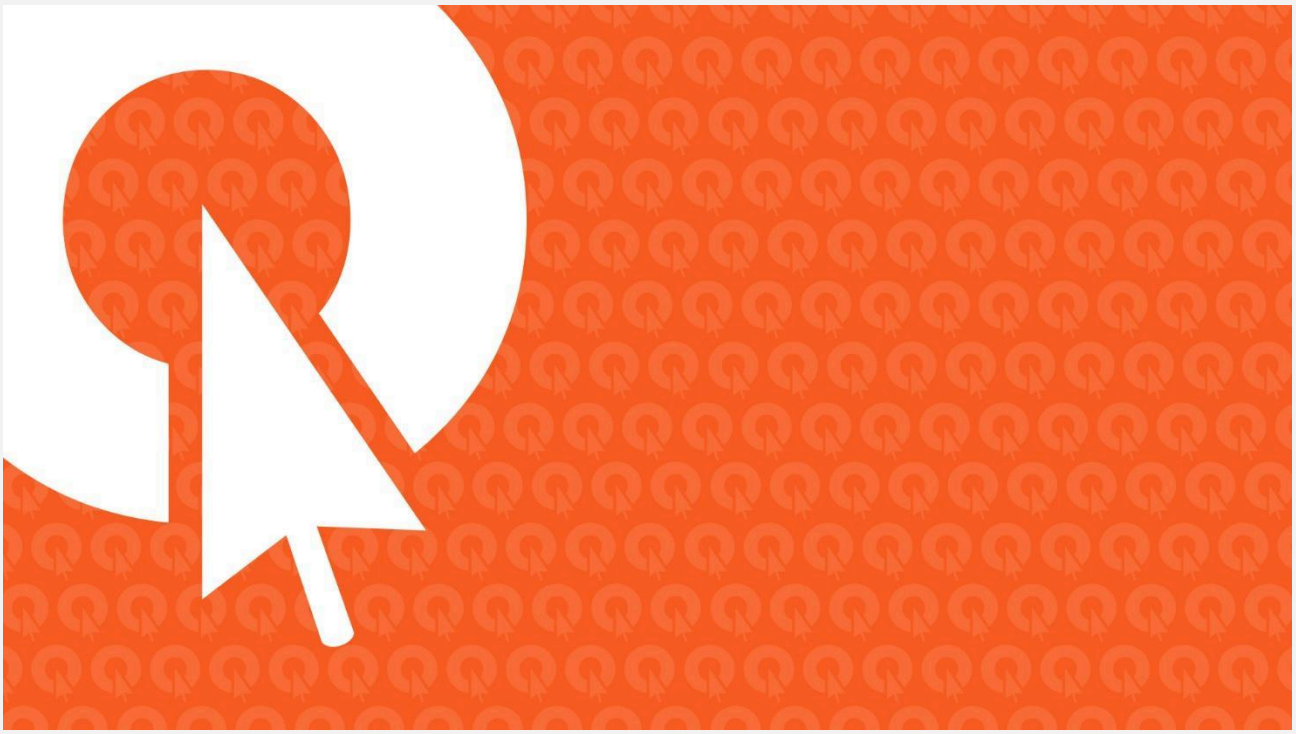

STEM In

As part of DDP, the second framework focuses on creating structured opportunities for secondary school students to physically enter a HEI and experience college life in STEM pathways from the inside. These initiatives include Open Days, campus visits, themed workshops, laboratory demonstrations, and events designed to immerse students in the academic, social, and cultural environment of the STEM departments. By allowing students to explore facilities, meet current learners, alumni, and lecturers, and observe real teaching and research spaces, STEM In makes STEM in higher education tangible and relatable. These experiences help students visualise themselves in a third-level setting within scientific and technical domains, understand available pathways and support services, and develop a clearer sense of belonging and aspiration. The following sections outline how to organise and deliver effective STEM In activities.

Planning and coordination

Engagement with schools and groups

The organisation of a STEM In activity begins with structured communication with schools and with youth groups or community organisations, particularly those facilitating female students' introduction to STEM. This initial contact should outline the purpose of the visit, the type of event being offered (Open Day, workshop, themed tour, etc.), and the available dates. It is useful to discuss expected group size, students' year groups, and any specific interests or curriculum links that could shape the visit. Early engagement ensures that the event aligns with the needs of the visiting group and allows the institution to tailor the experience accordingly.

Campus logistics

Once interest is confirmed, logistical details must be clearly established. These typically include:

- Event date and duration

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- Arrival and departure times
- Meeting point and circulation plan
- Group size and supervision requirements
- Accessibility needs
- Audio-visual or laboratory requirements

Because STEM In activities take place on campus, coordination with internal services (security, room bookings, laboratory managers, student services) is essential. Early planning helps avoid scheduling conflicts and ensures that all spaces are available, safe, and appropriately prepared.

Hand-outs, materials, and digital resources

Effective on-campus STEM In events rely on a range of materials that support engagement and provide prospective students, families, and teachers with clear take-home information. These may include:

- Open Days website area with link to speaker profiles, academic and administrative contacts (consider specially making it mobile-friendly, or even turning it into an app, for ease of use)
- Digitally available workshop guidelines and presentation slides tailored to the event
- Digital and printed programme guides, brochures, and flyers
- Interactive maps of the campus and specific STEM buildings
- QR codes linking to admissions pages, course information, newsletter, scholarships, and student support
- Consent forms for photography or media
- Safety guidelines for laboratory access
- Feedback forms (digital or paper)

Because students are entering an unfamiliar environment, materials should be clear, visually appealing, accessible, available both online and offline, and easy to navigate.

It is important to recognise that some prospective students may be neurodivergent and benefit from additional supports to navigate the campus environment. Providing clear, simplified or sensory maps (as needed), orientation toolkits, and step-by-step wayfinding guidance can significantly improve their experience. One or more quiet sensory rooms should also be available, offering a calm space for visitors who may need time to decompress during the event.

Key roles in the STEM In team

STEM Events Coordinator

Oversees planning and delivery, manages logistics, liaises with internal departments, and acts as the main contact for visitors. Ensures the event is coherent, safe, and welcoming.

Faculty, Technical Staff, Alumni and Students

Deliver academic content, demonstrations, and workshops. Their combined expertise provides depth, authenticity, and a range of perspectives on STEM pathways and campus life. Consider having specific STEM role models as speakers, presenters and guides, who can be memorable and authentic for prospective students.

Front-of-House and Welcome Team

Manage check-in, distribute materials, and direct visitors to starting points. Their presence helps create an organised, reassuring first impression.

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Wayfinding and Campus Guides
Support navigation across buildings and outdoor areas, ensuring visitors move smoothly between sessions and remain on schedule.

Laboratory and Workshop Stewards
Monitor safety protocols, manage capacity, and assist technical staff during demonstrations or hands-on activities in specialised spaces.

Accessibility and Inclusion Support
Provide alternative routes, sensory-friendly maps, quiet spaces, and one-to-one assistance for visitors who require additional support, including neurodivergent visitors.

Logistics and Operations Assistants
Handle room turnover, equipment setup, signage placement, and coordination with campus services to maintain a seamless event flow.

Engagement and Outreach Officers
Offer clear information on admissions, supports, scholarships, and pathways, ensuring visitors, both families and students, leave with a solid understanding of next steps.

Many of these roles can be carried out by trained student volunteers. Participation can be recognised as part of structured extracurricular engagement, contributing to leadership awards, digital badges, or recognition of academic excellence upon graduation. This approach supports event delivery while giving students valuable experience in communication, teamwork, and public engagement. See Appendix 4.

Implementation timeline

4–6 weeks before the event
Planning begins with room bookings, laboratory scheduling, and coordination with campus services. STEM spaces, such as engineering workshops, computing labs, or research facilities, often require significant advance notice due to safety protocols or teaching timetables. Recruitment of staff and student ambassadors should also begin at this stage, allowing time to confirm availability and brief participants. Early invitation to schools supports promotion and ensures that families and teachers are aware of the opportunity. How these invitations are issued and registrations collected in the most effective way is also a decision to be taken well in advance.

2–3 weeks before the event
At this stage, the programme structure should be finalised. Presentation materials, laboratory demonstrations, and workshop content should be prepared and tested. All people involved in the organising team should be briefed on the event flow and their specific role within it. Clear communication with the visiting groups or individual attendees (as applicable) ensures alignment on logistics, group size, and any special requirements. The event is included in the CodeWeek website.

1 week before the event
All printed and digital materials should be finalised. Consent forms (and any necessary disclaimers), safety guidelines, and QR codes should be prepared. A full dry run of the event, including transitions between spaces and buffer timing, helps identify any gaps. Since technical interactive components are included here to engage visitors with STEM experiences, equipment should be tested and any awards or certificates prepared for distribution to participants (to be filled out with their names as needed).

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Event day

Welcome and orientation

Upon arrival, visitors should be greeted in a central, accessible location. Orientation panels and monitors, if available, can outline the schedule, introduce the team, and provide essential information about campus safety and navigation. This moment sets the tone and helps visitors feel comfortable in a new environment.

Campus experience

The core of a STEM In event is the immersive experience. This may include:

- Guided tours of STEM Department buildings
- Visits to lecture theatres and laboratories
- Demonstrations of equipment or research projects
- Workshops, hands-on activities, and STEM challenges
- Encounters with student societies or STEM clubs
- Industry partners envisioning testimonials

Even more than during school visits, the aim now is to provide a realistic sense of the academic and social atmosphere, allowing secondary school students to imagine themselves as part of the HEI community.

Interactive and reflective moments

Interactive elements such as coding tasks, engineering challenges, and Q&A sessions help deepen engagement and respond to concerns that prospective students might not yet know how to articulate. These moments allow them to ask questions, express concerns, and explore interests in a supportive environment.

