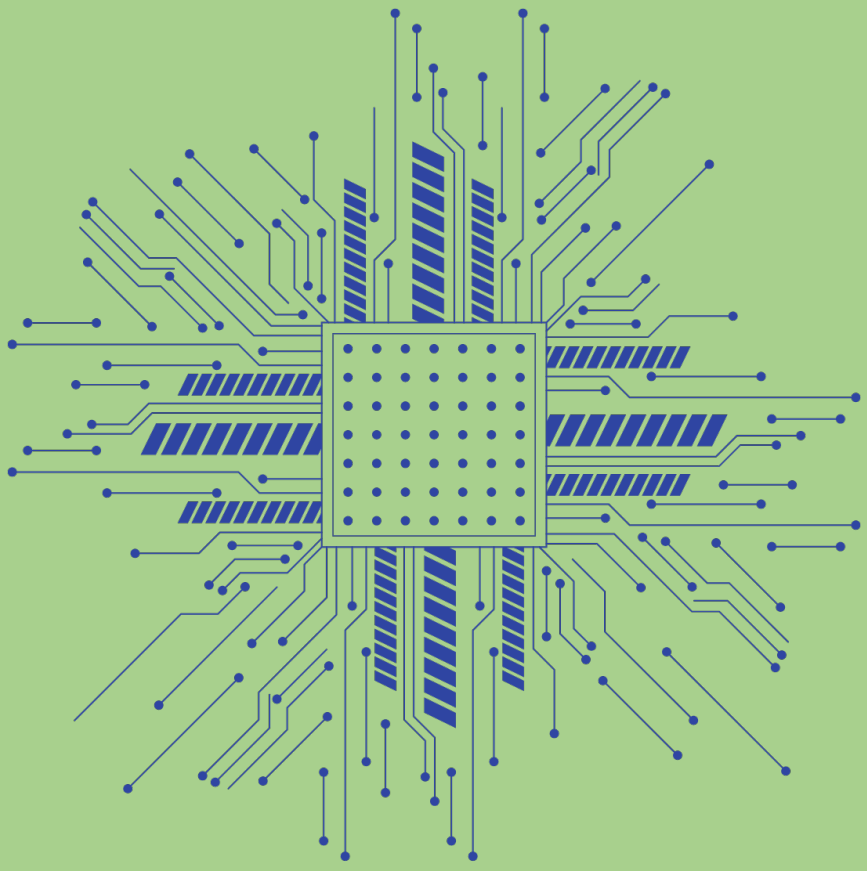
IEEE 31st International Symposium for Design and Technology in Electronics Packaging



SIITME 2025

CONFERENCE & EXHIBITION

www.siitme.ro

22nd - 25th October 2025, Transilvania University of BRAȘOV, ROMANIA

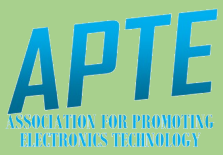
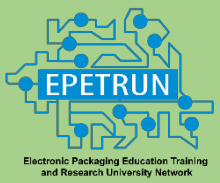
Transilvania University of Brasov

TECHNICAL UNIVERSITY OF CLUJ-NAPOCA ROMANIA

POLITEHNICA BUCHAREST 1818

APTE ASSOCIATION FOR PROMOTING ELECTRONICS TECHNOLOGY

Organized by:

	**National University of Science and Technology POLITEHNICA Bucharest, Romania** http://www.upb.ro **Faculty of Electronics, Telecommunications and Information Technology** https://etti.upb.ro/en/
	**Transilvania University of Brașov, Romania** https://www.unitbv.ro/en/ **Faculty of Electrical Engineering and Computer Science** https://iesc.unitbv.ro/en/
	**Technical University of Cluj Napoca** **Faculty of Electronics, Telecommunications and Information Technology** https://www.utcluj.ro
	**Association for Promoting Electronics Technology, APTE** http://www.apte.org.ro
	**Center for Technological Electronics and Interconnection Techniques** http://www.cetti.ro
	**MIELE TEHNICA** https://www.miele.ro/c/miele-tehnica-brasov-9193.htm
	**and supported by:** **EPETRUN (Electronics Packaging Education Training and Research University Network)**

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SIITME 2025

IEEE 31st INTERNATIONAL SYMPOSIUM FOR DESIGN AND TECHNOLOGY IN ELECTRONICS PACKAGING

- CONFERENCE AND EXHIBITION -

October 22 – 25, 2025

BRAȘOV, Romania

Transilvania University of Brașov

Table of Contents

Welcome to the IEEE 31st Symposium for Design and Technology in Electronics Packaging!

Dear Participants,

We are pleased to welcome you to the 31st edition of SIITME – the IEEE International Symposium for Design and Technology in Electronic Packaging, held between October 22–25, 2025, in the vibrant city of Brașov, Romania.

Founded in 1995, SIITME has grown from a regional seminar into a prestigious international event, conference and exhibition, recognized for its dedication to advancing research, education, and innovation in electronic packaging technologies including the advanced one. Over the past three decades, the conference has been hosted in various academic and industrial centers across Romania and Hungary, building a strong tradition of collaboration between universities, research institutes, and industry leaders.

This year's edition continues that legacy, offering a rich and engaging program that includes:

- Plenary sessions with keynote speakers from academia and industry

- Poster and oral presentations showcasing cutting-edge research

- Industrial panels and exhibitions connecting participants with leading companies

- Professional development courses designed to support young researchers and engineers

We are honored to have the Transilvania University of Brașov as the local organizer of SIITME 2025. Their commitment to academic excellence and their support in hosting this event are deeply appreciated and instrumental to its success.

