



visuAAL

Privacy-Aware and Acceptable Video-Based Technologies
and Services for Active and Assisted Living

Health Data Protection in the Age of Assisted Living: Regulatory Approaches of the EU and China

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Stockholm University

Aachen, Germany

First visuAAL PhD Seminar

6 May 2022

1. About me

2. About my PhD project

3. Progress report

4. Future plans

5. Q & A

1 Self-introduction

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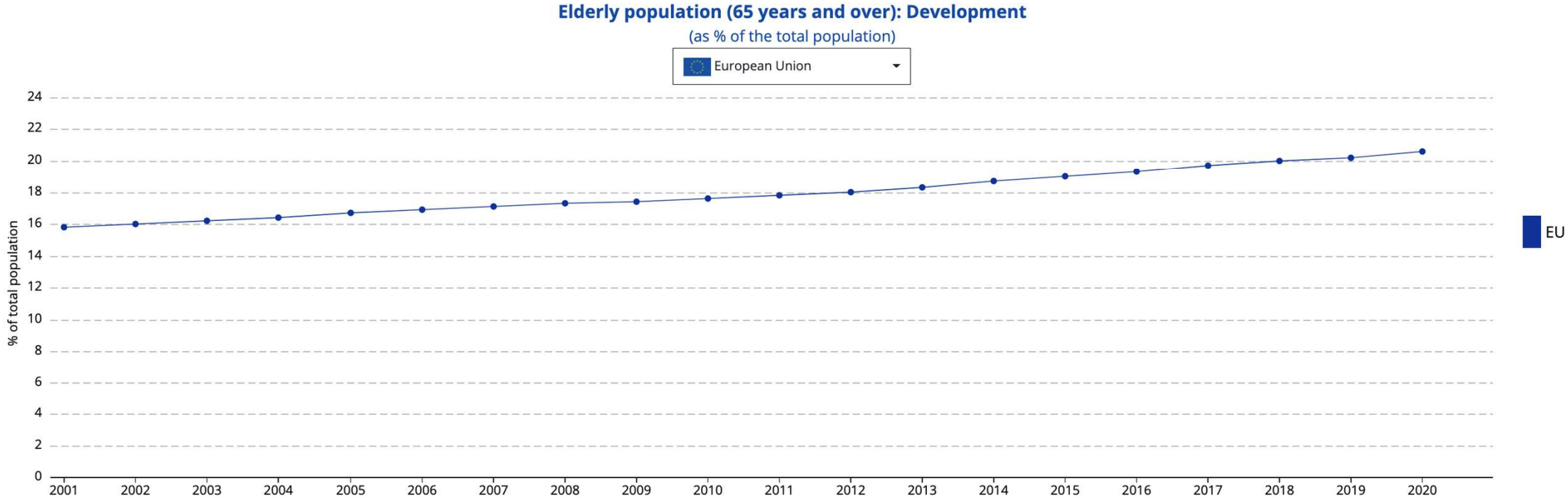
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Q & A

Zhi-cheng He

- **Hunan, China**
- **Current roles**
 - Doctoral Candidate, Swedish Law and Informatics Research Institute (IRI) at the Faculty of Law, Stockholm University.
 - Early Stage Researcher in the visuAAL project.
- **Background**
 - Master of Laws (LLM), Ghent University, Belgium, 2016
 - Master of Laws, Southwest University of Political Science and Law, China, 2014 - 2017
 - In-house counsel, regulatory compliance
 - April 2017 - Feb 2019, Shenzhen, China
 - Feb 2019 - March 2021, UK



Source: Eurostat - [access to dataset](#)

