Cyber Security for Europe

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D9.16

CyberSec4Europe summer schools 2

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Abstract: This document presents the deliverable "D9.16 CyberSec4Europe summer schools 2". It describes the contributions made by the CyberSec4Europe project to summer schools in the second period of the project.

Executive Summary

One main goal of Task 9.3 "Spreading of excellence" of the CyberSec4Europe project is the dissemination of project results through several channels. This deliverable presents one of the key sets of activities carried out to contribute to achieving this goal, in particular the dissemination among the new generations of researchers and professionals through summer and winter schools[1]. This deliverable provides a detailed overview of the schools that CyberSec4Europe partners used to disseminate information about the project and its results in the second period of the project.

Goals. One of the main overall goals of CyberSec4Europe is to disseminate the latest research from the project and to provide training based on it. Project activities aimed at achieving such a goal are being conducted in several areas and, especially, in WP9. Indeed, WP9 has, among others, the following objectives:

[Obj. 9.1] Maximise dissemination of the project results to a wide audience of researchers and technologists within the relevant cybersecurity communities and initiatives. Run dissemination as a necessary step before and during exploitation

[Obj. 9.2] Promote the project achievements and results taking strategic and targeted measures for communicating the education and training cybersecurity framework and the service infrastructure to all potential users, including the media.

[Obj. 9.3] Spread excellence and guidance on best practices in next generation industrial and civilian cybersecurity technologies, applications and services

The project has several target groups for such dissemination and training efforts that include professionals, educators, students and researchers, both in the public and private sectors. A key target group are young professionals and researchers from the EU and beyond, who will form the basis of the new generation of experts in cybersecurity. Reaching them is fundamental to ensuring the widespread and long-term impact of the results of the project beyond the project lifetime. Indeed, summer and winter schools often give rise to new international networks of professionals bound by a unique learning and social experience. Moreover, schools are an excellent vehicle to connect experienced researchers and professionals with the younger generation from all across the world, thereby ensuring knowledge transfer among the generations, worldwide. Overall, schools are a key instrument to meeting the three objectives of WP9 mentioned above, as well as the general goal of spreading excellence.

The schools. To ensure a successful dissemination of CyberSec4Europe's results, the partners of the project decided to aim at getting actively involved in both well-established, reputed schools as well as in newly created ones. Such efforts resulted in CyberSec4Europe partners providing significant contributions to several schools, ranging from active involvement in the organisation of the schools to teaching of individual lectures or modules. Preliminary efforts in this direction were presented in D9.7[2]. The present deliverable reports on new school activities that took place in the second period of the project. This period coincided with the COVID-19 pandemic, which had a dramatic effect on the organisation of summer and winter schools. Most of the school organisers decided to cancel or postpone their schools hoping for presence-based possibilities to provide a better experience. Nevertheless, we managed to be involved in two summer schools, both of which are reported in this deliverable:

- International School on Foundations of Security Analysis and Design 2021

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[1] Following academic conventions, the term "summer school" sometimes includes also "winter schools".
[2] CyberSec4Europe summer schools 1, available at
https://cybersec4europe.eu/wp-content/uploads/2020/08/D9.7-CyberSec4Europe-summer-schools-1.v1.0-Submitted.pdf

● IFIP Summer School on Privacy and Identity Management 2020

Details about how CyberSec4Europe partners contributed to the schools, and about which specific CyberSec4Europe results were disseminated, are described in detail in the deliverable. In particular, each school is described in its own dedicated chapter where we provide the following information:

- **Name of the school:** The full name of the school.
- **Website (URL):** The URL of the school.
- **Dates:** The dates when the school took place.
- **Location:** The location where the school took place.
- **Organiser:** Who was the main organiser of the school.
- **Main audience category:** Who the audience of the school primarily was.
- **Description:** A short description of the school.
- **Speakers, lecturers and topics:** Who the speakers and lecturers were and what topics they covered.
- **Teaching material:** Links to teaching material.
- **Picture:** Photograph taken at the event.
- **Number of attendees:** How many people attended the school.
- **CyberSec4Europe involvement:** How CyberSec4Europe was involved.
- **Conclusion:** The main success and outcome of contributing to the school.

Summary. Overall, this set of schools, together with the set of schools reported in D9.7, constitutes a significant step towards the achievements of the above-mentioned goals of the project. In total, CyberSec4Europe reached out to, through these schools, more than 400 attendees in the scientific community, a main target group. The schools reported here were hosted at Maribor, Slovenia (virtually) and at Bertinoro, Italy (hybrid). The FOSAD school was organised in collaboration with one of the other pilot projects, namely SPARTA. The IFIP school had IFIP as the main organiser. Lastly, we think it is also worth mentioning that, in addition to spreading CyberSec4Europe results, some of the schools resulted in outcomes that are currently being integrated with the activities and results of the project.