We would also like to extend our heartfelt thanks to all our sponsors and partners, whose generous support plays a vital role in making this symposium possible. Their dedication to technological advancement and education is highly valued by both organizers and participants.

Thanks to our sponsors, SIITME 2025 is happy to announce the free access for students' participants to the 4th IEEE EPS & NTC STUDENT BRANCH CHAPTERSC SUMMIT during the entire SIITME conference and exhibition program.

Whether you are presenting your latest research, attending workshops, or engaging in discussions with peers, we hope SIITME 2025 will be a source of inspiration, knowledge, and new opportunities.

Welcome to SIITME 2025 and enjoy the event and the beautiful landscape of the Brașov County of Romania.

Warm regards,

Prof. D.H.C. mult. Paul SVASTA, Ph.D.
SIITME 2025 General Chair
National University of Science and Technology POLITEHNICA of Bucharest, APTE-Association for Promoting Electronics Technology

Prof. Ovidiu A. POP, Ph.D.
SIITME 2025 General Co-Chair
Dean of Faculty of Electronics, Telecommunications and Information Technology, Technical University of Cluj-Napoca

Dear participants and guests,

It is my great pleasure to welcome you all to Brașov for the 2025 edition of the SIITME (IEEE 31st International Symposium for Design and Technology in Electronics Packaging), hosted by Transilvania University of Brașov. On behalf of the local organizing committee, we are honored to have you with us for what promises to be a remarkable event.

As we all know, the IT and electronics sectors are currently navigating a period of rapid transformation. New challenges are emerging in areas like electronic packaging, digital design, and verification, which present both obstacles and remarkable opportunities. These shifts are not only reshaping industry standards and academic processes but are also offering the European market a chance to reassert its leadership in the field of electronic packaging.

Brașov, with its rich industrial tradition and strong ties between Transilvania University and local industry leaders, is the perfect place for such an event. We are proud to provide a platform for the exchange of ideas, technical insights, and collaborative opportunities.

We hope that SIITME 2025 will offer you not only valuable knowledge and partnerships but also the chance to enjoy the charm and beauty of our city.

Prof. Titus Constantin Bălan, Ph.D.
Dean of Faculty of Electrical Engineering and Computer Science
Transilvania University of Brașov

SIITME 2025 Agenda

Wednesday, October 22			
08:30 – 09:00	**Arrival, registration**		
09:00 – 11:00	**Professional Development Course A** ***Paul CARPINE,*** *Siemens EDA*	**Strategic Partnership for Education & Innovation Workshop - Part 1** (Romanian language)	
11:00 – 11.15	***Coffee break***		
11:15 – 13:15	**Professional Development Course B** ***Martin METZLER,*** *MacDermid Alpha Electronic Solutions*	**Strategic Partnership for Education & Innovation Workshop - Part 2** (Romanian language)	
13:15 – 14:00	***Lunch Break***		
14:00 – 14:20	**SIITME 2025 Opening ceremony**		
14:20 – 15:00	**Keynote presentation: *Paul CARPINE***		
15:00 – 15:15	***Coffee break***	**15:00 – 19:00**	**Round table: Interlaced Curriculum in Education & Training** (for romanian teaching staff only)
15:15 – 16:30	**Plenary Oral Session 1**		
16:30 – 18:30	**Industrial Session 1**		
19:00 – 20:30	***Welcome to SIITME, dinner***		
20:30 –	**IEEE – Hu&Ro EPS&NTC Joint Chapter Meeting – members & IEEE guests**		
Thursday, October 23			
09:00 – 13:30	**Registration / *Welcome coffee***		
09:00 – 11:00	**Plenary Oral Session 2**		
11:00 – 12:30	**Poster Session 1**		
12:30 – 13:30	***Conference Lunch***		
13:30 – 15:30	**Plenary Oral Session 3**		
16:00 – 19:00	***Cultural Program***		
19:00 –	***Conference dinner***		
Friday, October 24			
09:00 – 10:20	**Poster Session 2**		
10:25 – 11:25	**Industrial Session 2**		
11:25 – 11:45	***Coffee Break***		
11:45 – 13:45	**Plenary Oral Session 4**		
13:45 – 14:45	***Conference Lunch***		
14:45– 16:10	**Poster Session 3**		
16:10 – 17:10	**Industrial Session 3**		
17:10 – 17:30	***Coffee Break***		
17:30 – 18:30	**Steering Committee Meeting**		
18:30 – 19:30	***Awarding ceremony; Welcome to SIITME 2026***		
19:30 – 22:00	***Dinner***		
Saturday, October 25			
09:00 – 11:00	**Event retrospective**		

Wednesday, October 22 Program

Wednesday, October 22	
08:30 – 09:00	Arrival, registration
09:00 – 11:00	Professional Development Course A
11:00 – 11.15	*Coffee break*
11:15 – 13:15	Professional Development Course B
13:15 – 14:00	*Lunch Break*

Professional Development Course A

PDC Trainer: **Paul CARPINE**
Job Position: Account Technology Manager
Company: Siemens EDA
e-mail: paul.carpine@siemens.com
Presentation: **"A PCB DFM Checklist Helps You Pass a Design Review"**

After graduating the Politehnica University of Timișoara (Romania), I started my career as SMT Process Engineer in Flex, more than 15 years ago. From 2009 I moved to Automotive Industry and worked for Forvia(Hella) as a NPI Engineer and later as a Prototyping Manager. Since 2016 I am living in Germany and developed my career in design for manufacturing and design for reliability, working for ZF and Marquardt Group. I joined Siemens EDA in 2022 bringing the practical experience in electronics manufacturing and design for manufacturing.