Examples of workshops and interactive modules might be:

- AI Hour of Code: Introductory AI concepts through block coding.
- Inclusive App Design: Hands-on activity to prototype accessible digital tools.
- Micro:bit Trainer: Create a wearable device for exercise tracking.
- Coding Without Tech: Logical thinking activities using cards and role-play.

Wrap-up and next steps

The event should conclude with a brief reflection pathway, a visual track where visitors physically walk through and that allows them to think about what they have just experienced, discovered and achieved. At the end of the pathway, they should be prompted to choose among a series of follow up hand-outs and informative materials. Students should be encouraged to attend future Open Days, explore online resources, and stay connected with the institution. A clear closing message reinforces the idea that higher education is accessible, welcoming, and within reach. A final feedback survey should also be administered here.

When Open Days are designed for individual students and their families rather than arranged through schools, several aspects of planning, delivery and engagement shift significantly. These events tend to be more flexible, more personalised, and more diverse in audience composition, requiring a different operational approach.

Unlike school-organised visits, family-based Open Days attract attendees with highly varied levels of knowledge, confidence, and motivation. Parents often arrive with detailed questions about admissions, fees, accommodation, safety, and long-term career prospects, while students may be more focused on campus atmosphere, facilities, and

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subject choice. This dual audience requires presenters to balance academic information with practical, logistical, and psychological guidance.

Open Days targeted to individuals and families may be more self-directed or semi-structured. Visitors choose which talks, tours, or demonstrations to attend, creating a more fluid and less linear event. This might require:

- Multiple repeated sessions
- Clear signage and wayfinding
- Staff positioned across campus for guidance
- Flexible room management
- Accommodating different arrival times and varied visit durations

Because conversations are shorter and more spontaneous, HEI representatives must be prepared for impromptu questions and quick transitions. Families often seek reassurance, clarity, and personal connection. Student ambassadors play a crucial role here, offering relatable insights and reducing the perceived distance between prospective students, their families, and the institution.

Printed materials must be designed for self-guided exploration. Maps, schedules, QR codes, and programme guides become essential tools. Families often collect materials to review at home, so clarity and visual accessibility are key.

This type of Open Day event may benefit from a welcoming, open-campus atmosphere. Light refreshments, informal seating areas, and visible everyday student activity help create a sense of belonging. These elements appear less critical in school-organised visits but become central when families are making independent decisions. The active, inspiring participation of industry partners can also be very beneficial in individual and family on-campus events, as parents will be likely to often express a need to envision clear long-term career pathways for their children, and they will welcome the opportunity to see it as a seamless road from higher education to industry. See Appendix 5.

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Evaluation and Feedback

Developing effective and meaningful surveys

A structured evaluation framework is essential for understanding the effectiveness of HEI STEM engagement initiatives aimed at secondary school students. Pre- and post-event surveys provide a qualitative, evidence-based method for assessing who participates, what motivates them, and how their perceptions evolve through the experience. Besides measuring participant and stakeholder satisfaction, these tools reveal how well the initiative impacts different student groups and other influencing audiences (teachers and families), how effectively it communicates the value of STEM pathways, and where future improvements can be made.

Pre-event survey: demographics and interests

The pre-event survey serves as the foundation for understanding the audience. Collecting demographic information allows organisers to identify patterns in participation across age groups, school types, gender, and geographic areas. This is particularly important in STEM outreach, where participation gaps persist and targeted interventions may be needed to ensure inclusivity. For example, identifying whether students come from socio-economic disadvantage, or schools with limited access to laboratory facilities or digital resources helps contextualise their baseline exposure to STEM subjects. In the EU, this demographic trait has been identified as a predictor of poor student performance in mathematics (European Commission, 2024a).

Beyond demographics, the pre-event survey captures students' initial interests, expectations, and perceptions of STEM. This includes questions about their familiarity with specific disciplines, their confidence levels, and their motivations for attending. Such data is invaluable for tailoring the event's content and messaging. If students

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express curiosity about real-world applications, organisers can emphasise hands-on demonstrations or case studies. If they show uncertainty about STEM careers, facilitators can highlight relatable role models and accessible pathways. In essence, the pre-event survey ensures that the initiative begins with a clear understanding of the students' starting point, allowing the programme to meet them where they are. For an example of a questionnaire template please consult *Appendix 8*.

Post-event survey: engagement, motivation, and feedback

The post-event survey measures the immediate, and/or medium-term impact of the initiative. It evaluates how engaged students felt during the activities, whether the content was accessible and relevant, and which elements were most effective in capturing their interest. Engagement metrics may include perceived enjoyment, clarity of explanations, interactivity of sessions, and the usefulness of demonstrations and workshops. For an example of a questionnaire template please consult *Appendix 8*.

Since the post-event survey assesses changes in motivation, it should focus on assessing whether students feel more inclined to explore STEM subjects, participate in future events, or consider STEM-related pathways presented by the HEI that organised and administered the initiative. Tracking shifts in confidence or curiosity provides insight into the initiative's ability to demystify STEM and make it feel attainable. For many students, especially those who do not initially see themselves as "STEM people", even a small increase in confidence and open-mindedness can be a meaningful outcome.

Feedback on logistics, communication, and facilitation also plays a central role. Students and teachers can highlight what worked well and what could be improved, from the pacing of sessions to the clarity of instructions. This qualitative input helps refine future iterations of the programme, ensuring that the initiative remains responsive to the needs of its audience.

In fact, post-event surveys could also be submitted to teachers and family members involved and participating in HEI initiatives, such as Open Days. Particularly for teachers, the information collected as a follow-up to recurring initiatives represent a precious source to build trends in satisfaction, requirements on the content delivered, and ideas for the future.

Integrating insights for continuous improvement

Together, the pre- and post-event surveys create a feedback loop that strengthens the initiative over time. By comparing baseline perceptions with post-event outcomes, HEI organisers can identify which messages resonate most strongly, which activities generate the highest engagement, and which groups may require additional support or targeted outreach. This evidence-driven approach ensures that STEM engagement initiatives remain dynamic, inclusive, and aligned with the evolving interests, the expectations, and the tone of voice that appeal to secondary school students.

Privacy, and underage protection

When collecting data from secondary schools, GDPR requires strict safeguards. Under-16s are considered a vulnerable group, and schools must obtain verified informed parental consent before any personal data is processed. From the age of 16, the treatment of children's personal data is subject to the full range of EU GDPR regulations (art 8.1), as well as to national and local law and regulations. In any case, only information that is strictly necessary should be collected, stored securely, and kept for a limited time. Students and parents must be informed, in clear language, about what data is gathered, why it is needed, how it will be used, how long it will be kept for. Participation must always be voluntary.

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In practice, surveys should preferably be anonymous, whenever possible. Before distribution, schools should be informed on the purpose, data type, and retention timeframe of the administration and analysis of the survey, as well as on the time and terms of result publication. Regardless of the anonymous format of data collection, EU and national GDPR-compliant survey tools must be developed, and results must be reported only in aggregated form to avoid identifying individual students.

Impact scoreboard for metrics assessment

A comprehensive impact scoreboard allows each higher education institution and outreach organiser to evaluate their own STEM initiatives with precision, consistency, and comparability across cohorts. By structuring the evaluation around seven quantitative categories, the scoreboard captures not only immediate reactions but also inclusivity, the educational value delivered, behavioural follow up and how effective the HEI call to action was, in practical enrolment terms. Each category contributes a distinct layer of insight, and together they form a robust, data-driven framework (Pokropek, 2024).

Indicators described below are intended to measure contribution and correlation rather than direct causality. Changes observed should be interpreted as indicative of programme influence alongside other educational and contextual factors.

Change in student interest in STEM programmes

This metric measures how students' attitudes toward STEM topics and activities proposed evolve from before to after the event. The scoreboard records the average shift across participants, highlighting whether the initiative successfully increased curiosity or reduced perceived barriers. This metric is particularly valuable for identifying which groups (e.g., younger students, girls, students from under-resourced schools) show the strongest or weakest change, allowing for targeted improvements in future outreach.

Engagement levels during workshops and talks

Engagement reflects how actively students participate in the event. It can be measured through facilitator observations, participation in interactive tools (polls, quizzes, challenges), and short post-session rating, expressed for instance with feedback emojis. The scoreboard aggregates these into an engagement index that captures attentiveness, enthusiasm, and willingness to contribute. High engagement suggests that the content, pacing, and delivery methods resonate with students' interests, speaks their language, and meets their learning styles. Low engagement may indicate the need for more hands-on activities, clearer explanations, or more relatable examples.

Awareness and understanding of STEM pathways

Beyond interest, it is important to measure whether students leave the event with a clearer understanding of what the HEI STEM programmes involve. This metric assesses comprehension of course content, entry routes, skills required, and potential career outcomes. It can be measured through short knowledge-check questions or reflective prompts. A rise in pathway awareness indicates that the initiative effectively demystified STEM and made it more accessible.

Confidence in STEM skills and community belonging

Confidence is a key predictor of whether students are likely to pursue STEM subjects. This metric captures changes in students' perceived ability to engage with STEM tasks, solve problems, or participate in digital-skills activities. It can also keep track of anonymous individual repeated participation, thus signalling a feeling of belonging to an existing

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STEM community in which the HEI is the core. Using pre- and post-event ratings, the scoreboard identifies whether the initiative helped students feel more capable, less intimidated by technical subjects, and overall closer to the STEM ecosystem created by the HEI. This metric can be also extended by sharing the measurement with teachers willing to continue the assessment in class in the aftermaths of one or more HEI events.

Teacher, parent and coordinator feedback

Teachers, parents, and career coordinators provide essential contextual insight. Their feedback can highlight logistical strengths, educational effectiveness, behavioural shifts, and alignment with curriculum needs. This metric includes ratings on clarity, relevance, organisation, and perceived student benefit. High scores indicate that the HEI initiative supports school-level objectives, both in-class and at home.

