

# GEMnet – The European Girl STEMPowerment Network

## Roadmap for GEMnet activities

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*Coordination: Prof. Dr. Katja Maaß, UNIVERSITY OF EDUCATION FREIBURG, Germany.*

*Partners: UNIVERSITEIT UTRECHT, Netherlands; UNIVERSITA TA MALTA, Malta; UNIVERZITA KONSTANTINA FILOZOFA V NITRE, Slovakia; UNIVERSIDAD DE JAEN, Spain; ETHNIKO KAI KAPODISTRIAKO PANEPISTIMIO ATHINON, Greece; UNIVERZITA KARLOVA, Czech Republic; SCHOOL OF EDUCATION AND COMMUNICATION, Jonkoping; EDEX – EDUCATIONAL EXCELLENCE CORPORATION LIMITED, Cyprus; VILNIAUS UNIVERSITETAS, Lithuania.*

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## Introduction

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**GEM - Empower Girls to Embrace their Digital and Entrepreneurial Potential (2020-2022)** is a European Union co-funded pilot project, aiming to encourage girls' interest in STEM and ICT subjects and inspire them to choose careers and become entrepreneurs in these fields.

To achieve this aim, the project works on two main fields of action:

The one is to provide cost-free STEM summer camps for girls aged 12-18 in 10 European countries with an explicit focus on inspiring participating girls, offering them a possibility to enjoy themselves in the context of STEM and enjoy STEM. The camps intend to create a space where girls learn about, from and for STEM and each other and take a bunch of positive STEM experiences home.

As most STEM events for girls (such as Girls' Days in Companies), the summer camps are one-time events. However, it is essential to take up on the affects of such events and deepen the impact of these (positive) effects long-term. Positive outcomes of one-time events shall not be lost, but society must enable girls to capitalize on the benefits of female-focused STEM activities to a maximum effect. It is also important to continuously guide and support girls on their way towards STEM studies and careers.

The second field of action thus is the set-up of a network which supports the advancement of girls in STEM education, studies and careers: GEMnet. It aims for an increased capacity of society to support girls to discover their full STEM potential and support them to use it to pursue studies and careers in STEM sectors.

**The network's vision: a world without gender gaps in STEM**

**The network's mission: to increase the number of females in STEM studies and careers**

This roadmap communicates the network's strategy to achieve this aim. The roadmap can be used by members (and other interested target groups) to get ideas about ways to support the project's and in particular the network's aim and ideas about how to pursue the network's mission long-term.

## Member Profile

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GEMnet is a collaboration of STEM education, policy, industry and society stakeholders across Europe, with the joint vision to create a world without gender gaps in STEM education.

The network is free-of-charge and open to all interested parties.

Subscription to the network is possible via the website link: [https://icse.eu/hrf\\_faq/join-gemnet/](https://icse.eu/hrf_faq/join-gemnet/)

Coordinator of the network: [Elena Koeck](#)

At the beginning of the project, the network has started with a circle of initial members: project partners, ICSE Consortium partners, and National GEM Team (NGT) members. These initial members use their links to STEM education research, practice and policy to win further members.

## Target Groups

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GEMnet has planned a variety of activities within and beyond project duration to reach the following target groups:

- (1) **families/friends** must be informed about their relevance in girls' decisions (emotional stimulus such as encouragement)
- (2) **businesses/industry** must be informed about how they can help with the continuous visibility of STEM/ICT)
- (3) **policy makers and media** must be informed why they must and how they can help addressing existing issues, sharing best practices in education, and how they can support the establishment of a positive STEM image and how they can support female involvement in STEM as the norm
- (4) the **education sector** such as teachers, Higher Education staff, or informal learning providers must be informed about their role (to find ways to individually support and encourage girls).

## Course of action

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There are certainly many ways to increase the capacity of society to support girls along their STEM journeys, and initiatives such as Scientix' Community of Practice on "Gender in STEM Education" have already provided enriching options to engage. GEMnet sees itself as complementary to such initiatives and works in three main fields of action which have been identified by project partners as most promising at the time:

- consolidation: members connect to each other and to other actors across Europe who have an interest in a world without gender gaps in STEM
- peer-learning: all members share their knowledge about ongoing gender and skills gaps in STEM/digital sectors and share best practice strategies to overcome existing challenges
- communication and dissemination: members work on measures to raise the societal awareness about the need to create a world without gender gaps in STEM and how to achieve it; as well as share peer-learning content and project results

## Activities

The tables below show the types of activities as planned by the initial GEMnet members. These types of activities serve as foundation and impulse-giver for concrete measures on European and national level.