Professional Development Courses Outline:

Part 1: The Traditional PCB Release Process (20 min)

- Overview of checklist-based validation
- Common bottlenecks in release meetings

Part 2: Introduction to DFM Tools (30 min)

- What is DFM and benefits of early validation?
- How DFM tools work with fabricator profiles

Part 3: Modernizing the Checklist (30 min)

- Automating checks with DFM
- Key questions to include in a modern checklist
- Reducing manual measurements and errors

Part 4: Collaborative Review and Best Practices (30 min)

- Using DFM reports to guide discussions

Professional Development Course B

PDC Trainer: **Martin METZLER**
Job position: Senior Manager Technical Business Development
Company: MacDermid Alpha Electronic Solutions
e-mail: martin.metzler@macdermidalpha.com
Presentation: **"Fundamentals and Applications of Modern Interconnection Materials for Electronics Packaging"**

Martin Metzler is Senior Manager Business Development at MacDermid Alpha Electronics Solutions, where he leads since two years a Europe-wide team focusing on Technical Business Development across Circuit Board Assembly and Semiconductor Assembly Solutions. His work centers on early customer engagement and the integration of advanced materials and processes into electronic applications. Prior his current position, he spent over twelve years at Continental AG and Vitesco Technologies in roles spanning power electronics development, materials and process innovation, and technology management. He most recently managed SiC power module development and established a global expert network on sintering. Martin holds a Dipl.-Ing. degree in engineering from the University of Applied Sciences in Nuremberg, specialising in manufacturing technology.

Professional Development Courses Outline:

Part 1: Fundamentals of Interconnection Technologies

- Differences between soldering, hybrid sintering and sintering
- Overview of material properties

Part 2: Process in Detail

- Soldering: classical technologies, strengths & limitations
- Hybrid Sintering: principles, material combinations, process window
- Sintering: mechanisms, requirements, reliability

Part 3: Application Examples & Case Studies

- Trends in reliability and miniaturization
- Automotive and industrial applications
- Power electronics

Part 4: Practical Aspects & Discussion

- Selecting the right interconnection technology
- Selection of suitable test methods
- Common failure modes and mitigation strategies

Strategic Partnership for Education & Innovation

Wednesday, October 22	
08:30 – 09:00	**Arrival, registration**
09:00 – 11:00	**Strategic Partnership for Education & Innovation Workshop - Part 1** (Romanian language)
11:00 – 11.15	***Coffee break***
11:15 – 13:15	**Strategic Partnership for Education & Innovation Workshop - Part 2** (Romanian language)
13:15 – 14:00	***Lunch Break***

08:45 - 09:00 **Welcome**

09:00 - 09:45 **Opening & Introduction**

- Aura FLOREA, Human Resources Director Miele Tehnica, **Coordonator Workshop - part of Industry**
- Ovidiu Aurel POP, Ph.D. - Dean of Faculty of Electronics, Telecommunications and Information Technology, Technical University of Cluj-Napoca, **Coordonator Workshop - part of Academy**
- Paul SVASTA, Ph.D. - National University of Science and Technology POLITEHNICA of Bucharest, President of Association for Promoting Electronics Technology - APTE
- Titus Constantin BĂLAN, Dean of Faculty of Electrical Engineering and Computer Science, Transilvania University of Brașov
- Florin MUREȘAN, General Manager, Miele Tehnica Brașov

09:45 - 10:00 **How Industry and Academic work close together for developing future Competencies**

- Short overview regarding Strategic Partnership and our journey so far – Chair Aura FLOREA, Human Resources Director Miele Tehnica

10:00 - 11:00 **Working Groups 1st part - mixt -** Academic / Industry / Students - representatives

- **Together for Tomorrow / Bridging Perspectives** Academic–Industry Skills Alignement
- **EUROSKILLS 2025** – short Experience exchange from 2 students **- Brașov Mecatronics Faculties**
  - **Sebastian Ovidiu ȘTEFAN**
  - **Vlad Dumitru CREPȘE**

11:00 - 11:15 **Networking, Refresment Break**

11:15 - 12:30 **Working Groups 2nd part - mixt -** Academic / Industry / Students - representatives

- **Co-creating the competencies that shape tomorrow's workforce**
- **The future of engineering education: Holistic education**

