

UN Internet Governance Forum (IGF)

**Dynamic Coalition on Internet Standards, Security & Safety - IS3C**

**Making the Internet more secure and safer**

**Working Group 2: Education and Skills**

*Acquiring the skills to be safe and secure in the digital world*

**Mission statement**

**1. The problem - the challenge - the opportunity**

Business leaders continue to express concern about the gaps in the digital skills of people entering the digital technology and cybersecurity sectors. Ensuring that there is a supply of qualified cyber experts who are able to respond to emerging digital threats and challenges to personal and corporate security, has become increasingly important in enabling personal and business internet users to keep one step ahead of the challenges to their security and safety. The innovation and the diversity of new ideas are often not realised because many schools and tertiary educational establishments have not adapted to the rapidly evolving requirements of the digital age. These weaknesses and omissions in the educational system will have a negative impact on economies and societies as they adjust to the transformations brought about by the digital revolution.

IS3C's Working Group 2 examines how educational curricula at all levels need to adapt to ensure that school and college-leavers are equipped with sufficient knowledge and understanding of how deploying security-related standards helps individuals and businesses to be secure and safe in the digital economy. The aim of the members of the working group is to develop recommendations and guidance that will:

- encourage educational institutions to factor into their curricula the essential skills, knowledge and understanding for every individual to be secure and safe in the digital world;
- define the requirements to provide a flow of skilled experts, bridge the gaps in educational curricula, and identify and promote good security practice;
- strengthen collaboration between educational decision-takers and policy makers in governments and industry in order to align school and tertiary curricula with the requirements of our cyber future;
- develop strategies to ensure effective ongoing collaboration between key stakeholders in order to keep in step with new technologies and standards and prevent new skills gaps from developing.

In this way, IS3C plans to support the tertiary, and the broader education sector to ensure that schools and college-leavers are equipped with sufficient knowledge and understanding to contribute meaningfully to the digital economy. The increasing dependence of society on the cyber infrastructure and the major costs to business and society caused by cyberattacks, has made cybersecurity an important and expanding employment sector.

## **2. Work plan - timeline and milestones**

IS3C's Working Group 2 agreed the following phases in its work plan:

### *Phase 1 January - June 2021*

- Research current best practice worldwide.
- Identify common skills gaps in educational curricula relating in particular to adoption of security-related standards.

### *Phase 2 July - November 2021*

- Expand the network of expert contacts in educational and training sectors in all geographical regions.
- Conduct interviews with leading industry experts.
- Develop a questionnaire to prioritise common skills gaps in educational curricula and training, and to identify best practice.
- Presentation of first phase of research proposal at IGF 2021 in Katowice setting out potential options for policy recommendations and guidance for educational decision-takers and practitioners as a basis for WG2's study project in 2022.

### *Phase 3 December 2021 - September 2022*

- Study project's interview-based global survey.

In its study research WG2 identified gaps that exist between the competences of young graduates embarking on a career in the cybersecurity sector and the expectations of organisations and institutions seeking to employ them. In the course of the study, the working group identified a set of key transversal and professional skills where more focus is needed, and gathered a range of suggestions and good practices that could be replicated elsewhere.

### *Phase 4 October - December 2022*

- Review results of study project and preparation of study report.
- Presentation of study report "Closing the gap between the needs of the cybersecurity industry and the skills of tertiary education graduates" at IGF 2022 in Addis Ababa.

Based on the findings of the study project, seven recommendations have been formulated. These range from improving diversity in the cybersecurity sector to setting up a collaboration hub to get education and industry talking more to each other as well as to other stakeholders involved.

### *Phase 5 January - June 2023*

2023 will be a year of consolidation and collaboration, to build on the findings of the work conducted so far. With the support of leaders and practitioners from industry, business and education sectors worldwide, WG2's work programme for 2023 has five clear goals inspired by the study, as follows:

1. Refine and pilot the competence model with partners in several different regions of the world, to gather input and insight into means of implementation.

2. In collaboration with experts from diverse backgrounds and sectors, begin the development of an education kit for use in educational institutions as well as by individuals in the context of lifelong learning.
3. Continue collaboration with education and industry sectors to find ways to improve knowledge sharing, and the collection of good practices.
4. Investigate means of scaling up some of the good practices that were identified in the 2022 study.
5. Work with industry and education leaders to look at ways that careers in the cybersecurity sector could be made more appealing and accessible to young people, especially girls.

The work will be underpinned by the professional competences model that emerged from the study, comprising the transversal skills and competences that can be considered the most essential to improve online safety and security in general, and cybersecurity as a professional vocation.

Achieving the United Nations' sustainable development goals by 2030 calls for a major effort from every citizen, every organisation. WG2 will continue to strive towards building the bridges across sectors, and promoting education and skills as one of the keys to a better, more secure and sustainable future.

### **3. Participation and outreach**

IS3C is a multistakeholder coalition and WG2 accordingly engages and invites the participation from all geographical regions of industry experts in the field of digital skills and vocational training, policymakers in national education ministries and agencies, leading curriculum reform bodies, and experts in digital literacy in international organisations such as the Council of Europe, and UNESCO.

WG2 also reaches out to relevant education initiatives (such as [European Schoolnet](#) which is a network of 34 education ministries in Europe), and seeks opportunities in key global educational events to present reports on IS3C's progress and the outcomes of WG2's activities.

During the study project, WG2 members encountered many contacts ready and available to pitch their efforts to bridging the gaps in expectations and outcomes of education and industry sectors.

### **4. Contacts for further information**

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