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Education in Serbia

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Laboratory Development Plan (LDP)

Version 0.5

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Abbreviations

Abbreviation	Description
LDP	Laboratory Development Plan
P1 / UNS	Partner P1: University of Novi Sad, Novi Sad, Serbia
P5 / UNS	Partner P5: University of Belgrade, Belgrade, Serbia
P6 / UNI	Partner P6: University of Nis, Nis, Serbia
P8 / UT	Partner P8: Unicom-Telecom Ltd, Belgrade, Serbia
P10 / ICUN	Partner P10: Innovation Center of the University of Nis, Nis, Serbia
WP	Work Package



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1 Introduction

This document contains the Laboratory Development Plan of the project. It defines the list of activities which will result in the delivery of four laboratory designs and seven laboratory implementations at the four partner HEIs in Serbia.

This document will be prepared as part of the preparatory Work Package 1 (WP3) of the project. The subsequent laboratory-related activities will be carried out as part of Work Package 3 Laboratory Development (WP3).

Laboratory development and curricula development in Work Package 3 (WP3) will be closely tied together to build labs which provide the strongest possible support to the teaching activities envisaged in WP3. The quality of the lab development activities will be closely monitored from the quality management Work Package 5 (WP5) and managed through Work Package 7 (WP7). Important milestones (e.g. laboratory design completed, laboratory equipment set up) will be reported by in WP6 Dissemination & Exploitation.



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2 Laboratory Design

The following four laboratory design will be developed by the project consortium:

- 3.1 Lab Design: Critical Infrastructure Security Laboratory (CIS Lab)
- 3.2 Lab Design: Digital Forensics Laboratory (DF Lab)
- 3.3 Lab Design: Network Security Laboratory (NS Lab)
- 3.4 Lab Design: Cloud Security Laboratory (CS Lab)

According to the project proposal, the designs of 3.1 – 3.3 will be completed by M13, i.e. November 15th, 2018. The last lab design, namely project output 3.4 will be completed no later than M14, i.e. December 15th, 2018.

The work on the laboratory designs will start early in the preparatory phase of the project. The activities leading to the designs will include:

- remote discussions with the EU-based partners,
- training sessions at the EU-based partners,
- discussions with the Serbian industry partners, i.e. UT (P8) and ICUN (P10).

The above listed four design development activities will be led by different individuals at the following institutions:

- 3.1 will be led by P1, responsible: Imre Lendak.
- 3.2 will be led by P5 (UB/Faculty of Organization Sciences), responsible: Svetlana Jovanovic.
- 3.3 will be led by P5 (UB/School of Electrical Engineering), responsible: Zarko Stanisavljevic.
- 3.4 will be led by P9 (Subotica Tech), responsible: Igor Fuerstner.

The main EU-based partners involved in the development of the above listed laboratory designs will be:

- 3.1: P3 (CrySys/BME) & P4 (Polimi).
- 3.2: P2 (FOI/UZG) & P4 (Polimi).
- 3.3: P3 (CrySys/BME).
- 3.4: P2 (FOI/UZG).



3 Laboratory Implementation

The following laboratories will be developed during the project:

- 3.5 Hybrid CIS, CS and NS Lab implementation (P1)
- 3.6 Hybrid Network and System Security Lab Implementation (P5)
- 3.7 Hybrid NS and IoT Lab implementation (P6)
- 3.8 DF Lab Implementation (P5)
- 3.9 DF Lab Implementation (P6)
- 3.10 DF Lab Implementation (P1)
- 3.11 Hybrid NS and IoT Lab Implementation (P9)

The project plan includes the development of three laboratories which will be built according to single laboratory designs developed as part of the project proposal. More specifically:

- Partners P1, P5 and P6 will build Digital Forensics Laboratories (DF Lab) which will be closely aligned with the default DF Lab design specified in and by course deliverable 3.2.

The above listed DF Lab swill be slightly customized, thereby allowing the three hosting institutions to develop slightly varying **DF specializations**. The exact specializations will be identified and agreed upon during the project.

It is envisaged in the project plan that there will be four hybrid laboratories aligned with the specific needs of the institutions where they will be built, namely:

- The University of Novi Sad (P1) will build a hybrid laboratory which will start from the baseline Critical Infrastructure Laboratory (3.1) design, combine it with the NS Lab design (3.3), thereby aligning it with the plan to develop an **Industrial and Infrastructure Security** specialization at P1.
- The University of Belgrade (P5) will build a hybrid laboratory which will also start from the baseline NS Lab design (3.3) and augment it with additional elements, which will allow the teaching and technical staff to more effectively deliver both network security and applied, advanced cryptography courses, thereby acquiring a **Network Security and Applied Cryptography specialization**.
- The University of Nis (P6) will build a hybrid laboratory which will start from the baseline NS Lab design (3.3) and augment it with additional elements, which will allow the teaching and technical staff to more effectively deliver both network and IoT security and privacy, thereby supporting improved **Computer Systems Security specialization**.
- Subotica Tech (P9) will develop a hybrid laboratory, which will start from the baseline Cloud Security Lab (3.4) design, align it with the baseline NF Lab design (3.3) and additionally augment it with additional elements allowing the institution to focus on information security in cloud computing and Internet of Things (IoT) solutions. This will allow P9 to obtain a **Cloud and IoT Security Specialization**.



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4 Laboratory Development Timeline

The table on the next page contains the Gantt chart of the laboratory development activities extracted from the main project plan. It incorporates a roughly 2-month delay in the Laboratory Development Plan (LDP), which will not cause a further delay in the project execution.



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The amount of parallel activities will be minimized at each institution, thereby lowering both the workload on staff members and the risk of failing to accomplish the project goals.

The design activities in M7-M14 will be carried out in parallel, but by different staff members working at different institutions as specified in the section in this document discussing the design phase.



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5 Summary

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6 References

- [1] Information Security Services Education in Serbia (ISSES). Erasmus+ Capacity Building in the field of Higher Education (CBHE). Project proposal. 2017.