



Creating Higher-Education
Industry Programmes for the
Semiconductor Industry of Europe

Toolkit for activities: Examples and Blueprints for Events for secondary schools

Project:	CHIPS of Europe
Grant Agreement Number:	101158501
Version:	V1.0
Date:	01.09.2026



Co-funded by
the European Union

Content

Toolkit materials	3
Explore education	3
GirlsGoDigital highlight	3
Pupil engagement highlight	4
Industry–school highlight	5
Teacher multiplier highlight.....	6
Handbook TogetHER in Tech.....	7
TogetHER in TECH recap	12

Toolkit materials

Explore education

This paper provides an overview of how the Chips of Europe project engages secondary schools and supports learning opportunities in the context of CHIPS of Europe, with a specific focus on awareness of semiconductor technologies and related education and employment perspectives. It is written as a navigation aid for toolkit users and summarizes the formats implemented within the first 21 months of the project.

Over the first half of the project, activities have included a broad range of secondary-school engagement formats. These include age-appropriate introductions to semiconductors with interactive elements (e.g., short quizzes), practical and demonstration-based learning activities, school-to-university excursions including laboratory tours and preparatory meetings with STEM teachers (“School@Uni”), career-orientation inputs and role-model interactions, and teacher-oriented exchange. In several cases, activities combined multiple elements (e.g., introductory presentation, hands-on workshop and lab tour) to strengthen learning outcomes and real-world relevance. As it is not feasible to present all events in detail, the consortium selected four representative activities and provides a structured description of their formats and implementation elements to illustrate the project’s approach and support replication.

GirlsGoDigital highlight

This stream implements targeted actions for girls and female teenagers to strengthen digital skills, address gender imbalances, and provide structured learning opportunities and role-model exposure. As a representative example, the consortium highlights the IT camp for girls hosted by the University of Southern Denmark (SDU) in Odense. This format is designed as a two-day event, practice-oriented learning opportunity that enables participants to explore digital technologies in a supportive peer setting and to engage with role models. This aligns with the GirlsGoDigital rationale of combining competence-building learning experiences with real-life insight into professions of semiconductor. The format is suitable for replication because it follows a modular structure that can be adapted to different age bands and available resources. The event itself consists of different interactive sessions combined with informal exchanges and tours.

Agenda Day 1	
10:00–10:10	Arrival and registration
10:10–11:00	Welcome and camp introduction
11:15–12:30	Thematic session (e.g., artificial intelligence)
12:30–13:15	Lunch
13:15–14:45	Hands-on workshop: HTML - create your own website
14:45–15:15	Break
15:15–16:15	Campus tour, connect with students
16:30–17:15	Career inspiration session: Women in IT
17:30–18:30	Dinner

18:30–19:30	Networking and quiz with SDU students
Agenda Day 2	
09:00–09:45	Breakfast and welcome
09:45–11:30	Hands-on workshop: Scratch — Block-based programming
11:30–12:15	Lunch
12:15–14:00	Hands-on workshop: Programming in Python
14:15–15:00	Q&A / discussions
15:00–15:30	Closing session

Figure 1: Agenda IT camp for girls

Pupil engagement highlight

“Student for a day” is an SDU outreach format targeting secondary school students and aims to support informed study choices by allowing potential applicants to try out an engineering study programme for one day in an authentic university setting. The activity is implemented on specific dates at SDU Sønderborg or Odense and is organized as a “try-out day” where prospective students experience elements of the engineering programme and interact with the university environment. The SDU implementation is supported by “TEK Ambassadors” (approximately 30 ambassadors across engineering programmes, typically from the 3rd semester onwards), which strengthens peer-to-peer interaction and provides realistic insights into student life and study requirements. SDU collected post-event feedback for the “Student for a day” formats. The results indicate a high level of participant satisfaction, with all respondents stating that they would recommend the activity to a friend. In addition, half of the participants reported that they plan to apply for an engineering programme at SDU following the visit.

Agenda	
08:00–08:30	Welcome and introduction
08:30–10:15	Join the Dynamics class, first semester
10:15–12:00	Join the Mathematics class, first semester
12:00–12:30	Lunch and discussions
12:30–13:00	Academic counselling – what choice to make
13:00–13:30	Evaluation and closing

Figure 2: Agenda student for a day

Industry–school highlight

Chips@School is an industry–school outreach and competition format designed to increase secondary pupils’ (from 8th grade onwards) interest in semiconductors and to make chip applications tangible in everyday contexts. The activity aims to (i) foster pupils’ enthusiasm for technology and STEM and (ii) enable practical application of knowledge acquired at school. The format is structured as an idea competition for pupils, supported by targeted communication and an introductory information phase. Information is also distributed by email to facilitate dissemination to schools and stakeholders. In the first phase of the contest, an information session is provided for all interested participants, explicitly including pupils, teachers and parents. In addition, the contest is highlighted whenever there are points of contact with schools or pupils, supporting sustained visibility over time. The activity is framed under the theme: “Your ideas for the world of tomorrow”. Pupils are encouraged to be creative and think about how chips can be used in the future to make our world even better.