Inclusivity and reach

This metric evaluates whether the initiative successfully engages diverse student groups. It tracks participation across gender, school type, geographic area, and socioeconomic background. The scoreboard highlights gaps in reach and helps organisers design more equitable outreach strategies.

Future actions and follow up

This metric tracks what students do after the event, offering insight into longer-term influence. Examples include visits to the HEI STEM programmes website, downloads of informational materials, sign-ups for open days, or participation in follow-up workshops, camps and advanced engagement initiatives. These behaviours are strong indicators of sustained motivation. The scoreboard records both absolute numbers and conversion rates, showing how many students move from passive interest to active exploration of STEM pathways and ultimately enrol in one of the STEM programmes and pathways that the HEI offers. See Appendix 6.

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Digital Outreach and Communication

Along with the organisational steps previously outlined, a successful STEM outreach initiative does not begin on the day of the event. It develops through the weeks before the event in the digital spaces where students, teachers, and schools already live, and it adds a layer of printed materials only as a continued support of in-person interaction. The communication strategy must therefore unfold as a digital journey that builds awareness, sparks curiosity, and ultimately converts interest into participation. This journey requires establishing a strong digital presence that acts as the anchor for all subsequent communication efforts. However, digital channels should not be the only channel for STEM outreach communication, as HEI may have unique local and community channels to effectively engage with the targets previously identified (Bucchi and Trench, 2025).

The Channels

Core digital infrastructure: HEI website as the anchor of events promotion and preparation

On the HEI website, a dedicated event landing page becomes the central reference point. Whether it is open to the public or restricted to the invited audience, it is a place where teachers can find logistical information, students can explore the workshops, and parents can understand the value of participating in HEI STEM initiatives. This page must be visually engaging, mobile-friendly, and designed around clear calls to action, not simply as a repository of information, but as the narrative gateway into the event.

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Direct digital outreach to school contacts and educators

From this foundation, the strategy expands into direct digital outreach to schools and educators. Email remains one of the most reliable channels for reaching teachers, but it must be used with intention. Instead of a single announcement, the communication unfolds as a sequence:

- an initial invitation
- a reminder as the date approaches, or as a further invitation to check interest
- a final confirmation message that includes practical details.

Each email is crafted to be easily forwarded within the school, enabling principals, coordinators, and teachers to distribute information to students, families, and colleagues as a further promotional tool. A digital briefing kit is part of the email in the form of short text blocks, visuals, and ready-made announcements that schools can paste into their newsletters, websites, or internal communication channels.

Student-facing social media ecosystem

Parallel to educator-focused outreach, the HEI strategy must speak directly to students in the digital environments they feel comfortable in. Social media becomes the narrative engine here, not through generic posts but through content designed to resonate with the voice of youth culture. Short-form videos, campus event behind-the-scenes glimpses, and countdown moments create anticipation, particularly for STEM In initiatives. The tone is informal, energetic, and visually dynamic, reflecting the anticipation of hands-on STEM experiences. Rather than relying solely on institutional accounts, the strategy leverages peer influence: student ambassadors, young STEM role models, or past participants who can amplify messages with authentic enthusiasm.

Interactive digital tools for engagement and conversion

Digital engagement deepens through interactive elements that invite students to participate before the event even begins, via a link between social media and HEI dedicated website pages. Online quizzes, mini-challenges, part of playful series such as "Find your STEM superpower" transform a social media campaign into an experience. These interactions serve a dual purpose: they spark curiosity while also driving traffic back to the event landing page, where the challenge is located. QR codes become a subtle but powerful connector, appearing on digital posters and school screens, previously shared by email with school contacts. A quick scan leads students directly to teaser videos, increasing students' awareness around the upcoming event, and supporting on-event action.

For schools with established digital communities, platforms like Discord or Slack can host channels dedicated to event updates, Q&A sessions, or pre-event challenges. These spaces create a sense of belonging and anticipation, especially for students already engaged in STEM clubs or digital learning groups.

High open rate messaging platforms to reach family audiences

Messaging platforms add another layer of information and interaction, particularly with families. WhatsApp offers unparalleled open rates and is widely used by teachers for quick communication with parents. Short, visually appealing messages, designed for easy forwarding and pointing to immediate responses to ensure that information reaches this key audience in a format they are accustomed to.

Institutional and partner digital networks

The digital strategy also extends into institutional and partner networks. Industry partners, and STEM organisations, such as junior code clubs, often have established digital audiences that include teachers, parents, and prospective students. By integrating the event into their newsletters, social feeds, event calendars, and outreach portals, the

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initiative gains visibility within trusted ecosystems. This cross-promotion reinforces credibility and broadens reach without additional cost.

Campaign data enablement

Finally, the entire digital communication effort is supported by a layer of analytics and optimisation. Every link, post, and message is trackable, allowing organisers to understand which channels drive the most engagement and which messages resonate most strongly. This data-driven approach ensures that communication is not static but evolves in real time, adapting to audience behaviour and maximising impact. See Appendix 7.

Partnerships with third parties

Partnership development is a central pillar of any effective STEM outreach programme, and HEI have a unique opportunity to build ecosystems of collaboration that extend beyond their own campuses. Engaging external partners not only enriches the student experience through mentorship, internship, and scholarship, but also strengthens the relevance, visibility, and long term sustainability of STEM initiatives. When HEI position themselves as open, outward looking institutions, they create a dynamic environment where industry, alumni, and community organisations can meaningfully contribute to the development of future talent.-term sustainability of STEM initiatives. When HEI position themselves as open, outward-looking institutions, they create a dynamic environment where industry, alumni, and community organisations can meaningfully contribute to the development of future talent.

One of the most impactful forms of engagement comes from collaborating with technology companies and industry entities. These partnerships bring real world expertise directly into the learning environment through guest talks, masterclasses, and hands-on demonstrations. Industry partners can also provide sponsorships that support events, competitions, or equipment, ensuring that outreach activities remain ambitious and well resourced. Students benefit from exposure to emerging technologies, career pathways, internship programmes, company scholarships, and authentic professional narratives that cannot be replicated through classroom teaching alone.-world expertise directly into the learning environment through guest talks, masterclasses, and hands-on demonstrations. Industry partners can also provide sponsorships that support events, competitions, or equipment, ensuring that outreach activities remain ambitious and well-resourced. Students benefit from exposure to emerging technologies, career pathways,

Alumni networks represent another powerful, potentially underused, resource. Former students who have progressed into STEM careers can function as relatable role models, offering insights into their professional journeys and demystifying the transition from education to industry. Their involvement reinforces a sense of continuity and belonging, showing current students that the pathways they aspire to are both achievable and diverse. They can also be the trailblazers that create reliable industry partnerships.

Beyond industry and alumni, HEI can deepen their impact by engaging with coding communities, youth tech clubs, and nonprofit organisations. These groups bring energy, grassroots expertise, and the ability to engage youth audiences. Collaborations might include online side events, such as social media takeovers in which partners' organise workshops, hybrid coding sessions streamed through HEI channels, or codesigned challenges that blend educational credibility with community driven creativity. Such partnerships expand reach, diversify participation, and create a more inclusive STEM culture.-designed challenges that blend -driven creativity. Such partnerships expand reach, diversify participation, and create a more inclusive STEM culture.

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External partnerships allow HEI to build a vibrant, interconnected STEM ecosystem that inspires students, strengthens community ties, and positions the HEI as a catalyst for innovation.

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Appendix 1

Register of Processing Activities

Information collected	Processed Item
Data categories	Name Surname Role (principal, counsellor, parent representative) School email School address Source (e.g., Ministry of Education directory, school website, TYhub.ie) Last update Updated by
Purpose of processing	To inform schools about STEM events, workshops, and opportunities for senior cycle students.-cycle students.
Legal basis	Article 6(1)(e) or 6(1)(f) Regulation (EU) 2016/679 of the European Parliament and of the Council: public interest in education / legitimate interest in outreach.
Retention period	Typically, 12–24 months, with annual review. Expected time to removal from the list in case of opt-out.
Access controls	Only designated HEI staff + authorised student volunteers (if you choose to involve them).
Opt-out mechanism	"Click on the 'Unsubscribe' button to be removed from our mailing list." "Reply 'unsubscribe' to this message to be removed from our mailing list."