- consolidation: connect actors across Europe who have an interest in a world without gender gaps in STEM

| Types of activities   | Executed by                             |
|---|---|
| Design the network's digital appearance (logo, website features, etc.) to attract stakeholders  | WP 5 Leader (in coop. with WP 4 leader) |
| Realize a digital space to share among the network and with the public  | WP 5 Leader (in coop. with WP 4 leader) |
| Identification of STEM initiatives for girls  | Project Consortium                      |
| Identification of STEM/digital businesses and industry in the region of partners (primarily in the partner regions as they are most important for regional schools, their teachers and girls) | Project Consortium                      |
| Contact responsible persons for these initiatives to identify collaboration potential   | Project Consortium                      |
| Identification of existing platforms, networks and groups on national level which are relevant  | Project Consortium                      |
| Contact/engage in existing platforms, networks, groups  | Project Consortium                      |
| Involve the ICSE Consortium, an association of around 20 Higher Education Institutions across Europe  | WP 5 leader (in coop. with WP 4 leader) |
| Cooperate closely with the National GEM Teams to work on national strategies  | Project Consortium                      |
| Engage with Scientix and discuss accordant issues with the Scientix community, e.g. in the Scientix Community of Practice "Gender and STEM"   | WP 4 Leader                             |
| Represent GEMnet on EPALE   | WP 4 Leader                             |

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|--|--|
| Represent GEMnet on eTwinning  | WP 4 Leader  |
| Represent GEMnet on the ETF Open Space   | WP 4 Leader  |
| Identification of specific initiatives on digital technologies, such as a close consultation of the Digital Education Plan and options to engage | WP 4 Leader  |
| Identification of complementary education projects for all topics of gender&STEM   | WP 4 Leader for international and EU level, each project partner on national level |
| Introduce GEMnet members (their institutions/employers) on the webspace and via social media   | WP 5 Leader (in coop. with WP 4 leader)  |
| Make GEMnet known at national level  | Project consortium and members   |

- peer-learning: all members share and raise their knowledge about ongoing gender and skills gaps in STEM/digital sectors and share best practice strategies to overcome existing challenges

| Types of activities  | Executed by          |
|--|----------------------|
| Create a state-of-the-art with project partners and initial members to identify competence gaps with regards to major topics (stereotypes, gender gaps...) | Project Consortium   |
| Provide materials to project partners and initial members to overcome competence gaps with regards to major topics (stereotypes, gender gaps...)           | Project Consortium   |
| Send out regular calls for action to all members which present a low-threshold activity to sharing knowledge   | WP4 leader           |
| Send out regular briefs about highlight topics to all members to keep key messages from the field of girls-in-STEM-education alive                         | WP4 leader           |
| Regular options to get members together  | WP 4 and WP 5 leader |

|   |   |
|---|---|
| Engage in existing platforms, networks, groups, e.g. <a href="https://www.facebook.com/groups/GenderandSTEM/">https://www.facebook.com/groups/GenderandSTEM/</a>  | WP 4 Leader on EU level                   |
| Engage in and share via existing national platforms, networks, groups   | members                                   |
| Involve representatives from complementary education projects for all topics of gender&STEM, e.g. <a href="https://festemproject.eu/">https://festemproject.eu/</a> , e.g. invitation to impulse lectures   | WP 4 Leader for EU level                  |
| Exchange with representatives from complementary education projects for all topics of gender&STEM   | each project partner on national level    |
| Create material (e.g. a flyer) which introduces the network to STEM/digital business sectors (primarily in the partner regions as they are most important for participating girls and their teachers)   | Project Consortium                        |
| Write easy-to-understand texts on relevant topics: <ul style="list-style-type: none"> <li>→ shortcomings of STEM/digital education</li> <li>→ drop-out rates of girls</li> <li>→ roles and barriers of girls</li> <li>→ growing shortage of STEM/digital skills</li> <li>→ loss of innovation capacity for Europe, etc.</li> </ul> which will be published on the GEMnet webspace as well as serve for communication purposes | WP4 leader (with contribution of members) |
| Discuss the matters at hand with teacher students in STEM education programmes at their Higher Education Institutions   | Project consortium                        |
| Discuss the matters at hand with colleagues at their Higher Education Institutions  | Project consortium                        |
| Share results from these discussions with GEMnet members  | Project consortium                        |
| Introduce the project and accordant key issues and best-practices on EU and national policy level   | WP 5 leader and Project Consortium        |

- Communication and dissemination: members work on measures to raise the societal awareness about the need to create a world without gender gaps in STEM and how to achieve it; as well as share peer-learning content and project results.