A jury composed of internal experts and external university professors assesses the submitted ideas using predefined evaluation criteria. Each jury member assigns a score per criterion, and the three proposals with the highest overall scores are selected as winners. Beyond the competition outcome, the format provides structured visibility for pupils’ ideas and supports early-stage innovation awareness by encouraging participants to develop and present solution concepts in a technological and sustainability context.

Chips@School is replicable as a blueprint for industry–school engagement because it combines a clear objective (interest in semiconductors through applications), a structured participation pathway (information session + competition phase), and low-threshold dissemination channels.

Teacher multiplier highlight

“Discover microelectronics “(MINTgestalten teacher programme) is the first-of-its-kind STEM teacher programme with industry–university cooperation in Austria and is a WP4 TrainMyTeacher highlight that operationalizes the teacher multiplier approach through a structured, replication-oriented training pathway. Its objective is to strengthen the link between schools and the semiconductor industry by equipping secondary school teachers with knowledge and practical formats to teach basic topics of microelectronics and energy efficiency, thereby supporting long-term pupil interest in STEM and especially into the semiconductor industry. The initiative explicitly aims to position industry expertise as a contribution to secondary school teacher education and to strengthen cooperation between pedagogical universities and industry. The activity is implemented as a structured teacher training concept resulting in a sustainable training programme for teachers focusing on microelectronics and semiconductors, with modules, materials and workshop formats prepared for replication at other sites and educational partnerships. The pilot event is scheduled as a fixed milestone on 20th of May 2026 in Villach, Austria and will host approximately 20 teachers from Austria. The on-site day is designed as an immersive learning experience combining multiple learning settings: introductory sessions and moderated discussion on future skills and career opportunities in the semiconductor industry; showroom and site tours; networking opportunities with experts; and a hands-on workshop focused on microscopy of microchips, enabling practical experience that can be transferred into classroom teaching. This session will be led by Junior IOT from the Netherlands, with two experienced 'train the trainer' experts who will spend the afternoon with participants. The interactive session will provide hands-on experiences and introduce reusable classroom assignments, which will be thoroughly explained to ensure participants can effectively integrate them into their own teaching practices afterwards.

12,500 **Junior IOT** participants and
108,000 hours of technology inspiration



Figure 3: Junior IOT impressions (8)

The program includes a challenge/quiz component and concludes with a final discussion and feedback round.
(2)

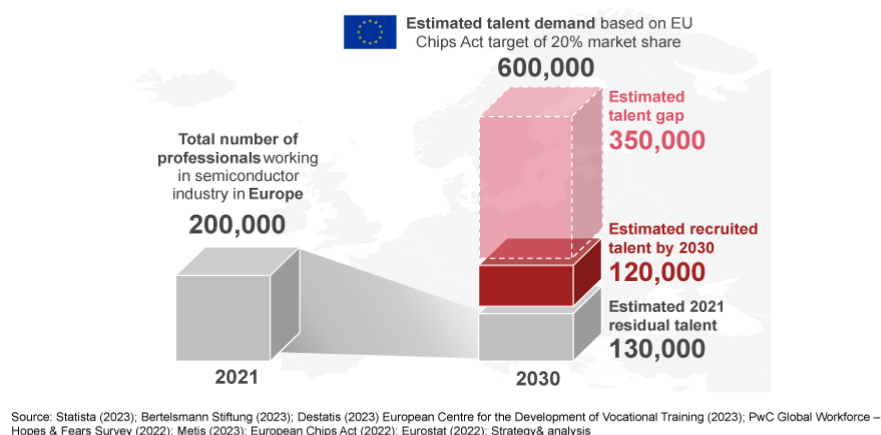
Agenda	
08:30–08:45	Registration
08:45–09:15	Welcome and introduction to the day's schedule
09:15–10:00	Future Skills Career opportunities in the semiconductor industry: Insights into job diversity and career advancement, future talents and education. Short presentation and discussion round on the importance of promoting talent for the future semiconductor industry.
10:00–10:30	Break
10:40–11:15	Showroom tour and site tour (2 groups)
11:30–12:30	Lunch break and networking with experts
12:30–13:30	Microchips in everyday life. The significance of microelectronics
13:30–13:45	Break
13:45–16:00	Hands-on workshop: Microscopy of microchips – Practical experience with microscopy and examination of microchips
16:00–16:30	Challenge
16:30–16:50	Final discussion and feedback
17:00–17:30	Closing

Figure 4: Agenda discover microelectronics

Handbook TogetHER in Tech

Introduction

The European semiconductor industry is facing a significant challenge: a growing talent gap that threatens to hinder its growth and competitiveness. The demand for highly skilled workers is expected to increase dramatically, with a projected shortage of 350,000 workers by 2030.