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Data processing and security measures	Software used for data management Password protected spreadsheet or CRM-protected spreadsheet or CRM Restricted access No sharing with third parties

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Appendix 2

STEM On Tour – Roles and Responsibilities

Role	Primary Focus	Core Responsibilities	Interaction with Schools
Schools Partnerships Lead	Organisation, coordination, and relationship management	Oversees visit calendar; manages logistics, communication, and content; ensures alignment with objectives and school requirements	Acts as main point of contact; ensures smooth planning and delivery
Faculty, Staff, Alumni & Students	Educational content, inspiration, and subject expertise	Deliver workshops, presentations, demonstrations; engage directly with students	Interact during the visit through teaching, mentoring, and hands-on activities-on activities

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Appendix 3

STEM On Tour – Implementation Timeline

Timing	Organisational Phase	Key Activities
T-6 to T-4 Weeks	Early Planning	Book rooms or confirm school facilities (classroom, gym, theatre hall) Check institutional constraints for laptops, monitors, AV tools Recruit staff, speakers, alumni, and student ambassadors Allow extra time for alumni responses; aim to confirm participants by T-2 weeks Ensure diversity of voices (technician, librarian, counsellor) Begin communication and promotion to families and teachers
T-3 to T-2 Weeks	Content and Coordination	Finalise participant list Prepare slide decks, videos, demonstrations, workshop materials Test all technical setups Brief all presenters; ensure alignment with the overall narrative Organise a rehearsal for all speakers Maintain clear communication with the school to confirm logistics Upload event information on CodeWeek website
T-1 Week	Final Preparation	Finalise brochures, flyers, QR codes, and marketing materials Prepare consent forms for photography/media Conduct a full run through of the visit-through of the visit Pack kits, devices, chargers, and workshop materials Prepare awards, certificates, and participation stickers
Event Day	Ice Breaker	Open with light, inclusive icebreakers (e.g., "Guess the Pathway") Optional reflective prompt on early perceptions of Emoji check-in via survey app to gauge group mood-in via survey app to gauge group mood
	Formal HEI Presentation	Set expectations and outline the session flow Maintain an open, approachable tone Use clear, accessible language for students unfamiliar with HE pathways Encourage interaction throughout
	Q&A Session	Dedicate up to one third of the time to questions Include current students where possible for authentic insights Address concerns from both students and parents with clarity and reassurance
	Interactive Components	Deliver short workshops, coding challenges, engineering tasks, or demos Use pre-arranged teams to ensure inclusivity Provide certificates or stickers to reinforce participation and engagement
	Wrap-Up	Invite feedback via QR code; provide printed forms if needed

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		Conclude in a welcoming space (canteen, lounge, commons) Distribute brochures, programme guides, and highlight upcoming events Encourage future campus visits (Open Days, Discovery Days) Allow informal one-to-one conversations with students who prefer private questions-to-one conversations with students who prefer private questions
T+1 to T+3 Days	Immediate Follow-Up-Up	Send thank-you email to school contacts Share digital materials (slides, links, resources) Acknowledge student participation and highlight standout moments
T+1 Week	Internal Debrief	Review feedback and survey results Assess logistics, content flow, and team performance Identify improvements for future visits
T+2 to T+3 Weeks	Sustained Engagement	Share upcoming HEI events with the school Invite teachers to join newsletters, blogs, or dedicated events Maintain contact for future visits or collaborative activities

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Appendix 4

STEM In – Roles and Responsibilities

Role	Primary Focus	Core Responsibilities	Interaction with Schools
STEM Events Coordinator	Overall planning, coordination, and visitor management	Oversees event delivery Manages logistics Liaises with internal departments Ensures coherence, safety, and a welcoming environment	Acts as main contact for visiting schools Aligns expectations Coordinates schedules and requirements
Faculty, Technical Staff, Alumni and Students	Academic delivery and authentic STEM engagement	Deliver presentations, demonstrations, and workshops Provide diverse perspectives on STEM pathways and campus life	Engage directly with students through teaching moments, Q&A, and hands-on activities-on activities
Front-of-House and Welcome Team	First impressions and visitor orientation	Manage check-in; distribute materials-in; distribute materials Direct visitors to starting points	Provide reassurance, clarity, and a smooth arrival experience
Wayfinding and Campus Guides	Navigation and movement across campus	Guide visitors between buildings and outdoor areas Maintain timing and flow	Ensure groups stay on schedule and reach all planned sessions
Laboratory and Workshop Stewards	Safety and operational support in specialised spaces	Monitor safety protocols Manage room capacity Assist technical staff during demos and hands-on tasks-on tasks	Support safe participation during lab based or workshop activities-based or workshop activities
Accessibility and Inclusion Support	Inclusive access and visitor wellbeing	Provide alternative routes, sensory friendly maps, quiet spaces, and one-to-one assistance-friendly maps, quiet spaces, and one-to-one assistance	Ensure all students, including neurodivergent visitors, can fully participate
Logistics and Operations Assistants	Smooth event flow and technical readiness	Manage room turnover, equipment setup, signage, and coordination with campus services	Support teachers and school groups by maintaining an organised environment
Engagement and Outreach Officers	Clear communication of pathways and opportunities	Provide information on admissions, supports, scholarships, and progression routes	Offer guidance to students and families on next steps and future engagement

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Appendix 5

STEM In – Implementation Timeline

Timing	Organisational Phase	Key Activities
T-6 to T-4 Weeks	Early Planning	Room bookings and laboratory scheduling Coordination with campus services Advance notice for STEM spaces with safety or timetable constraints Recruitment of staff and student ambassadors Confirmation of availability and early briefing Invitation to schools to support promotion Decision on invitation method and registration process
T-3 to T-2 Weeks	Programme Finalisation	Finalisation of programme structure Preparation and testing of presentation materials Preparation and testing of laboratory demonstrations Preparation and testing of workshop content Briefing of all organising team members Clarification of roles and event flow Communication with visiting groups Alignment on logistics, group size, and special requirements Event information uploaded on CodeWeek website
T-1 Week	Final Preparation	Finalisation of printed and digital materials Preparation of consent forms and disclaimers Preparation of safety guidelines and QR codes Full dry run of the event Testing of equipment for interactive components Preparation of awards and certificates
Event Day	Welcome and Orientation	Greeting visitors in a central, accessible location Use of orientation panels or monitors Introduction of the team Presentation of schedule and safety information Creation of a comfortable and welcoming atmosphere Administration of a demographic survey
	Campus Experience	Guided tours of STEM buildings Visits to lecture theatres and laboratories Demonstrations of equipment or research projects Workshops and hands-on activities-on activities STEM challenges Encounters with student societies or STEM clubs Industry partner testimonials

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	Interactive and Reflective Moments	Coding tasks Engineering challenges Q&A sessions Opportunities to express concerns and interests Supportive environment for exploration
	Wrap-Up	Reflection pathway for visitors Opportunity to think about experiences Discoveries and achievements Selection of follow-up handouts and informative materials-up hand-outs and informative materials Encouragement to attend future Open Days Promotion of online resources Clear closing message that reinforces accessibility and openness of higher education Administration of final feedback survey
Event Day **Note: Individual Participation Events**	Individual and Family Open Days	Flexible and personalised structure Diverse audience composition Dual focus on parents' practical questions and students' academic interests Self-directed or semi structured visit formats-directed or semi-structured visit formats Repeated sessions Clear signage and wayfinding Staff positioned across campus Flexible room management Accommodation of varied arrival times and visit durations Preparation for spontaneous questions and rapid room transitions Importance of student ambassadors Printed materials for self guided exploration-guided exploration Open campus atmosphere with informal seating and refreshments-campus atmosphere with informal seating and refreshments Value of industry partners for long-term career visioning-term career visioning
T+1 to T+3 Days	Immediate Follow Up	Send thank you email to school contacts, parents, and registered over-16 participants Share digital materials (slides, links, resources) Acknowledge student participation and highlight standout moments in owned media
T+1 Week	Internal Debrief	Review feedback and survey results Assess logistics, content flow, and team performance Identify improvements for future on-campus events

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T+2 to T+3 Weeks	Sustained Engagement	Share upcoming HEI events with schools, families, and participants Invite registered contacts to join newsletters, blogs, and social media Maintain periodic contact via email

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Appendix 6

Evaluation & Feedback - Scoreboard

Metric Category	Metric Name	What It Measures (Quantitative)	Formula / Measurement	Unit
Change in Student Interest in STEM	Interest Score Differential (ISD)	Average change in STEM interest rating	Post event mean – Pre-event mean-event mean – Pre-event mean	Points
	Students with Increased Interest	Students whose interest score increased	(Number increased / Total) × 100	Percentage
	Interest Conversion Rate	Students moving from low → moderate/high interest	(Converted / Total) × 100	Percentage
	Interest Stability Index	Students maintaining high interest	(High interest stable / Total) × 100-interest stable / Total) × 100	Percentage
Engagement Levels during Activities	Participation Rate	Students actively participating in STEM activities	(Participants / Total attendees) × 100	Percentage
	Interaction Frequency	Number of interactions during sessions	Count of questions, comments, inputs	Number
	Activity Completion Rate	Students completing hands-on tasks-on tasks	(Completed / Total) × 100	Percentage
	Attendance Retention Curve	Students remaining engaged over time	% present at 15/30/45 minutes	Percentage
Awareness of STEM Pathways	Pathway Knowledge Gain	Increase in correct answers to STEM pathway questions-pathway questions	Post event score – Pre-event score-event score – Pre-event score	Points
	Programme Understanding Rate	Students scoring above a defined threshold	(Above threshold / Total) × 100	Percentage
	Misconception Reduction Index	Reduction in incorrect assumptions about STEM	Pre-event misconceptions – Post event misconceptions-event misconceptions – Post-event misconceptions	Count
Confidence and Self-Efficacy in STEM	Confidence Score Differential	Change in self reported STEM confidence-reported STEM confidence	Post event mean – Pre-event mean-event mean – Pre-event mean	Points
	Students Reporting Increased Confidence	Students whose confidence increased	(Increased / Total) × 100	Percentage

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	Skills Self Assessment Index-Assessment Index	Perceived ability in STEM tasks	Score on 1 - 5 scale	Points
Teacher and Coordinator Feedback	Satisfaction Score	Overall rating of event quality	Likert	Points
	Curriculum Alignment Score	Perceived relevance to STEM curriculum	Score on 1 - 5 scale	Points
	Recommendation Rate	Teachers willing to recommend the event	Likert	Points
Inclusivity and Reach	Gender Participation Ratio	Gender balance in participation	Female / Male (or other categories)	Ratio
	Under-represented Group Participation Rate	Participation from target groups	(Target group participants / Total) × 100	Percent
	Geographic Reach Index	Number of schools/regions represented	Count of distinct locations / regions	Number
	Socioeconomic Diversity Score	Participation from low resource schools-resource schools	(Low resource participants / Total) × 100-resource participants / Total) × 100	Percent
	Inclusivity Growth Rate	Year on year increase in participation from underrepresented groups-on-year increase in participation from under-represented groups	(This year – Last year) / Last year × 100	Percent
Future STEM Actions and Follow-through-Thro ugh	Multiple events participation	Repeated participation in HEI STEM events	(Multiple participation sign-ups / Total) × 100	Percent
	Website Visit Rate	Change in visits to STEM website pages Y/Y or M/M	(This year – Last year) / Last year × 100	Percent
	Resource Download Count	Change in downloads of STEM materials	(This year – Last year) / Last year × 100	Percent
	Open Day Sign-up Rate-Up Rate	Previously participating students registering for STEM open days	(Sign-ups / Total) × 100	Percent
	Newsletter Subscription Rate	Students opting into STEM updates	(Subscriptions / Total) × 100	Percent
	Follow-up Engagement Ratio-Up Engagement Ratio	Total follow-up actions per participant-up	Total follow-ups / Total participants-ups / Total participants	Ratio