2 PhD Project - Ageing in China

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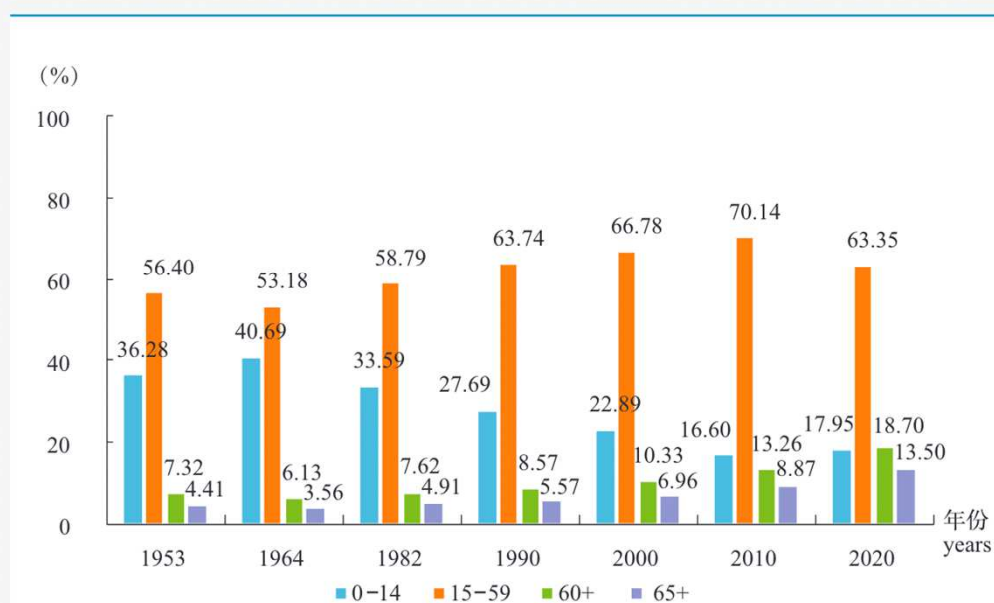
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Q & A

7. 历次普查人口年龄构成

Age Composition from Population Censuses



Source: Major Figures on 2020 Population Census of China

Trend

WHO predicts that by 2040, the number of people over 60 in China would reach **402 million**, accounting for **28%** of its entire population.

Source: <https://www.who.int/china/health-topics/ageing>

Informations and communications technologies (ICT) promise to relieve demographic challenges by augmenting health and care.

What is AAL?

- Active and Assisted Living (AAL)
- Technologies that enable people to live longer at homes, such as
 - Wearables
 - Ambient devices
 - Sensors
- Supported by EU policies and funding programmes.

2 PhD Project - Assisted Living Technologies

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Q & A

What could digital tools help with?

- Fall detection
- Sleep monitoring
- Breathing monitoring
- Vital signs monitoring
- Activity monitoring

(Sathyanarayana et al 2018)



Health monitoring in private places (Francisco Florez-Revuelta, University of Alicante)

2 PhD Project - Assisted Living Technologies (Norway Case)

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Q & A

- National Programme for Personal Connected Health and Care (NVP)
- 80% of Norwegian municipalities participated
- Users: elderly people living at home who receive services from the municipal home and care services
- Functions
 - Vital signs monitoring
 - Location monitoring
 - Virtual fences
- Recommendation: Sensor technology to be introduced throughout Norway.



Source: <https://www.healthcareatdistance.com/media/1120/digital-supervision.pdf>



中华人民共和国民政部

Ministry of Civil Affairs of the People's Republic of China

Q

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工业和信息化部 民政部 国家卫生健康委关于印发 《智慧健康养老产业发展行动计划（2021-2025年）》的通知

时间: 2021-10-27 08:36 来源: 民政部门户网站 【字体: 大 中 小】  打印

工信部联电子〔2021〕154号

各省、自治区、直辖市工业和信息化主管部门、民政厅（局）、卫生健康委:

Source: <http://www.mca.gov.cn/article/xw/tzgg/202110/20211000037479.shtml>

智慧健康养老产业发展行动计划
(2021-2025 年)

智慧健康养老产业是以智能产品和信息系统平台为载体，面向人民群众的健康及养老服务需求，深度融合应用物联网、大数据、云计算、人工智能等新一代信息技术的新兴产业形态。为进一步促进智慧健康养老产业发展，积极应对人口老龄化，打造信息技术产业发展新动能，满足人民群众日益迫切的健康及养老需求，增进人民福祉和促进经济社会可持续发展，制定本计划。