12:30 - 13:00 **Results from working groups – Next steps and action plan**

13:00 - 13:15 **Summary & Conclusion**

SIITME 2025

- Conference & Exhibition -

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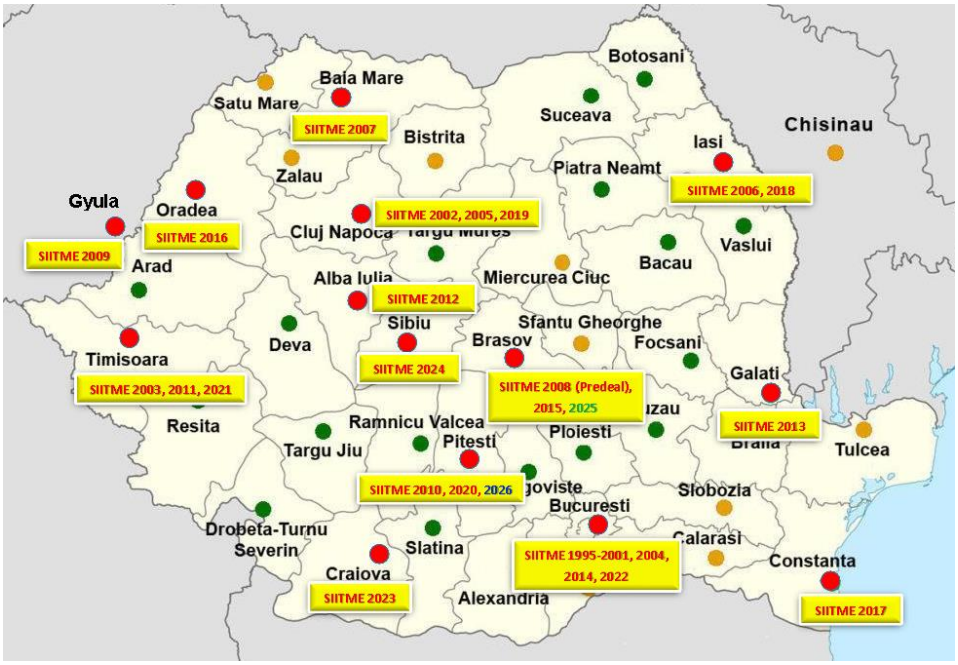
SIITME History



SIITME 1995, CAE-CAD-CAM Technologies in Electronic Modules Design, UPB, Bucharest, Romania

SIITME 1996, The 2nd International Seminar for Informatics and Technology in the domain of Electronic modules, 23-24 October 1996, Bucharest, Romania

SIITME 1997, The 3rd International Seminar for Informatics and Technology in the domain of Electronic modules, 22-23 October 1997, Bucharest, Romania

SIITME 1998, The 4th International Symposium for Informatics and Technology in Electronic Modules Domain, September 22-24 1998, Bucharest, Romania

SIITME 1999, The 5th International Symposium for Design and Technology in Electronic Modules, September 23-26 1999, Bucharest, Romania

SIITME 2000, The 6th International Symposium for Design and Technology for Electronic Modules, September 21-24, 2000, Bucharest, Romania

SIITME 2001, The 7th International Symposium for Design and Technology of Electronic Modules, September 20-23, 2001, Bucharest, Romania

SIITME 2002, The 8th International Symposium for Design and Technology of Electronic Modules, September 19-22, 2002, Cluj-Napoca, Romania

SIITME 2003, The 9th International Symposium for Design and Technology of Electronic Packages, September 18-21, 2003, Timișoara, Romania

SIITME 2004, The 10th International Symposium for Design and Technology for Electronic Modules, September 23-26 2004, Bucharest, Romania

SIITME 2005, International Symposium for Design and Technology of Electronic Packaging, 11th Edition, September 22-25, 2005, Cluj-Napoca, Romania

SIITME 2006, International Symposium for Design and Technology of Electronic Packaging, 12th Edition, September 21-24, 2006, Iași, Romania

SIITME 2007, International Symposium for Design and Technology of Electronic Packaging, 13th Edition, September 20-23, 2007, Baia Mare, Romania

SIITME 2008, International Symposium for Design and Technology of Electronic Packaging, 14th Edition, September 18-21, 2008, Predeal, Romania

SIITME 2009, 15th International Symposium for Design and Technology of Electronic Packages, 17-20 September 2009, Gyula, Hungary

SIITME 2010, 16th International Symposium for Design and Technology in Electronic Packaging, September 23-26, 2010, Piteşti, Romania.

SIITME 2011, IEEE 17th International Symposium for Design and Technology in Electronic Packaging, October 20-23, 2011, Timişoara, Romania.

SIITME 2012, IEEE 18th International Symposium for Design and Technology in Electronic Packaging, Alba Iulia, Romania

SIITME 2013, IEEE 19th International Symposium for Design and Technology in Electronic Packaging, Galați, Romania

SIITME 2014, IEEE 20th International Symposium for Design and Technology in Electronic Packaging, October 23–26, 2014, Bucharest, Romania

SIITME 2015, IEEE 21st International Symposium for Design and Technology in Electronic Packaging, October 22-25, 2015, Brașov, Romania

SIITME 2016, IEEE 22nd International Symposium for Design and Technology in Electronic Packaging, October 20-23, 2016, Oradea, Romania

SIITME 2017, IEEE 23rd International Symposium for Design and Technology in Electronic Packaging - October 26-29, 2017, Constanta, Romania

SIITME 2018, IEEE 24th International Symposium for Design and Technology in Electronic Packaging - October 25–28, 2018, Iași, Romania

SIITME 2019, IEEE 25th International Symposium for Design and Technology in Electronic Packaging - October 23–26, 2019, Cluj-Napoca, Romania

SIITME 2020, IEEE 26th International Symposium for Design and Technology in Electronic Packaging - October 21–24, 2020, Pitești, Romania – On-line edition

SIITME 2021, IEEE 27th International Symposium for Design and Technology in Electronic Packaging - October 27–29, 2021, Timișoara, Romania – On-line edition

SIITME 2022, IEEE 28th International Symposium for Design and Technology in Electronic Packaging, October 26–29, 2022, Bucharest, Romania