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		actions per participant		
	Impact on Conversion Funnel	Participating students who enrol in HEI STEM programmes (separately measured)	(Participating students enrolments / Total) × 100	Percent

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Appendix 7

Digital Outreach and Communication — Schedule

Timeframe	Channel / Tool	Practical Actions
T-6 Weeks	HEI Website (Landing Page)	Publish landing page - upload workshop descriptions - add CTAs - ensure mobile optimisation - activate analytics tracking
	Digital Briefing Kit	Finalise text blocks, visuals, newsletter inserts - prepare downloadable pack for schools
T-5 Weeks	Email to Schools (Initial Invitation)	Send first announcement - include landing page link - provide "save the date" message for internal forwarding
	Internal Prep	Prepare social media assets (videos, graphics, countdown templates)
T-4 Weeks	Email to Schools (Briefing Kit)	Send second email with full digital briefing kit - encourage schools to publish on their website and newsletters
	School Digital Channels	Schools to post about event on their website, digital noticeboards, and internal platforms
	Social Media (Awareness Phase)	Launch first wave of posts: event announcement, behind-the-scenes organisation clips, student ambassador content-the-scenes
	Analytics Review	Monitor engagement - boost high performing posts - adjust messaging based on data-performing posts
T-3 Weeks	Interactive Tools	Release interactive challenges ("Find your STEM superpower") - link to landing page
	QR Codes	Email QR codes to schools - instruct them to display on digital screens and virtual boards
	Discord/Slack (Optional)	Open channels for schools with digital communities: begin posting updates and pre-event prompts-event prompts
	Analytics Review	Monitor engagement - boost high performing posts - adjust messaging based on data-performing posts
T-2 Weeks	WhatsApp (Family Outreach)	Provide teachers with WhatsApp ready messages for parents - include visuals and direct links-ready messages for parents

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	Social Media (Event Previews)	Publish workshop teasers, speaker highlights, and short videos - promote again interaction with engagement content and tools
	School Facebook Pages	Encourage schools to share event posts on their community pages
	Analytics Review	Monitor engagement - boost high performing posts - adjust messaging based on data-performing posts
T-1 Week	Email to Schools (Final Confirmation)	Send final logistical email with schedules, instructions, and last-minute reminders
	Social Media (Countdown Phase)	Begin daily countdown posts - activate student ambassador amplification
	Partner Networks	Industry partners, and STEM organisations publish anticipation posts and newsletter mentions
	Analytics Review	Monitor engagement - boost high performing posts - adjust messaging based on data-performing posts
Event Week	WhatsApp (Final Reminders)	Send short, actionable, reassuring reminders to families via teachers
	Social Media (Final Push)	Publish "last chance to join" posts, where applicable - share final teasers; keep interactive tools active
	Landing Page Update	Add final instructions or updates - ensure clarity for participants through a collection of Q&A from previous weeks
	Discord/Slack	Keep channels open for further Q&A and last-minute support.
	Analytics Review	Monitor engagement - boost high performing posts - adjust messaging based on data-performing posts
Post Event (T+1 to T+7 Days)-Event (T+1 to T+7 Days)	Email to Schools	Send thankyou message - share follow-up materials, certificates, and resources-you message-up materials, certificates, and resources
Post Event-Event	Social Media	Publish highlight reel, photos, and key outcomes
	Analytics and Reporting	Review email metrics, social engagement, QR scans, landing page traffic; document insights for final reporting and improvement

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Appendix 8

This appendix provides examples of possible questions to be used for the Demographic and Interests Questionnaire and for the Engagement and Awareness Questionnaire & Feedback Questionnaire. When collecting data strict safeguards are required under General Data Protection Regulation (GDPR). Under-16s are considered a vulnerable group, and every HEIs must obtain verified informed parental consent before any personal data is collected and processed. The treatment of children's personal data is subject to the full range of EU GDPR regulations (art 8.1), as well as to national and local law and regulations. Only information that is strictly necessary should be collected, stored securely, and kept for a limited time. Students and parents must be informed, in clear language, about what data is gathered, why it is needed, how it will be used, and how long it will be kept for. Participation must always be voluntary.

In practice, surveys should always be anonymous. Before distribution, schools should be informed on the purpose, data type, and retention timeframe of the administration and analysis of the survey, as well as on the time and terms of result publication. Regardless of the anonymous format of data collection, EU and national GDPR-compliant survey tools must be developed, and results must be reported only in aggregated form to avoid identifying individual students.

Questionnaires Templates are indicative and must be adapted or reduced to ensure proportionality.

Demographic and Interests Questionnaire – Example Questions

1. Are you
    - Female
    - Male
    - Other

2. Do you have access to a PC or laptop at home?
    - Yes
    - No

3. Do you use a smartphone to (multiple answer question - select all the options that apply)
    - Talk with family and/or friends
    - Read
    - Search the Internet
    - Do schoolwork

4. What is your favourite subject in School?

5. What is your least-liked subject in School?

6. Did you hear about <programming>/ <science, technology, engineering, and mathematics> before attending the <Open Day Event><Pilot>?
    - Yes
    - No
    - Not sure

7. Have you ever had any classes about about <programming>/ <science, technology, engineering, and mathematics>?
    - Yes
    - No

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- I do not know

8. How do you feel about learning programming?
   - I love it
   - I like it
   - It is OK
   - I dislike it
   - I hate it

9. How do you feel about learning maths?
   - I love it
   - I like it
   - It is OK
   - I dislike it
   - I hate it

10. How do you feel about learning science?
    - I love it
    - I like it
    - It is OK
    - I dislike it
    - I hate it

11. How do you feel about learning technology?
    - I love it
    - I like it
    - It is OK
    - I dislike it
    - I hate it

12. I find learning maths programming
    - Strongly Disagree
    - Disagree
    - Neutral
    - Agree
    - Strongly Agree

13. I find learning maths difficult
    - Strongly Disagree
    - Disagree
    - Neutral
    - Agree
    - Strongly Agree

14. I find learning science difficult
    - Strongly Disagree
    - Disagree
    - Neutral
    - Agree
    - Strongly Agree

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15. I find learning technology difficult
    - Strongly Disagree
    - Disagree
    - Neutral
    - Agree
    - Strongly Agree

16. I find learning programming boring
    - Strongly Disagree
    - Disagree
    - Neutral
    - Agree
    - Strongly Agree

17. I find learning maths boring
    - Strongly Disagree
    - Disagree
    - Neutral
    - Agree
    - Strongly Agree

18. I find learning science boring
    - Strongly Disagree
    - Disagree
    - Neutral
    - Agree
    - Strongly Agree

19. I find learning technology boring
    - Strongly Disagree
    - Disagree
    - Neutral
    - Agree
    - Strongly Agree

20. What would you like to study for your undergraduate degree?

21. What would be your ideal job?

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Engagement and Awareness Questionnaire & Feedback Questionnaire – Example Questions

Engagement and Awareness Questionnaire

Engagement with Materials

1. On a scale of 1 to 5, how engaging did you find the materials presented?
    1. Not engaging at all
    2. Slightly engaging
    3. Moderately engaging
    4. Very engaging
    5. Extremely engaging

2. Which materials did you find most engaging? *(Check/Select all that apply)*

    ☐ Slide deck presentations

    ☐ Videos

    ☐ Brochures

    ☐ Posters/Banners

    ☐ Online materials (website or digital platform)

    ☐ Interactive activities (e.g., quizzes, hands-on task, live sessions)

    ☐ Other (please specify): _____

3. What aspects of the materials helped maintain your engagement?

    _____

4. Did the presentation/materials presented keep your attention?
    1. I completely lost interest
    2. I was distracted often
    3. I paid some attention
    4. I was mostly focused
    5. I was fully engaged the entire time

5. How well did you understand the information presented?
    1. Did not understand at all
    2. Understood a little
    3. Somewhat understood
    4. Mostly understood
    5. Completely understood

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Awareness and Understanding of Programmes/Degree Offerings

6. Did you find the presentation relevant to you?
    1. Not relevant at all
    2. Slightly relevant
    3. Moderately relevant
    4. Very relevant
    5. Extremely relevant
7. Before attending today's event, how familiar were you with the <Higher Education Institution>'s programmes?
    1. Not at all familiar
    2. Slightly familiar
    3. Somewhat familiar
    4. Very familiar
    5. Extremely familiar
8. After engaging with the materials, how well do you now understand the degrees/programmes offered?
    1. Not at all
    2. Slightly well
    3. Moderately/somewhat well
    4. Very well
    5. Extremely well
9. Do you understand the admission process?
    1. Not at all
    2. A little
    3. Somewhat
    4. Very well
    5. Completely
10. What new information did you learn about the <Higher Education Institution>'s degree offerings?

---

11. Did any particular degree/programme stand out to you? If yes, which one(s) and why?

Interest in Studying at the <Higher Education Institution>

12. After engaging with the materials, how likely are you to consider applying for a programme at <Higher Education Institution>?
    1. Not likely at all
    2. Slightly likely
    3. Moderately likely

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4. Very likely
5. Extremely likely

13. What factors influenced your level of interest? *(Check/Select all that apply)*

- ☐ Course content and structure
- ☐ Career prospects
- ☐ Reputation of the Higher Education Institution
- ☐ Facilities and campus environment
- ☐ Other (please specify): _____

14. Do you feel you have enough information to make an informed decision about studying at <Higher Education Institution>?

