



Alexandra Tidrea

● ABOUT ME

My research area of interest is cybersecurity for SCADA and automation systems with a focus on finding security solutions for both legacy structures and new architectures imposed by Industry 4.0/5.0. I have received the B.S./M.S. degrees in 2014/2016 from Politehnica University of Timisoara, where I am currently pursuing the Ph.D. studies. I have a background of four years as a Software Developer and later as a System Engineer in the automotive industry as a former employee of Autoliv, from 2014 to 2018, and of Veoneer/MAGNA from 2018 to 2025. Currently, I am an employee of LetsDeal as a System Architect for automotive active safety systems.

● WORK EXPERIENCE

 **LETSDEEL** – TIMISOARA, ROMANIA

SYSTEM ARCHITECT – 2025 – CURRENT

- develop system architecture and design in line with automotive standards for active safety systems
- offer cross-functional technical support to all projects teams
- involved in proof-of-concept designs and define alternative architectures
- define system specifications
- offer support for system integration activities

 **MAGNA** – TIMISOARA, ROMANIA

PRINCIPAL ENGINEER – 2024 – 2025

- performed requirements definition and analysis, developed architecture and design for Thermal Sensing infrared camera product
- presented weekly Tech Talk sessions for the entire product area
- offered cross-functional technical support to all projects teams within the Thermal Sensing product area (e.g., FUSA, cybersecurity, validation teams)
- involved in main system engineering activities
- offered support for system integration activities

 **AUTOLIV/VEONEER/MAGNA** – TIMISOARA, ROMANIA

SYSTEM ENGINEER – 2018 – 2024

- analyses and propose solution from the system point of view for active safety systems (e.g. Thermal system, Driving Monitoring System)
- discuss with the clients weekly about the new functionalities
- propose different solution to meet the customer needs
- develop system architecture in accordance with automotive standards
- perform requirements elicitation and create system requirements
- think and propose innovative solution for urgent customer issues, for the Software team and for the System Test team
- create system architecture for active safety systems including functional and physical perspectives
- analyze alternative architectures and propose solutions for fitting required functionalities (e.g. image processing algorithms deployment on embedded devices)
- support in FUSA and Cybersecurity activities

 **AUTOLIV** – TIMISOARA, ROMANIA

SOFTWARE DEVELOPER ENGINEER – 2014 – 2018

- develop and test software for automotive area compliant with quality standards
- discuss with the clients the new functionalities
- coordinate team activities when it is necessary and mentor new team colleagues
- offer support and coordinate tasks for the new team colleagues
- find solutions for the existing problems and propose a strategy to implement the solution

- implement new client functionalities and analyze the impact of the existing ones
- propose and implement solution for code optimization
- think and develop solution by taking into consideration client requirements, time consuming, team workload, existing software architecture

● EDUCATION AND TRAINING

2018 – CURRENT

PHD STUDIES, CYBERSECURITY FOR SCADA AND AUTOMATION SYSTEMS University Politehnica Timisoara

2014 – 2016 Timisoara, Romania

MASTER'S DEGREE IN AUTOMATICS SYSTEM ENGINEERING University Politehnica Timisoara

2011 – 2014 Timisoara, Romania

BACHELOR'S DEGREE IN AUTOMATICS AND COMPUTER SCIENCE University Politehnica Timisoara

● PUBLICATIONS

2023

[**ECC Implementation and Performance Evaluation for Securing OPC UA Communication**](#)

Proc. of the 22nd IEEE International Conf. on Trust, Security and Privacy in Computing and Communications (TrustCom-2023), pp. 1712-1719, Exeter, UK, 2023

Tidea, A; Korodi, A.

2023

[**Elliptic Curve Cryptography Considerations for Securing Automation and SCADA Systems**](#)

Sensors 2023, 23, 2686.

Tidrea, A.; Korodi, A.; Silea, I.

2019

[**Cryptographic Considerations for Automation and SCADA Systems Using Trusted Platform Modules**](#)

Sensors 2019, 19, 4191.

Tidrea, A.; Korodi, A.; Silea;

2018

[**WebNavIGSS Web-Based Software Solution for IGSS SCADA Applications**](#)

Proceedings of the 26th Mediterranean Conference on Control and Automation (MED), Zadar, Croatia, June 19-22, 2018

Tidrea A., Korodi A.

● PROJECTS

2022 – 2023

Efficiency increase in water domain systems functioning through proactive supervision/PN-III-P2-2.1-PTE-2021-0039

The research activity was focused on cybersecurity for Operational Technology systems, more specifically for SCADA and automation systems.

Centralizing and optimizing SCADA in the water sector (CASCADA)/Bridge Grant cod PN- III-P2-2.1-BG-2016-0208.

● LANGUAGE SKILLS

Mother tongue(s): **ROMANIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
FRENCH	B1	B1	A2	A2	A2