一、总体要求

(一) 指导思想

以习近平新时代中国特色社会主义思想为指导，全面贯彻党的十九大和十九届二中、三中、四中、五中全会精神，立足新发展阶段、贯彻新发展理念、构建新发展格局，深入实施健康中国战略和积极应对人口老龄化国家战略，坚持以人民为中心，坚持供给侧结构性改革和需求侧管理相结合，强化科技支撑，优化产业生态，协同推进技术融合、产业融合、数据融合、标准融合，推动产业数字化发展，打造智慧健康养老新产品、新业态、新模式，为满足人民群众日益增长的健康及养老需求提供有力支撑。

(二) 基本原则

Legal aspects

4. Legal aspects

4.1 Data protection and design requirements of data protection law

4.2 Cyber security

4.3 Medical device regulation & health laws

4.4 General product safety regulation

4.5 Consumer protection

4.6 Intellectual property

4.7 AI Regulation

State of the art on ethical, legal, and social issues linked to audio- and video-based AAL solutions

Working Group 1.

Social responsibility: Ethical, legal, social, data protection and privacy issues

December 2021



Research problem

To what extent do the EU and China's legal systems protect health data in the context of digital technologies for assisted living and what are the pitfalls and risks of the legal norms?

Main objective

To investigate the regulatory approaches of the EU and China towards health data through the lens of digital health technologies applied in assisted living contexts.

Expected Results

A PhD dissertation in the form of **a monograph** which presents the regulatory approaches of the EU and China towards health data in the context of using digital tools for assisted living purposes.

Main research method

Comparative legal study between the EU and China



Source: China Briefings

Comparative law

- Comparative law is the study of differences and similarities between the law (legal systems) of different countries.