SIITME 2023, IEEE 29th International Symposium for Design and Technology in Electronics Packaging - Conference and Exhibition, October, 18 – 21, 2023, Craiova, Romania

SIITME 2024, IEEE 30th International Symposium for Design and Technology in Electronic Packaging - SIITME 2024, Sibiu, Romania

Keynote Speakers

Name: **Martin METZLER**
Job position: Senior Manager Technical Business Development
Company: MacDermid Alpha Electronic Solutions
e-mail: martin.metzler@macdermidalpha.com
Presentation: **"Enabling Advanced Chiplet and SiP Architectures: Materials, Interconnects, and Thermal Solutions."**

Martin Metzler is Senior Manager for Technical Business Development. In this role, he leads a Europe-wide team and is responsible for technical business development across the region. He manages a diverse product portfolio within the Circuit Board Assembly and Semiconductor Assembly business areas, focusing on engaging with customers early on and integrating advanced materials and processes into future electronic applications.

Prior to joining MacDermid Alpha, Martin spent over twelve years in various engineering, senior engineering and expert roles at Continental AG and its spin-off, Vitesco Technologies. His responsibilities included developing and industrialising power electronics, particularly focusing on material and process innovation, as well as specifying, procuring and qualifying complex manufacturing equipment.

Over the years, his focus gradually shifted towards technology and project management.

Most recently, he was Technology Manager for the development of SiC-based power modules. As an expert, he also took a leading role in setting up a global network of sintering technology experts, thereby making a significant contribution to international knowledge exchange and competence development.

Martin holds a Dipl.-Ing. degree in engineering from the University of Applied Sciences in Nuremberg, specialising in manufacturing technology.

Abstract

Integrating advanced semiconductor components into 2.5D and 3D-stacked architectures, as well as System-in-Package (SiP) solutions, requires highly specialised materials to meet the growing demands for electrical performance, thermal management and mechanical reliability. This presentation will address the technological challenges and material-based

solutions across the entire structure of an advanced package, from the active silicon die to the complete system level.

Adopting an 'inside-out' approach, the presentation begins with materials at die level, such as die attach and underfills, before progressing to critical interconnect technologies, including microbumps, TSVs (Through-Silicon Vias) and RDLs (Redistribution Layers). Particular focus is given to the importance of high-performance interconnect materials in ensuring signal and power integrity. Subsequent sections then cover the material requirements for interposers, substrates and encapsulation. A particular focus is placed on thermal management, including the use of TIMs, heat spreaders and innovative materials for efficient heat dissipation, which is crucial for system reliability.

Through industrial examples and current trends, the presentation provides practical insights into the direct impact of intelligent material selection on the performance, efficiency and longevity of advanced packaging solutions.

The session is targeted at students, academic representatives and technical experts from industry and offers both a foundational understanding and a forward-looking perspective on materials in next-generation electronics packaging.

Name: **Paul CARPINE**
Job position: Account Technology Manager
Company: Siemens EDA
e-mail: paul.carpine@siemens.com
Presentation: **"Design Against Scrap: The Case for Left-Shift DFM"**

After graduating the Politehnica University of Timișoara (Romania), I started my career as SMT Process Engineer in Flex, more than 15 years ago. From 2009 I moved to Automotive Industry and worked for Forvia(Hella) as a NPI Engineer and later as a Prototyping Manager. Since 2016 I am living in Germany and developed my career in design for manufacturing and design for reliability, working for ZF and Marquardt Group. I joined Siemens EDA in 2022 bringing the practical experience in electronics manufacturing and design for manufacturing.

Abstract

The process of releasing a new PCB layout design is often governed by internal checklists and cross-functional review meetings, which can be time-intensive and prone to inefficiencies. Traditional methods rely heavily on manual validation using Excel-based checklists, covering aspects from design identification to manufacturability and testability. This paper proposes the integration of Design for Manufacturability (DFM) tools to streamline the release process. By leveraging DFM software configured with PCB fabricator-specific constraint profiles, many routine checks can be automated, enabling layout engineers to identify and resolve issues prior to formal reviews. This approach not only reduces meeting durations but also shifts focus toward project-specific challenges that require expert judgment. Furthermore, cloud-based DFM profiles maintained by assembly partners enhance collaboration and ensure alignment with evolving manufacturing capabilities. The proposed methodology advocates for a modernized checklist that begins with a DFM validation step, significantly improving the efficiency and reliability of PCB layout releases.

Name: **Dr. Heinz WOHLRABE**
Job position: retired
Company: former Dresden University of Technology
e-mail: heinz.wohlrabe@gmail.com
Presentation: **"Tracking Voiding of SMT Solder Joints by automated X-Ray Inspection - Result of a Round Robin Study"**

Dr.-Ing. habil. Heinz Wohlrabe (born 1955) studied 1974-1978 electro techniques at Technische Universität Dresden (Dresden University of Technology). He has got the PHD in 1984 at the same university. The main important topic was the usage of statistical quality control in electronics technology. The focus of his scientific work over all this time was the application of mathematical-statistical methods (namely statistical process control, machine and process capability analysis, Design of Experiments) for the quality assurance in electronic production processes. The creation and execution of lectures in these fields belong also to his working field. Special measurement procedures for the quality assurance (placing and printing accuracy), the measurement of the warpage behavior during soldering and the numerical calculation of reliability data complete his research field. He habilitated in Dec. 2008. Since 2021 he is retired.