To address this challenge, it is essential to inspire and educate the next generation of engineers and technicians, particularly girls and young women, about the exciting opportunities and careers available in the semiconductor industry. Our project, Chips of Europe, aims to increase the attractiveness of semiconductor-related studies and careers, and to promote a more diverse and inclusive workforce. By sparking the interest of young girls in STEM fields, we want to make a meaningful contribution to bridging the talent gap and shaping a bright future for Europe's digital decade. With events like **TogetHER in TECH**, we want to give girls the opportunity to discover their potential in STEM, where girls can be anything.

The event **TogetHER in TECH** is an initiative within the consortium of the Chips of Europe project that aims to inspire girls aged 10-18 to pursue STEM fields. Through interactive and engaging activities, we spark curiosity, inspire self-confidence in technical skills, and offer real-life insight into educational and career paths in the tech and semiconductor industries.

The primary objective of this handbook is to provide guidelines and information to help universities and industry partners to plan, execute and evaluate **TogetHER in TECH** events. The guidelines are intentionally written in a general manner, allowing each partner to adapt them to their specific needs and framework, while ensuring consistency and quality across all implementations.

Objectives

With **TogetHER in TECH**, as part of the task 4.2. GirlsGoDigital, we want to target girls and female teenagers to encourage their participation and interest in semiconductor technology. The primary objectives of a **TogetHER in TECH** event are to:

- Encourage girls' interest in STEM careers through various activities and workshops
- Break stereotypes and promote gender equality
- Offer real-life insights into tech and science professions

TogetHER in TECH should be a consortium-wide initiative that takes place around International Women's Day in March. We encourage multiple partners to host the event on the same day, with a short virtual session that connects girls from across Europe. This will not only foster a sense of community and solidarity among the participants but also highlight the importance of women in tech and STEM fields. A screenshot of the online meeting, showcasing girls from all over Europe, can be used to promote the series of events afterwards, creating a lasting impact and inspiring future generations of women in tech.

Target group

The program is designed for female pupils aged 10 to 18 from local secondary schools. It can be tailored by age group, interest level, and available resources. To reach the target group, it is recommended that organizers should use established partnerships with local schools, teachers, or educational institutions, that have experience working with young students to provide targeted education and training in specific areas.

Program structure

The full-day event **TogetHER in TECH** presents a comprehensive program to spark interest in tech. Core activities include site visits to industry and university institutions, interactive hands-on workshops, and career guidance talks featuring women in STEM, titled "The female force in tech". Such an event can also be co-

hosted by a university and an industry partner, combining their strength to deliver a unique and informative experience.

CHIPS of Europe

Co-funded by the European Union

CHIPS OF EUROPE
togetHER in TECH
ARE YOU READY?

2 MARCH 2026
STEM: WHERE GIRLS CAN BE ANYTHING!

AGE
Girls from 10-18

ACTIVITIES
Site visit, hands-on workshop, future me

MISSION
Get hands-on with tech and discover your hidden talents

More information: www.chipsofeurope.eu

CHIPS of Europe

Co-funded by the European Union

PROGRAM

REGISTRATION

8:30 CHIP & CHAT
9:00 THE FEMALE FORCE IN TECH
11:00 THE TASTE OF A TECH TALK
12:00 LUNCH BREAK
13:00 LABORATORY WORKSHOP
16:00 THAT'S A WRAP!

More information: www.chipsofeurope.eu

The event starts with participant registration and a warm welcome session that sets the tone for a day of motivation and empowerment. The opening remarks will highlight the significance of women in tech and introduce the event's purpose. A keynote presentation from the hosting university or company will follow, showcasing the exciting career opportunities and study programs available, and providing a glimpse into the possibilities that await.

“The female force in tech” is a series of inspiring talks delivered by women who are shaping the tech industry. The speakers, f.e. current university students, industry professionals, or academics, will share their personal journey of how they entered their fields, their educational paths, what they love about their profession and give insights into their daily work life.

After that the girls will have the opportunity to experience a tech talk firsthand, with a technical lecture held either at the university or at a company site. Following the lecture, they will enjoy lunch together, either at the campus or company canteen, or through catering provided on site.