- Yes
- No (please explain what additional information you would need): _____

Feedback: Usability, Accessibility and Suggestions for Improvements Questionnaire

15. How intuitive was the layout and the design of the materials presented?

1. Very confusing
2. Somewhat confusing
3. Neutral
4. Somewhat intuitive
5. Very intuitive

16. Were the degree(s)/programme(s) descriptions clear and informative?

1. Not at all clear
2. Somewhat unclear
3. Neutral
4. Somewhat clear
5. Very clear

17. Were the fonts, colours and contrast comfortable for reading?
1. Not at all
2. Somewhat uncomfortable
3. Neutral
4. Somewhat comfortable
5. Very comfortable

18. Were the images and graphics helpful in understanding the information presented?
1. Not at all helpful
2. Somewhat unhelpful
3. Neutral
4. Somewhat helpful

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5. Very helpful

19. How would you rate the quality of the materials?
    1. Very poor
    2. Poor
    3. Neutral/fair
    4. Good
    5. Excellent

20. Was the length of the presentation appropriate?
    1. Much too short
    2. Slightly too short
    3. Just right
    4. Slightly too long
    5. Much too long

21. What would make the <Open Event/Open Day> more engaging or informative?

_____

22. Do you have any other comments or feedback?

_____

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Appendix 9

Presentation Guide

This section provides a detailed, slide-by-slide guide on adapting the provided template to create a faculty-specific version for the STEM On Tour events and/or STEM In events. The example customized slide deck is used as a reference to demonstrate a specialized presentation for the Faculty of Automatic Control (ACS) and Computers at POLITEHNICA Bucharest.

The purpose of the presentation is to:

- Attract top high school students from mathematics, physics, and IT-focused classes who are passionate about technology, programming, and engineering.
- Recruit motivated students who understand that they are choosing a top-tier, challenging faculty with high rewards and career opportunities in research, industry, corporate environments, or technology startups.

In terms of presentation format and timing, the following are recommended:

- Recommended duration: 30–35 minutes to allow time for Q&A.
- If necessary, the presentation can extend to 45 minutes but be mindful of engagement.
- It is best to divide the slides among 1-2 professors/lecturers and 2-3 students to maintain a dynamic pace.
- Avoid covering every single slide in full detail—adapt the content to the audience and prioritize key messages.
- Use interactive elements such as:
    - Open-ended questions (e.g., "Who can give an example of...?" or "How do you see X field evolving?")
    - Polls (e.g., "Who thinks X vs. Y?")
    - Online audience engagement (e.g., raise-hand features for virtual presentations).

Below are the key themes to emphasize:

- **A Prestigious, Challenging Faculty/Higher Education Institution** – The faculty/higher education institution is high-level, demanding, but rewarding.
- **The Faculty/Higher Education Institution as a Community of Excellence** – Students join a top-tier academic environment with like-minded peers and dedicated professors.
- **Career Opportunities** – Graduates have strong prospects in research, industry, corporate IT, or tech entrepreneurship.
- **Extracurricular Activities** – Highlight opportunities in competitions, volunteering, research projects, and student organizations.

You can find below the suggested role assignments:

- **Professors/Lecturers:** Overview of the faculty, curriculum, and career opportunities.
- **Senior Students:** Provide real-life insights into student life, research, and competitions.
- **Moderators:** Manage time and engage the audience with questions.

The table below outlines how the slides are typically distributed among presenters and the key topics covered.

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Slide number	Topic	Presenter(s)
2	Presentation team	All
3-5	Differences: high school vs. higher education institution	Professor/Lecturer / Senior Student
6-8	Institution (higher education, faculty) and directions in your institution	Professor/Lecturer
9-16	Example projects	Professor/Lecturer
17-19	Competitions, summer schools	Student
20	International opportunities, Erasmus+	Student
21-22	Events and volunteering	Student
23	Specialized labs and research projects	Professor/Lecturer
24-25	Career opportunities	Student / Professor/Lecturer
26	Admission process	Student / Professor/Lecturer

Below, we present a slide-by-slide customization guide:

- Slide 2: Presentation team
  - Template content: Placeholder for names of the presentation team.
  - How to customize:
    - Replace placeholders with the actual presenters' names, titles, and affiliations.
    - Add photos to create a personal connection with the audience.
    - Ensure the team includes a mix of professors/lecturers, students, and alumni to provide diverse perspectives and highlight the diversity of the team (professors, students, alumni).
    - Extra tip: If you have past student ambassadors who have successfully transitioned to higher education life, include them in the team.
    - ACS example: The team slide includes both faculty members and current students, showing a mix of academic and student perspectives.
- Slides 3-5: Differences – High School vs Higher Education Institution (HEI)
  - Template Content: "Welcome to" (explains the shift from high school education to higher education-level learning)
  - How to customize:
    - Replace "" with the actual higher education institution's name and faculty name.
    - Consider adding the higher education institution's logo and branding colours.
    - Optionally, modify the tagline to reflect the faculty's mission or slogan.
    - Extra tip: Add a short video or animation showing student life on campus.

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        - Emphasize differences in learning style, self-discipline, and workload.
        - Add testimonials from current students on their transition experience.
        - Include visuals or infographics for clarity.
        - ACS example: Students share their experiences on adjusting to higher education challenges while enjoying hands-on learning opportunities.
- Slides 6-8: Institution (HEI, faculty) and directions in your institution
    - Template content: Placeholder for faculty name and general engineering fields such as Robotics, Cybersecurity, AI, Data Science.
    - How to customize:
        - Replace "Faculty Name" with the actual faculty or department.
        - Highlight major fields of study and specializations relevant to your faculty.
        - If applicable, add a faculty motto or vision statement.
        - Remove or modify subjects to reflect the actual study programs in your faculty.
        - If there are interdisciplinary programs, include how they integrate different fields.
        - Use icons, graphics, or lab images to make the subjects visually engaging.
        - Extra tip: Use simple analogies to explain each specialization so that high school students can relate to them.
        - ACS example: Showcase departments in the faculty and highlight the directions and domains for each of them.
- Slide 9-16: Example projects
    - Template content: Showcases real-life systems where the things that students learn in the institution are applied.
    - How to customize:
        - Present real-life systems and describe how the things that students learn in the institution can lead to the implementation of such large-scale systems.
        - Extra tip: Provide examples of real-world applications of each specialization (e.g., cybersecurity in protecting online transactions).
        - ACS Example: Self-driving cars, TikTok, robots.
- Slide 17-19: Competitions, summer schools
    - Template content: Placeholder for opportunities beyond the classroom.
    - How to customize:
        - List competitions your faculty participates in (e.g., hackathons, coding contests).

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        - Include relevant student clubs, research groups, or innovation labs.
        - Include real competition names, student achievements, and testimonials.
        - Mention notable summer schools and their application process.
        - Mention incentives (e.g., scholarships, automatic admission for winners).
        - Extra tip: Encourage students to join extracurricular activities early to enhance their application profile to a HEI
        - ACS example: Mentions coding contests like ACM and hackathons.
- Slide 20: International opportunities, Erasmus+
    - Template content: ERASMUS+ and other international opportunities placeholders.
    - How to customize:
        - Include details on international exchange programs.
        - Highlight partnerships with other universities for student mobility.
        - Extra tip: Share experiences from past students who studied abroad.
        - ACS example: Highlights top partner institutions and testimonials from exchange students.
- Slide 21-22: Events and volunteering
    - Template content: Highlights student life beyond academics.
    - How to customize:
        - Add details on student-led events, clubs, NGOs, and volunteer work.
        - Showcase photos from past events and testimonials from student leaders.
        - Extra tip: The highlight should be on the community.
        - ACS example: Mentions student-run events such as coding camps and hackathons.
- Slide 23: Specialized labs and research projects
    - Template content: Placeholder for research projects.
    - How to customize:
        - Include specialized research labs and key faculty-led projects, and their focus areas.
        - Showcase faculty projects with real-world impact.
        - Extra tip: Include live demos or videos of laboratory experiments.
        - ACS example: Showcases AI research labs and IoT development.
- Slide 24-25: Career opportunities
    - Template content: General information about the tech industry and career opportunities.

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- How to customize:
  - Add job placement statistics for graduates.
  - Showcase internships, mentorships, and career opportunities.
  - Mention local and international tech companies hiring graduates.
  - Mention industry collaborations.
  - Extra tip: If available, present salary expectations for different career paths.
  - ACS example: Show logos of companies that have collaborations with the faculty (e.g., Bitdefender, Microsoft, Orange).

- Slide 25: Admission process
  - Template content: General "Admission" heading with placeholders.
  - How to customize:
    - Clearly define the admission criteria, including entrance exams.
    - Highlight alternative pathways (e.g., Olympiad winners, direct admission).
    - Provide important deadlines and official links.
    - Include a QR code to the admission website.
    - Extra tip: Offer a checklist for high school students to prepare for HEI admissions.
    - ACS example: Details the weighted scores of entrance exams and interview processes.

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Appendix 10

Faculty/Higher Education Institution Presentation Template

Images of each of the slides from the presentation slide deck template are included in this appendix for an example.