Abstract:

A round robin study of DKE (German electrotechnical commission) concerning the reproducibility of void quantification in SMD solder joints reveals, that standard requirements for measuring capability are clearly not achievable with current X-ray equipment due to low repeatability of void data and high variation between evaluators. The study was carried with 5 different typical SMD-Boards. The analysis was grouped into area soldering components (QFN …), chip components and BGA's. The boards were analysed by 9 participants (five suppliers of X-ray equipment, four users of X-ray equipment).
As a consequence, the proposal is to concentrate void quantification within SMT assembly on MXI random samples during validation or ramp up phase with individual adjustment of parameters and visual control rather than on uncontrolled 100% series AXI.
The presentation shows some typical results of this study.

Name: **Dr. Dan PUPEZA**
Job position: Manager
Company: REP Radio Engineering Pupeza, Germany
e-mail: Dan.Pupeza@t-online.de
Presentation: **"News about RFID Antennas"**

Dan Pupeza received MS, Electronics Engineer/Physicist, from the Polytechnic Institute, Bucharest, Romania in 1968. Till 1978 he was Research engineer and project coordinator for military communications equipment at the Electronic research Institute in Bucharest. He has designing solid state linear power amplifiers for SSB transmitters, automatic antenna matching units, TCXOs for large temperature ranges, VHF Transmitters for calibration of radar stations. In 1978 has started research activities on Microwave Cavity Stabilized Oscillators intended for satellite communications. Till 1990 was department manager of microwave communications in the electronic research institute in Bucharest, Romania, developing satellite receiving stations, antennas and navigation receivers. In 1990 he received PhD, Radio Communications from the Polytechnic Institute, Bucharest, Romania. After receiving a passport he leaved Romania and established in Germany, Bad Salzdetfurth. He works further in microwave and satellite communications, developing Ku band VSAT Transceivers, low phase noise synthesizer for applications at 13GHz and for CATV, providing technical support in the design of radio relay links at 23GHz and 38GHz, designing GSM repeaters, antennas and cavity filter with quartz-like characteristics as employed in different German companies. In 2014 he founded its company, Radio Engineering Pupeza. He is doing research and developing activities in the field of microwave communications, antennas, radar, localization and RFID. The company is supported for marketing, mechanical engineering as software experience too. We find most interesting multidisciplinary activities and new ways to achieve strange targets. More than 20 papers are written till 1995 and patents till 1994 are available.

Abstract

There are a lot of Antennas used for RFID Applications. They are characterized according to two important properties, regardless the Gain of them: radiation characteristic and impedance matching. These both properties has to be matched to the application and the selected Tags. I try to present you a special Antenna which is needed to make possible a communication between a RFID Reader and a very special Tag. This Tag is to be used in very hard environment conditions, regarding high Voltage (100's kV), high currents (10's kA) and full metallically environment. This Tag is used to make Voltage measurements across special fuses. This values may be used to monitor a power line and also the actual state of the active devices (triacs, diodes, etc.) used. There are measured many fuses simultaneously, so for each one is needed a separate Tag. The Reader is using a single Antenna (Lock Field Type) to communicate with all Tags and to supply them with the needed energy. Each Tag has two transponders, one for power harvesting and one for communication with the reader. They have different input impedances. To use the Transponder optimally, we have to match them correspondingly. Therefore we have done this Antenna with two different Outputs, without significant losses between them.

Program in detail

Wednesday, October 22

14:00 – 14:20 Opening ceremony SIITME 2025, Welcome words

EEST | GMT +3h

Ovidiu Aurel POP, *Dean of Faculty of Electronics, Telecommunications and Information Technology, Technical University of Cluj-Napoca, Romania*

Titus BĂLAN, *Dean of Faculty of Electrical Engineering and Computer Science, Transilvania University of Brașov, Romania*

14:20 – 15:00 Keynote presentation

EEST | GMT +3h

Session Chair: Cătălin CIOBANU, Transilvania University of Brașov, Romania

K1 Design Against Scrap: The Case for Left-Shift DFM

Paul CARPINE

Account Technology Manager,Siemens EDA

15:15 – 16:30 Plenary Oral Session 1

EEST | GMT +3h

Session Chair: Cătălin CIOBANU, Transilvania University of Brașov, Romania

Session Co-Chair*:* Boris EVSTATIEV, University of Ruse Angel Kanchev, Bulgary

OS1.1 ID8 Development and Characterization of a Gold-Bump Flip-Chip Bonding Process for RF IC Applications

D. Tyukov, M. Fattori, T. Matray and G. Radulov

Integrated Circuits, Electrical Engineering, TU/e, Eindhoven, The Netherlands

OS1.2 ID86 Effect of Electromigration in Tin-Bismuth and SAC Lead-Free Solder Joints of 0402 and 0201 Chip Resistors

Z. Tafferner, A. Géczy, G. Havellant, O. Krammer, B. Illés

Department of Electronics Technology, Budapest University of Technology and Economics, Budapest, Hungary

OS1.3 ID45 Electrochemical Migration: A Short State-of-the-Art Overview

A. Gharaibeh, and B. Medgyes

Department of Electronics Technology, Faculty of Electrical Engineering and Informatics, Budapest University of Technology and Economics, Budapest, Hungary