Document information

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1.0	2022-01-31	GUF	Final check, preparation and submission

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1 FOSAD 2021

1.1 Name of the school

20th International School on Foundations on Security Analysis and Design (FOSAD 2021)

1.2 Website (URL)

https://sites.google.com/uniurb.it/fosad/home/fosad20

1.3 Dates

30 August - 3 September 2021.

1.4 Location

The school was held as a hybrid event with physical location at Bertinoro (Italy).

1.5 Organiser

University Residential Centre of Bertinoro.

1.6 Main audience category

Scientific community and early stage researchers, mainly PhD students and MSc students.

1.7 Description

Security in computer systems and networks emerged as one of the most challenging research areas. The International School on Foundations of Security Analysis and Design (FOSAD) has been one of the foremost events established with the goal of disseminating knowledge in this critical area. The main aim of the FOSAD school is to offer a good spectrum of current research in the foundations of security - ranging from programming languages to the analysis of protocols, from cryptographic algorithms to access control policies and trust management - that can be of help to graduate students and young researchers from academia or industry who intend to specialise in the field.

FOSAD is held annually at the University Residential Centre of Bertinoro. From the first event in 2000 until its 20th edition in 2021, FOSAD has attracted about 966 participants and 165 lecturers from all over the world. The school programme consists of monographic courses given by well-known experts in the security community. Moreover, FOSAD encourages presentations by those participants who intend to take advantage of the audience to discuss their current research topic. Many of the young speakers of the FOSAD open sessions are now well-regarded researchers and professors.

For the 2021 edition, the school was supported by two of the four EU Cybersecurity Competence Networks pilots, **CyberSec4Europe** and **SPARTA**. Both of them emphasise the crucial role of education for cybersecurity, proposing new educational and training programmes and new methods of teaching.

1.8 Speakers, lecturers and topics

The full program is available at https://sites.google.com/uniurb.it/fosad/home/fosad20/program. CyberSec4Europe contributed with the following talk in the PhD forum:

Lecturer (Partner)	Topic
James Hsin-yu Chiang (DTU)	Security in Decentralized Finance (DeFi)

Table 1: CyberSec4Europe lectures at IFIP Summer School on Privacy and Identity Management 2020.

1.9   Teaching material

Teaching materials for some of the lectures are available at

https://sites.google.com/uniurb.it/fosad/home/fosad20/program

1.10 Picture

Figure 1: FOSAD 2021 group picture.

1.11 Number of attendees

The summer school had 46 attendees, of which 21 were CyberSec4Europe members.

1.12 CyberSec4Europe involvement

Javier López (UMA) was involved in the organization of the summer school as a member of the Scientific Committee, while James Hsin-yu Chiang (DTU) participated as PhD student and presented work on security in decentralized finance developed in collaboration with Alberto Lluch Lafuente (DTU) in the context of Task 3.3 "Secure Development Lifecycle".

1.13 Conclusion

The 20th edition of FOSAD was scheduled for 2020. Unfortunately, the COVID pandemic resulted in cancellation of the original plan and the school was postponed to 2021. Due to this cancellation many young researchers from CyberSec4Europe and beyond missed the unique experience of participating in the school. Fortunately, the school could take place in 2021 in a hybrid mode, which allowed for a high number of participants to attend. As a matter of fact, nearly half of the participants were from the partners of the project.

2   IFIP Summer School on Privacy and Identity Management

2.1   Name of the school

IFIP Summer School on Privacy and Identity Management

2.2   Website (URL)

https://ifip-summerschool.org/

https://sec2020.um.si/

2.3   Dates

21 - 23 September 2020.

2.4   Location

The school was originally planned to be held in Brno (CZ) and was then rescheduled due to the COVID-19 pandemic to be held in Maribor (SI). Finally, the conference was held as a fully virtual event.

2.5   Organiser

The organisers were AIT Austrian Institute of Technology (General Chair), University of Luxembourg and Fraunhofer ISI (Program Co-Chairs).

The summer school was kindly supported by University of Maribor as the organisers of IFIP Sec with which the summer school was co-located.

The conference was held in cooperation with the International Federation for Information Processing (IFIP).

2.6   Main audience category

The target audience of the IFIP Summer School series is twofold. Firstly, it offers a platform for early stage researchers to present their research goals, receive feedback from an experienced program committee, discuss ideas and build an interdisciplinary network in the field of privacy and identity management. Secondly, the program is complemented by keynote lectures and workshops organised by experienced senior researchers.

2.7   Description

The 15th International IFIP Summer School on Privacy and Identity Management had to be held as a virtual event due to the COVID-19 pandemic. In order to achieve high visibility and ensure active participation, the summer school was co-located with IFIP Sec 2020 and WISE 13. The summer school was a joint effort among IFIP Working Groups 9.2, 9.6/11.7, 11.6, and Special Interest Group 9.2.2, in cooperation with three of the pilot projects **CyberSec4Europe**, **SPARTA** and **CONCORDIA**.