[Insert HEI logo here]

[Insert Higher Education Institution (HEI) name here]

[Insert HEI website, email, socials here]

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FACULTATEA DE AUTOMATICĂ ȘI CALCULATOARE

SA

MP

acs.pub.ro

fb.com/automatica.calculatoare

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NCI
Coláiste Náisiúnta na hÉireann | National College of Ireland

SA
MP

www.ncirl.ie

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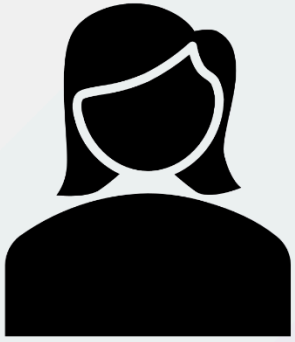
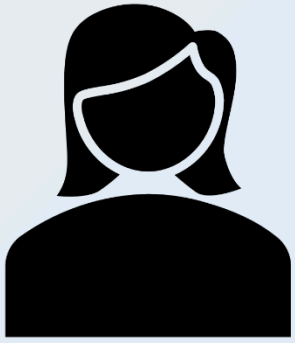
Insert University Logo here

Presentation team

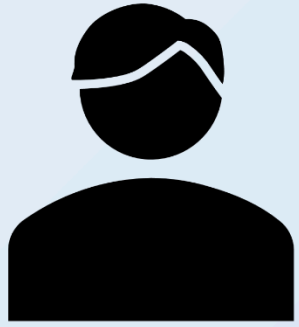


Name 1

Name 2



Name 3



Name 4

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Insert University Logo here

Welcome to <insert HEI name>

4

ENGINEER

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Faculty/School Name

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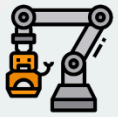
Insert University Logo here


Automatic control


Robotics


Video & Audio processing


Medtech


Factory automatization


Machine Learning

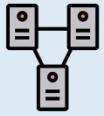

Transport automation


WebDesign


Hardware Design


Data Acquisition


Embedded Programming


Data Base

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Insert University Logo here


Internet of Things

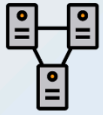

Machine Learning


Computer Networking

Operating Systems

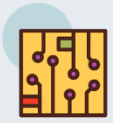

Computer graphics


Cyber Security


Data Base


Cloud & Big Data


Robotics


RPA


Embedded Programming


WebDesign

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Not just “programming”

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[Showcase of real-life systems where the topics that students learn in the institution are applied]

[How to customize:

- Present real-life systems and describe how the things that students learn in the institution can lead to the implementation of such large-scale systems.
- Extra tip: Provide examples of real-world applications of each specialization (e.g., cybersecurity in protecting online transactions).]

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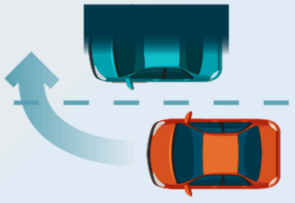
Image Processing
Machine Vision

Signal Processing



Path Planning

Real time feedback and control

Localization

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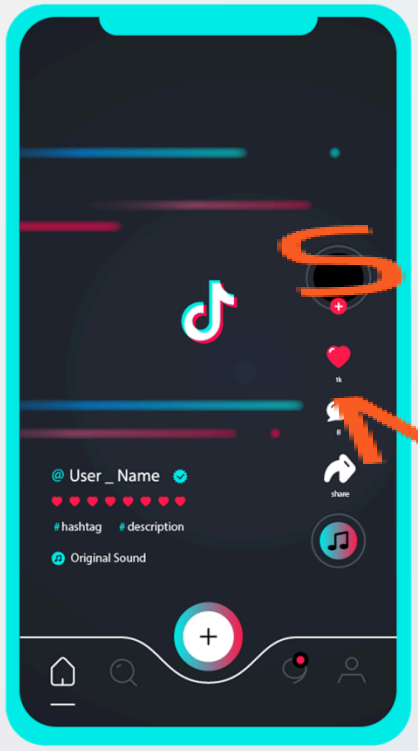

SA
MP

- Mobile App development
- Scalability & Reliability
- Human Computer Interaction
- UX & UI
- Video compression & processing
- Recommendation algorithms
- Cyber Security
- Storage & network optimization
- Web development
- DevOps (System Monitoring & Maintenance)

Calculatoare și Tehnologia Informației

Ingineria Sistemelor - Automatică și Informatică Aplicată

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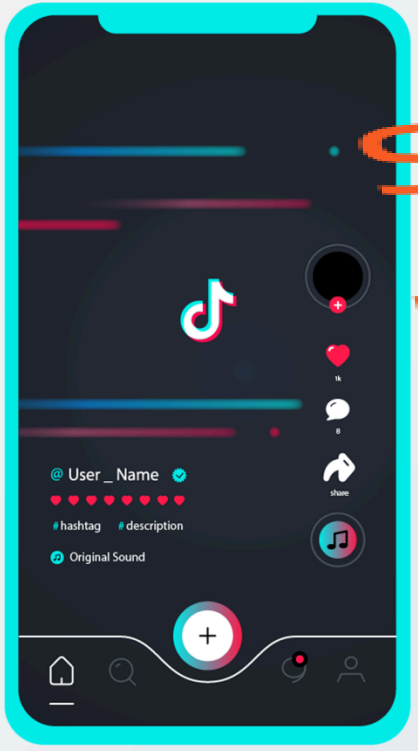

Video cloud infrastructure

User video >150MB

Compressed video on phone (~50MB)

Compression by server (~10MB)

Analytics for recommendation algorithm

Network

- Cyber Security
- Cloud Development
- Distributed Database

Machine Learning – for recommendations & user insights

User Input (likes, play time etc.)

User feed with similar content

- Calculatoare și Tehnologia Informației
- Ingineria Sistemelor - Automatică și Informatică Aplicată

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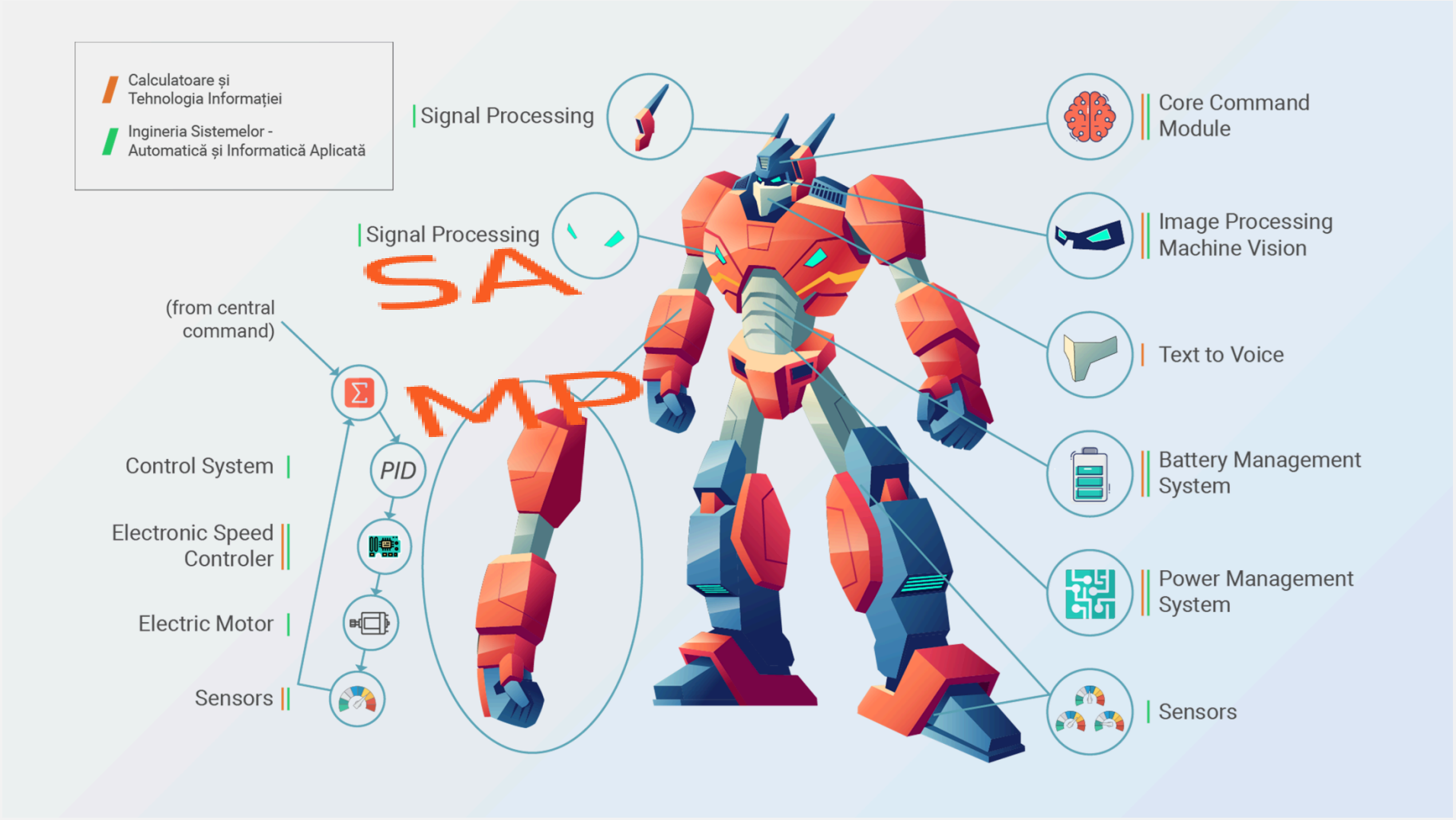