The afternoon will be dedicated to hands-on learning through different workshops designed to engage and inspire. The **TogetHER in TECH** program may include different workshops, such as:

Interactive robotics and electronics (example from BUT)

- Duration: 2 x 45 minutes, individual work

- Girls program a small robot in an interactive environment and assemble basic electrical circuits based on prepared schematics, verifying their functionality.

Exploring advanced technologies (example from BUT)

- Duration: 90 minutes, groups of 2-3 with a mentor
- Pupils perform hands-on experiments with scanning electron microscopy, atomic force microscopy, and explore the spectral behavior of light, the photoelectric effect, solar cells, and the Millikan experiment. The workshop concludes with a visit to the department's cleanroom.

Hands-on soldering experience (example from IFAT)

- Duration: 60 minutes, individual work accompanied by an apprentice
- Students work alongside an apprentice to solder a fun game using a printed circuit board, LEDs, resistors, and other components. With step-by-step instructions, they learn the basics of soldering and take their finished project home as a keepsake.

The event concludes with a reflective feedback session, where the girls are encouraged to share their thoughts, experiences, and takeaways from the day. This session helps both the organizers and participants reflect on the day's impact and gather valuable insights. To help us evaluate the success of the event and gather valuable insights from our participants, we've prepared a set of feedback survey questions. Feel free to customize the survey to suit your needs by adding, removing, or modifying questions and language as you see fit. Additionally, you may consider using a digital tool like Slido to facilitate the survey process and make it more engaging for your attendees.

Suggestions for Slido feedback questions:

- 1.) How would you rate your overall experience at the TogetHER in TECH event?
 - a. Excellent
 - b. Good
 - c. Fair
 - d. Poor
- 2.) What did you enjoy most about the event?
- 3.) Did you feel supported and guided throughout the workshops and activities?
 - a. Yes
 - b. No
- 4.) Were the presentations engaging and easy to follow?
 - a. Yes
 - b. No

- 5.) How would you rate the organization and logistics of the event?
- a. Excellent
 - b. Good
 - c. Fair
 - d. Poor
- 6.) Would you like to attend another TogetHER in TECH event in the future?
- a. Yes
 - b. No
- 7.) How likely are you to pursue a career in STEM fields after attending this event?
- a. Very likely
 - b. Likely
 - c. Not very likely
 - d. Not at all likely
- 8.) Do you have any suggestions for improving the event or making it more engaging?

The **TogetHER in TECH** program is flexible and adaptable, enabling each partner to adapt it to their specific needs, while ensuring consistency and quality across all implementations.

Event communication and outreach

To facilitate participation, organizers are encouraged to send an invitation to local secondary schools, teachers, and educational institutions, inviting them to promote the **TogetHER in TECH** event to their students and encouraging girls to register for the program or nominate interested students. Additionally, organizers can use social media platforms to amplify event promotion and reach a wider audience. Participants should receive a comprehensive pre-event email in advance, containing essential details such as the program schedule, arrival and orientation instructions, and contact information.

Visual identity and materials

To ensure a consistent brand image, all materials, including flyers, registration forms, signage, name badges, and presentation templates, should adhere to the Chips of Europe branding guidelines. IFAT, as the lead for Work Package 4, will design the flyers, which will be translated into the local language of each partner. All materials should convey a welcoming and empowering spirit, reinforcing the event's mission. At the event, Chips of Europe roll-ups will be displayed, and branded goodies will be provided for the girls to take home.

Event recommendations

To ensure a successful event, consider the following:

- Collaborate closely with schools and teachers to reach a wider audience
- Encourage speakers to share personal stories and insights rather than technical details
- Create a welcoming atmosphere and start with a short icebreaker activity to build connections
- Assign someone to take photos of the event and share them afterwards
- Keep the program concise and engaging, avoiding overload

TogetherHER in TECH recap




Co-funded by
the European Union



CHIPS OF EUROPE
togetHER in TECH
THANKS FOR JOINING

More information: www.chipseurope.eu

- The overall satisfaction rating of the event was 4.6 out of 5.
- The top aspects of the event that attendees liked best were:
 - Hands-on workshops (38%)
 - Lab visits, site visits, or tours (31%)
 - Lectures or presentations (17%)
 - Exchange with experts or role models (14%)
- 97% of attendees would recommend the TogetHER in TECH Day to a friend.
- 81% of attendees know someone working in a science, technology, engineering, or math (STEM) field.
- The event received a high rating, with 69% of attendees giving it a score of 5, 23% giving it a score of 4, and 8% giving it a score of 3 and 2.
- 64% of the girls said they can imagine a career or education in STEM fields, only 2% answered no.

CHIPS of Europe – Creating Higher-Education Industry Programmes for the Semiconductor Industry of Europe

www.chipseurope.eu