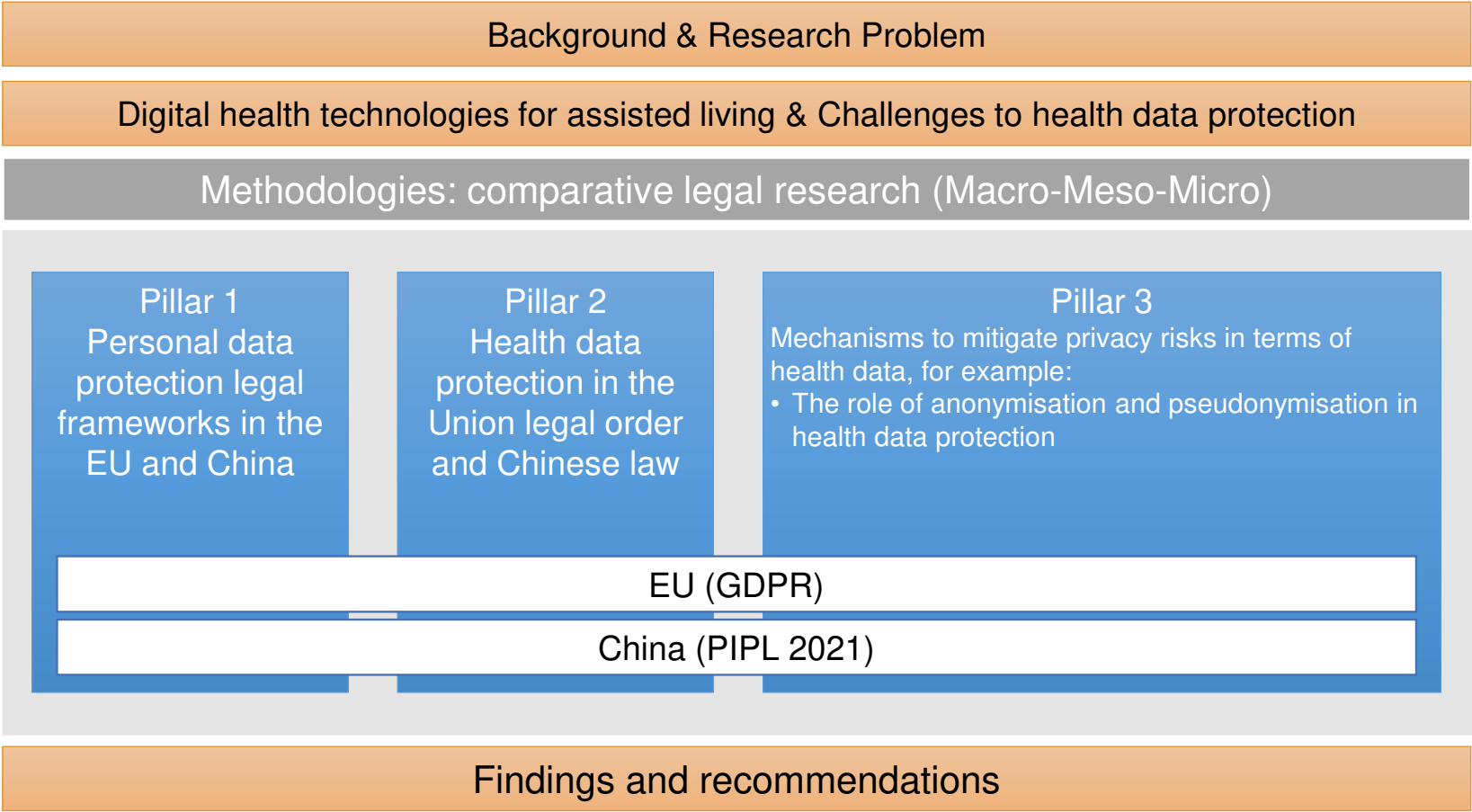
Why comparative law

- Legislation.
- Enforcement.
- Globalisation.

How

- Macro comparison v Micro comparison
- Function comparison v Concept comparison
- Cultural comparison
- Static comparison v Dynamic comparison

3 Progress Report - PhD Project Landscape (May 2022)



End-users

- Help users understand their legal rights better.

Technology companies and developers

- Enhance awareness of legal issues.
- Build knowledge regarding complex regulatory compliance works.

Policy makers

- Provide insights on the 'state-of-the-art' of the current regulatory frameworks.
- Inform possible policy changes, legislative updates and revisions.

Conferences

- **Attended**

- Presentation: 2021 Nordic Conference on ICT Law, 8-10 November 2021, Oslo, Norway.
- GoodBrother Working Group 1: White Paper published December 2021. Social responsibility: Ethical, legal, social, data protection and privacy issues: State of the art on ethical, legal, and social issues linked to audio- and video-based AAL solutions.

- **Paper acceptance**

- GoodBrother International Conference on Privacy-friendly and Trustworthy Technology for Society, Zagreb, June 2022
- PETRA 2022, PrivAw – GoodBrother Workshop on Privacy aware and acceptable solutions for AAL, 29 June – 1 July 2022
- 2022 Law and Society Global Conference, July 2022, Lisbon.

Trainings

- visuAAL training school on "Responsible research and innovation" and "Research Skills", 27 September to 1 October 2021, University of Alicante, Spain
- visuAAL seminars on Responsible Research and Innovation, 13-14 October 2021, online.
- visuAAL training school "Video-based AAL application", March 2022, TU Wien, Vienna, Austria.
- 1st visuAAL doctoral seminar and training school on "Skills 2. Presenting and publishing", 2-6 May 2022, Aachen, Germany.

Courses

Finished courses

- Fundamental concept of law, 7.5 credits
- Philosophy of social sciences, 7.5 credits
- Academic writing, 7.5 credits
- Introduction to artificial intelligence (WASP), 2.5 credits