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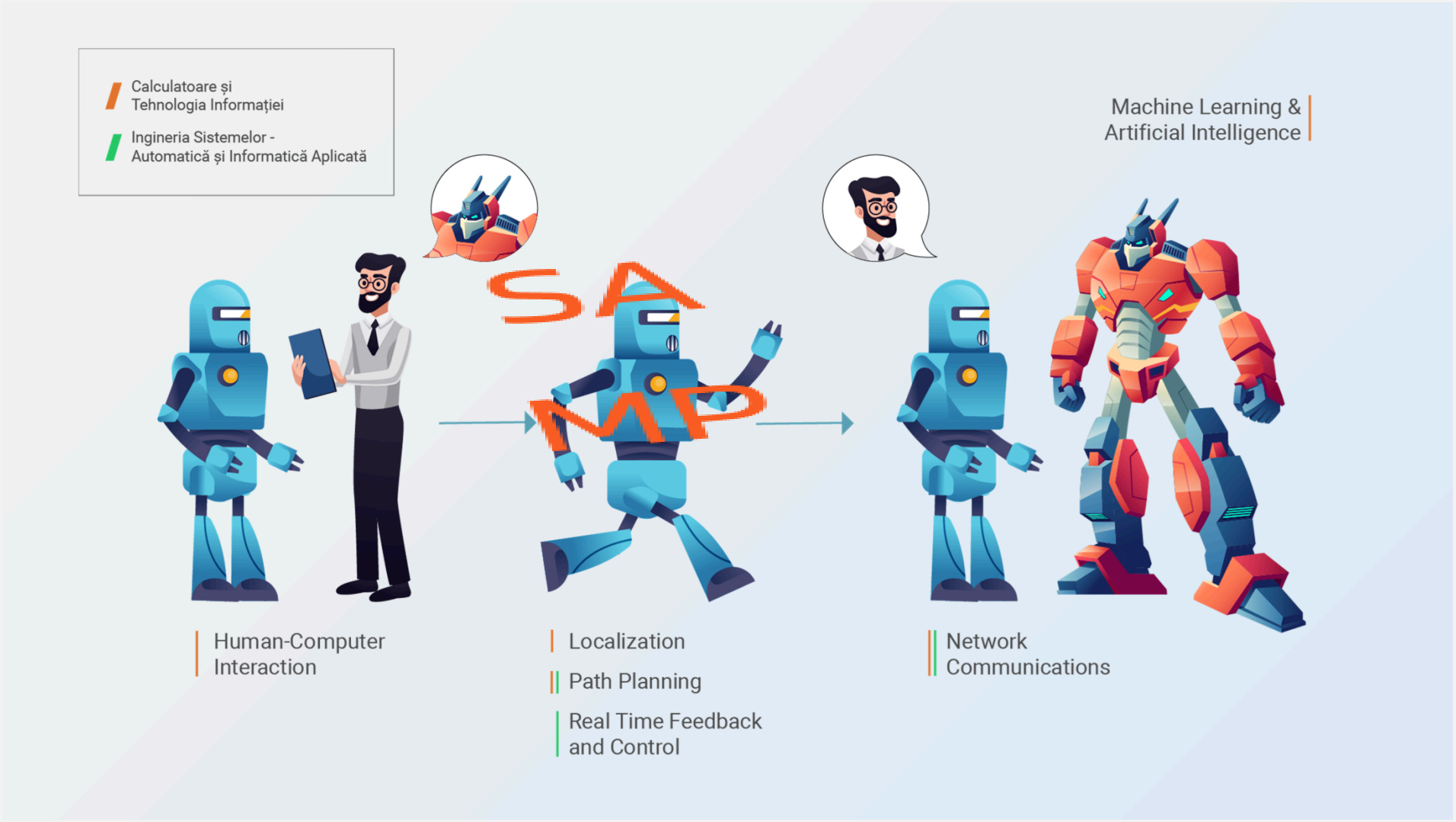

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Opportunities

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Competitions

- examples

examples

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- examples

Summer Schools

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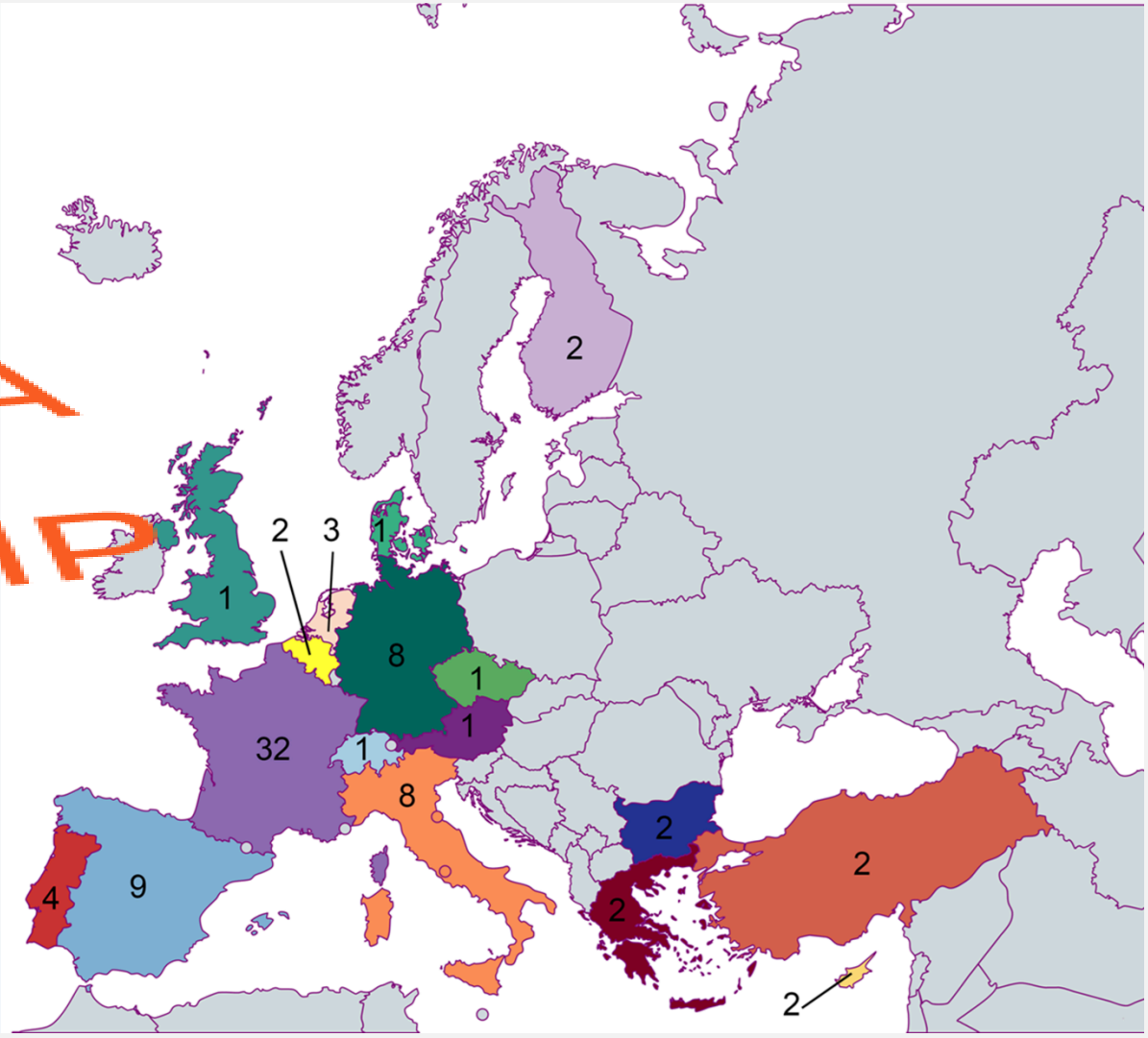
Mobilities

- ERASMUS+
- SEE
- ATHENS Network
- European Project Semester
- Double Degree
- UPB Excellence Scholarships



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Fun activities

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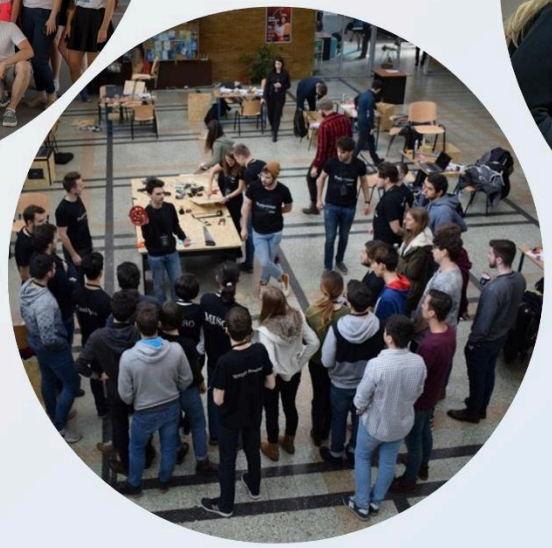

Volunteering

LSAC hackademy Codette for the love of code BEST BUCHAREST Microsoft Learn STUDENT AMBASSADOR rosedu romanian open source education eestec

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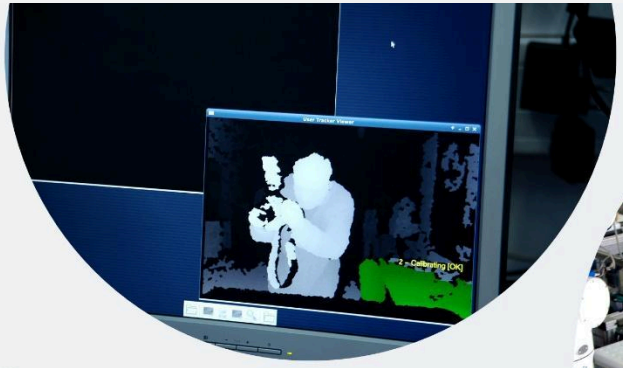

Research labs
Research projects

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Opportunities in [Country/City] for [HEI + Programme(s)] graduates

HEI
LOGO

TOP HIRING COMPANIES HERE

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Opportunities in IT&C & Automation in Romania

Funded by
the European Union

Admission

Funded by
the European Union


CodeWeek
Build your digital future
Funded by
the European Union