16:30 – 18:30 **Industrial Session 1**
EEST | GMT +3h

Session Chair: Ciprian TOMA, Eberspaecher, Romania

Continental Automotive Romania SRL (AUMOVIO) **MacDermid Alpha**

Deery Brook SRL **ICCO EMT**

Thursday, October 23

09:00 - 11:00 **Plenary Oral Session 2**
EEST | GMT +3h

Session Chair: Klaus WOLTER, Dresden University of Technology, Germany
Session Co-Chair: Dorin PETREUȘ, Technical University of Cluj-Napoca, Romania

K2 Enabling Advanced Chiplet and SiP Architectures: Materials, Interconnects, and Thermal Solutions
Martin METZLER
Senior Manager Technical Business Development
MacDermid Alpha Electronic Solution

OS2.1 ID64 Adversarial Attacks Detection for Self-Driving Cars using GPUs
Ș.C. Jarcău[1)], I.A. Oprea[1)], M.A. Andrei[1)], R.I. Duca[1)], B.V. Floricescu[1)], C.B. Ciobanu[1), 2)], L. M. Sasu[1)], S. M. Grigorescu[1)]
1) Transilvania University of Brașov, Romania
2) National Institute of Research and Development in Microtechnologies, Bucharest, Romania

OS2.2 **ID108 Metamaterials for Supercapacitors – Optimal Design for Conductive Polymer Metamaterials**
D. Ionescu[1)], and M. Kovaci[2)]
1) Department of Telecommunications and Information Technologies, Gh. Asachi Technical University of Iași, Romania
2) Department of Communications, Politehnica University of Timișoara, Romania,

11:00 - 12:30 Poster Session 1 (Starts with a pitching session)

EEST | GMT +3h

Session Chair: Radu Gabriel BOZOMITU, Gheorghe Asachi Technical University of Iaşi, Romania

Session Co-Chair: Liviu VIMAN, Technical University of Cluj-Napoca, Romania

P1.1 ID61 Analog audio signal equalizer circuit for hearing aids

G.Csipkes[1)], D.Csipkes[1)], A.Ilies[2)] and R. Groza[1)], A.Grama[2)], and E.M.Stetco[2)]

1) Bases of Electronics Department, Technical University of Cluj-Napoca, Romania

2) Applied Electronics Department, Technical University of Cluj-Napoca, Romania

P1.2 ID69 Low-power analog front end for ECG signal acquisition

D. Csipkes[1)], R. Groza[1)], G. Csipkes[1)], E.M. Stetco[2)], A. Fodor[2)] and O.A. Pop[2)]

1) Bases of Electronics Department, Technical University of Cluj-Napoca, Romania

2) Applied Electronics Department, Technical University of Cluj-Napoca, Romania

P1.3 ID107 Ionic Conductivity Enhancing for Some Eco-Friendly Supercapacitors with Polymeric Gels

D. Ionescu[1)], and Dan Butnicu[2)]

1) Department of Telecommunications and Information Technologies, Gh. Asachi Technical University of Iași, Romania

2) Department of Basics of Electronics, Gh. Asachi Technical University of Iași, Romania

P1.4 ID42 Reimagining Requirements Engineering for Automotive Systems: Boosting Efficiency with Generative AI Assistant

P.L. Popescu-Cevei, I. Santa

Continental Autonomous Mobility, Timișoara, Romania

P1.5 ID100 Self-Powered Radio Node for Environmental Monitoring and On-Demand Event Reporting

M.-C. Mareș, M. Călin, E.-M. Grosu, C. Ionescu, and Paul Svasta

Center for Technological Electronics and Interconnection Techniques,

National University of Science and Technology POLITEHNICA Bucharest, Romania

P1.6 ID99 Study of Power-Aware Hardware Design through Schematic and Layout Strategies

M.-C. Mareș, E.-M. Grosu, M. Călin, B. Mihăilescu, and P.Svasta

Center for Technological Electronics and Interconnection Techniques,

National University of Science and Technology POLITEHNICA Bucharest, Romania

P1.7 ID17 Integration of a Sink Node and Django Platform for Solar-Powered Battery-Free WSNs: Enabling IP Connectivity and Cloud Data Management

B. Y. León Ávila[1,2], C. A. García Vázquez[1,3], O. Pérez Baluja[1,3], P. A. Cotfas[1], L. A. Quintero Domínguez[2], D. T. Cotfas[1]

1) Transilvania University of Brașov, Department of Electronics and Computers, Faculty of Electrical Engineering and Computer Science, Brașov, Romania,

2) University of Sancti Spiritus "José Martí Pérez", Department of Computer Engineering, Faculty of Business and Technical Sciences, Sancti Spíritus, Cuba

3) Technological University of Havana, Department of Automation and Computing, Faculty of Automation and Biomedical Engineering, Havana, Cuba

P1.8 ID29 Secure Testing and Simulation System Based on Raspberry Pi

I. F. Radu, P. A. Cotfas, E. Tuyishime, D.T. Cotfas, A. Constantin, M. Alexandru and V. Popescu Electronics and Computing Department, Transilvania University of Brașov, Romania

P1.9 ID32 IoT-Enabled Driver Health Monitoring System Using Sensors and Real-Time Cloud Integration

O. AlHousrya, A. Bennagi, D. T. Cotfas, and P. A. Cotfas

Department of Electronics and Computers, Faculty of Electrical Engineering and Computer Science, Transilvania University of Brașov, Romania

P1.10 ID33 A Hybrid Deep Learning Framework for Intra-Hour Photovoltaic Power Forecasting Using CNN–TCN–GRU–XGBoost Architecture