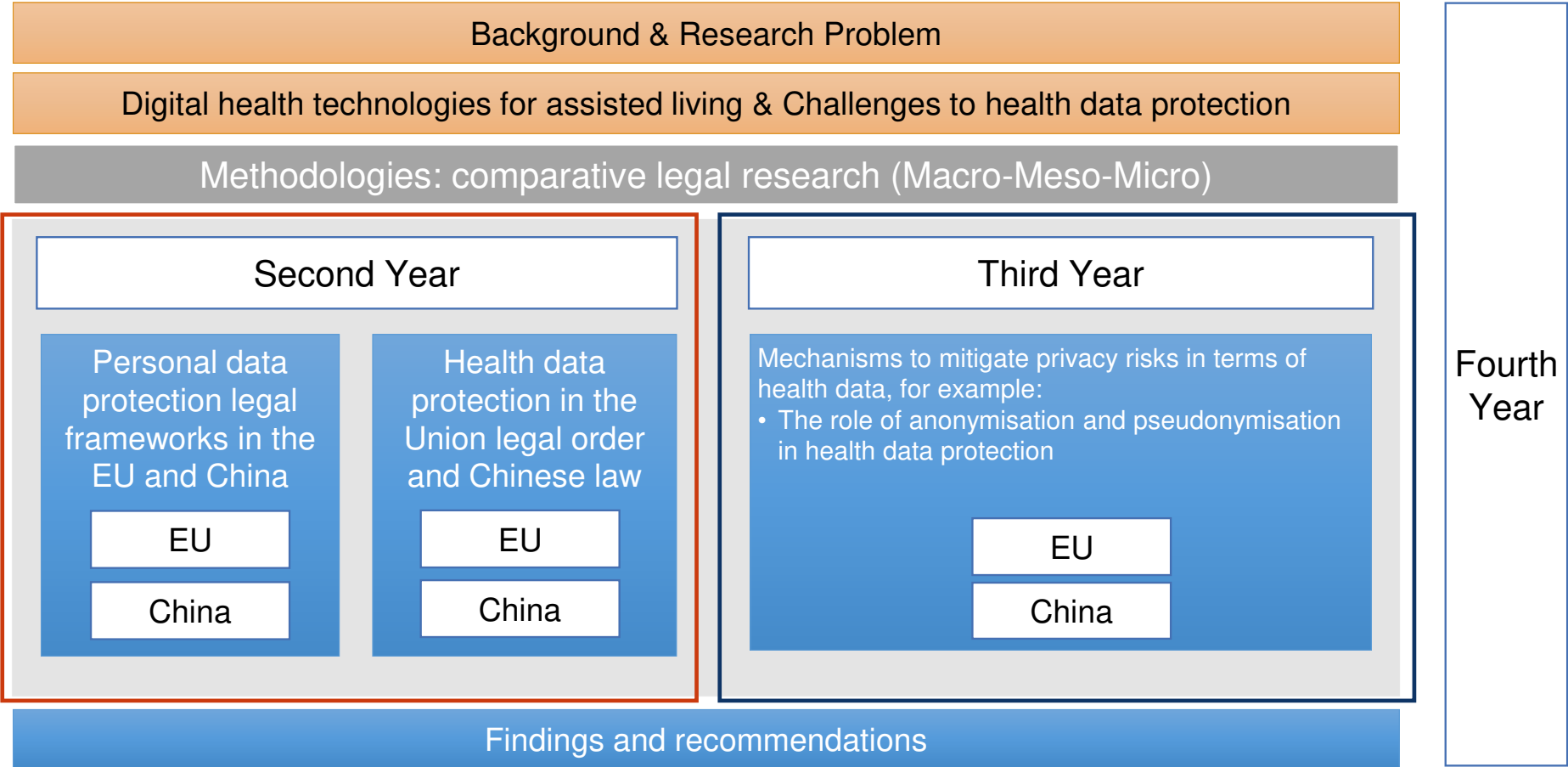
Ongoing courses

- Swedish course at Stockholm University

Other research activities

- WASP-HS Doctoral School. Accepted as an affiliated PhD student.
- Attended WASP-HS winter conference, January 2022.

4 Future Plans - Dissertation



Trainings and courses

- To attend visuAAL training school on "Innovation in health and integrated care", 1-3 June 2022, Trinity College Dublin, Ireland.
- To attend the 2nd visuAAL doctoral seminar, 2023, Stockholm University, Sweden.
- Legal and Swedish courses at Stockholm University.

Conferences

- To attend and present in the 2022 Global Meeting on Law and Society, July 2022, Lisbon.
- GoodBrother International Conference on Privacy-friendly and Trustworthy Technology for Society, Zagreb, June 2022
- PETRA 2022, PrivAw – GoodBrother Workshop on Privacy aware and acceptable solutions for AAL, 29 June – 1 July 2022

Network

- To complete courses from WASP-HS Doctoral school.
- To participate in activities within the WASP-HS.





**Thank you.
Danke!**