As in previous years, the IFIP Summer Schools took a holistic approach to society and technology and supported interdisciplinary exchange through keynote and plenary lectures, tutorials, workshops and research paper presentations. In particular, it aimed to bring together early stage as well as senior researchers with technical, legal, regulatory, socio-economic, social or societal, political, ethical, anthropological, philosophical or psychological backgrounds. This interdisciplinary character of the work is fundamental to the school.

2.8   Speakers, lecturers and topics

The full program is available at https://sec2020.um.si/conference-program/. CyberSec4Europe contributed with the following talk in a CCN session open to the students:

Lecturer (Partner)	Topic
Kai Rannenberg (GUF)	CyberSec4Europe – Aiming to safeguard values through excellence in cybersecurity

Table 2: CyberSec4Europe lectures at IFIP Summer School on Privacy and Identity Management 2020.

2.9 Teaching material

The post-event proceedings, including the student contributions, summaries of workshops and tutorials, have been published by Springer, and are available at https://link.springer.com/book/10.1007/978-3-030-72465-8.

Note that gold open access to all papers in this volume has been granted for a limited time period after the publication of the proceedings. Cybersec4Europe talk by Kai Rannenberg is available at https://ifipsec.org/2021/res/panel-EU-Cybersec-CyberSec4Europe.pdf.

2.10 Picture

As this was a virtual event, no pictures of the conference room or social events are available.

2.11 Number of attendees

As the summer school was held in conjunction with IFIP Sec 2020 and WISE 13, using a joint submission system and a single ticket for all three events, the precise number of attendees cannot be given here. Furthermore, participation numbers have shown to be highly dynamic in virtual events.

During the IFIP Summer School on Privacy and Identity Management, the sessions were, on average, attended by 30 participants, with a maximum of 65 participants. On average, about 10% of the attendees were members of the CyberSec4Europe consortium.

2.12 CyberSec4Europe involvement

The IFIP Summer School series has a long tradition and strong links with several CyberSec4Europe participants. For the 2020 edition, Stephan Krenn (AIT) was acting as the general co-chair, while Simone Fischer-Hübner (KAU) and Kai Rannenberg (GUF) are permanent members of the school's steering committee. Furthermore, the summer school was initially planned to be held at BRNO, with Vaclav Matyas acting as a local chair. However, the conference had to be moved to Slovenia, where it was finally held as a virtual event in conjunction with IFIP Sec 2020 and WISE 13, hosted by UM.

The IFIP Summer School is directly related to different ambitions of CyberSec4Europe. The school provides insights into up-to-date research in different domains (WP3). For WP3, the summer school is related to several tasks, e.g.,

- T3.2 (cf. by Session 6 on "Identity Protection" and Session 8 on "Privacy Friendly Data Sharing"),
- T3.6 (e.g., by Session 5 on "Human Factors and Education"), or
- T3.7 (e.g., with a tutorial on "Don't Tell Them Now (or at all) – End User Notification Duties under GDPR and NIS Directive").

Given the main ambition of the summer school, there is also a strong relation to the topics covered by the demonstrators in WP5. The overall ambition of the summer school on privacy and identity management is directly related to the ambition of T5.3, but also covers aspects like data sharing, or electronic payments.

The event directly contributes to the objectives of WP9 by raising awareness of cybersecurity, bringing together experts from different domains, and supporting CyberSec4Europe beyond the consortium, thereby directly contributing to T9.3. Given the collaboration with SPARTA and CONCORDIA during

the organisation, and the active advertisement in other H2020 projects such as KRAKEN, the summer school also contributes to the clustering activities envisioned in T10.1.

2.13 Conclusion

The IFIP Summer School on Privacy and Identity Management was directly related to CyberSec4Europe's overall ambitions in several ways. Firstly, the summer school aims to bring together researchers from different fields, backgrounds and seniority levels, thereby directly contributing to the objectives of strengthening Europe's cybersecurity capacities (Policy Objective 2) and establishing synergies between experts from different communities (Innovation Objective 2). Secondly, the contents of the summer school are directly linked to the project's vertical demonstrators, specifically T5.3 (privacy-preserving identity management), but also to those dedicated, for example, to open banking (T5.1) or medical data exchange (T5.6), which have very strong privacy requirements. Thirdly and finally, the school was also related to research activities from WP3, for example, regarding privacy-preserving technologies or blockchains (T3.2), or usable security (T3.6).

IFIP Summer School on Privacy and Identity Management 2021.

The 16th IFIP Summer School on Privacy and Identity Management was held virtually from 16-20 August 2021, in cooperation with the University of Luxembourg. Members of the CyberSec4Europe consortium were again strongly involved as members of the Steering Committee and as PC Co-Chair, and organised a workshop on privacy-preserving identity management together with H2020 OLYMPUS. As the post-proceedings are currently under preparation and will not be published before spring 2022, we will provide full details on the 2021 edition of the summer school as part of D9.24.