The network is an essential element of the project's sustainability strategy, as it will continue its activities beyond project duration. Thus, the network will be involved in the planning of the Sustainability Plan and some activities will explicitly refer to it.

→ To learn about these communication and dissemination activities please go through the project's Communication & Dissemination Plan as well as the Sustainability Plan, which are complementary documents to this roadmap.

## Evaluation

The key performance indicators (KPI, measurable) to assess the network's success are as follows:

- ✓ number of GEMnet Members at the end of the project (target value: 100+)
- ✓ number of countries involved (target value: 11+)
- ✓ number of concrete measures planned (also beyond project duration) (target value: 100+)
- ✓ number of successfully completed measures (during project duration) (target value: 100+)

The KPI will be monitored by the Coordinator in cooperation with WP4 leader.

These quantified KPI will be added by a qualified evaluation which will be performed through interviewing our GEMnet Members. Qualified indicators are as follows:

- do members feel prepared to act as multipliers to promote GEM and related topics (stereotypes, gender and skills gaps, ICT challenges across Europe, etc.)
- do members feel able to support similar STEM education activities for girls in the future
- in how far has members' personal perception of the matters at hand (gender and skills gaps, etc.) changed
- do members have an idea of their possibilities to engage beyond project duration (goes hand in hand with the project's sustainability strategy)

## Project Framework

### Operational timescale

In general, the GEMnet activities are sorted in short-, middle- and long-term activities.

The short term activities are supposed to establish the network and gather initial members, establish a state-of-the-art with regards to the competences of the network as a whole and the establishment of common ground with regards to the networks vision, mission and steps to pursue the mission, as well as the objectives in terms of the project.

The middle-term activities are most of the activities as described in the tables above and the communication and dissemination plan and serve to accomplish the networks main fields of action consolidation, peer-learning and communication and dissemination within the timespan of the GEM project.

The long-term activities refer to activities beyond project duration, for example maintaining the networks digital space and remaining active in relevant platforms to keep key messages about gender-and-STEM-education on the agenda of relevant stakeholders. These activities are covered in the project's Sustainability Plan.

The work package to realize the network is structured in IV main operational phases.

### (I) Preparation phase (M1-18)

I.1) WP4 leader (together with all consortium partners) provides a short work-shop session to educate GEMnet members in ongoing gender and skills gap in STEM/digital sectors, reasons for it (drop-out rates of girls, roles and barriers of girls) and their consequences (e.g. severe upcoming shortage of digital skills, loss of innovation capacity for Europe)

I.2) ICSE and its consortium partners use their links to schools, businesses, NGOs, (non-formal) education providers, ministries, municipalities, as well as STEM/educational research centres to win GEMnet members. Winning members is supposed to be a continuous process beyond project duration.

I.3) ICSE creates a digital web space for GEMnet. This digital web space will not only

- represent the network and
- allow subscription to the network, but will also
- offer group interactions: members can publish posts, comment on posts, upload materials and contact other members

### (II) Set-up phase (M19 - 24)

An official kick-off meeting explains the project and the network's- purpose, introduces initial network members to each other, and establishes this roadmap.

To find members, each consortium partner identifies concrete stakeholders on national level as well as cooperation partners from their fields of work.

### (III) Operational phase ((m19)/m24-36)

III.1 GEMnet performs planned activities.

III.2 The consortium, representatives from the NGT and selected experts from European level evaluate the impact of the measures.

III.3 ICSE leads on subsequent revision of measures, if necessary.

III.4 WP4 leader produces a GEMnet report showing planned measures, identifying best-practices and presenting the impact evaluation.

### (IV) Follow-up phase

After project duration, ICSE will maintain the European GEM Network (GEMnet) on its own expenses.

### Deliverables

| Deliverables |  | Brief description  | Produced by    | Revision and Approval     | Deadline      |
|--------------|--|--|----------------|---------------------------|---------------|
| 4.1          | Network agenda (showing all planned GEMnet measures) | The agenda will list all activities planned by GEM Net   | GEMnet members | Lead WP 4 and Coordinator | December 2021 |
| 4.2          | GEMnet report  | The report will give account on GEM Net, its activities and its impact to demonstrate the network's potential to bolster the project, future summer camps and girls in the context of digital technology in general. | WP4 leader     | Coordinator               | December 2022 |