A. Bennagi[1)], O. AlHousrya[1)], D. T. Cotfas[1)], P. A. Cotfas[1)] and M. Paulescu[2)]

1) Department of Electronics and Computers, Faculty of Electrical Engineering and Computer Science, Transilvania University of Brașov, Romania

2) Faculty of Physics, West University of Timișoara, Romania

P1.11 ID39 Automotive specific AI based tools for Technical Risk Analysis and Risk Assessment Analysis

M. Tolontan, C. Orhei, and R. Vasiu

Department of Comunication, Politehnica University of Timișoara, Romania

P1.12 ID40 Secure IoT: Behavioral Analysis on a Smart Energy Meter System

R. A. Manea, T. C. Bălan, A. Chis, I. V. Dinu

Department of Electronics and Computers, Faculty of Electrical Engineering and Computer Science Transylvania University of Brașov, Romania

P1.13 ID41 Minutiae Extraction Optimization for ARM and RISC-V

A. V. Păscociu[1)], A. E. Solomon[1)], C.B. Ciobanu[1), 2)] and C.Z. Kertész[1)]
1) Transilvania University of Brașov, Romania
2) National Institute of Research and Development in Microtechnologies, Bucharest, Romania

P1.14 ID44 Embedded ECG Analytics for Remote Health Monitoring

V. Veliciu, S. Pop, L. Viman
Applied Electronics Department, Faculty of Electronics, Telecommunications and Information Technology, Technical University of Cluj-Napoca, Romania

P1.15 ID51 Design and Implementation of a Mobile Notification System

S. L. Zaharieva[1)], A. V. Manukova[1)] and A. N. Borodzhieva[2)]
1) Department of Automation and Electronics, University of Ruse, Bulgaria
2) Department of Telecommunications, University of Ruse, Bulgaria

P1.16 ID55 Management and Orchestration of Over The Air Software Updates in AUTOSAR Classic

M.-R. Radu, and D. Petreuș
Applied Electronics Department, Faculty of Electronics, Telecommunications and Information Technology, Technical University of Cluj-Napoca, Romania

P1.17 ID57 Scalable 16-N point FFT Accelerator

R. Stancu[1)], M. Gologanu[1)], A. Pușcașu[1), 2)], C.B. Ciobanu[1), 2)], O. Buiu[1)]
1) National Institute of Research and Development in Microtechnologies, Bucharest, Romania
2) Transilvania University of Brașov, Romania

P1.18 ID59 Security Algorithms and Systems for Vehicle Communication and Diagnostics Using Artificial Intelligence

R. Radu, and D. Petreuș
Applied Electronics Department, Faculty of Electronics, Telecommunications and Information Technology, Technical University of Cluj-Napoca, Romania

P1.19 ID60 Design and Implementation of a Remote-Variable Aperture for Enhanced Camera Performance

M. L. Ștefan, M. Olteanu, D. Petreuș
Department of Applied Electronics, Technical University of Cluj-Napoca, Romania

P1.20 ID63 Simulating Battery Testing Infrastructure

E. M. Olariu[1)], M. Ruba[2)], A. I. Ilies[3)], H. Hedesiu[1)], and G. Chindris[3)]
1)Electrical Engineering Department, Technical University of Cluj-Napoca, Romania
2)Electrical Machines and Drives Department, Technical University of Cluj-Napoca, Romania
3) Applied Electronics Department, Technical University of Cluj-Napoca, Romania

P1.21 ID68 Real-Time In-Cabin Monitoring of Driver Fatigue Levels

R. Balint, and A. E. Marcu[1)]
Faculty of Electronics, Telecommunications and Information Technology, National University of Science and Technology POLITEHNICA Bucharest, Romania
1) Department of Electronic Technology and Reliability, National University of Science and Technology POLITEHNICA Bucharest, Romania

P1.22 ID72 Security Posture Evaluation of Model Context Protocol Servers Against Prompt Injection

G. Tod- Răileanu, S. Axinte, A.-M. Dincă and I. Bacivarov
Faculty of Electronics, Telecommunications and Information Technology, University POLITEHNICA of Bucharest, Bucharest, Romania

P1.23 ID73 AI-Enhanced Directional Antenna Positioning System for GSM/LTE Signal Optimization

D. M. Matei, D. Selișteanu, and M. C. Constantinescu
Department of Automatic Control and Electronics, University of Craiova, Romania

P1.24 ID74 On Designing a Modular RISC-V Processor

A. Varona[1)], C.Z. Kertész[1)] and C.B. Ciobanu[1), 2)]
1) Transilvania University of Brașov, Romania
2) National Institute of Research and Development in Microtechnologies, Bucharest, Romania

P1.25 ID79 Low-Cost Agricultural Robotics: An AI-Enabled Autonomous Rover

D. A. Circiumariu, D. Sendrescu
Department of Automatics and Electronics, University of Craiova, Romania

P1.26 ID85 An embedded fuzzy controller for autonomous precision irrigation systems

I.-E. Mihai, M.-Alex. Dobrea [1)], G.-V. Olteanu[2)]
1) Faculty of Hidrotechnics, Technical University of Civil Engineering of Bucharest, Romania
2) Faculty of Automatic Control and Computer Science, National University of Science and Technology Politehnica of Bucharest, Romania

P1.27 ID87 Impact of Driving Pattern Classification on Battery Optimization Strategies for 12V Lead-Acid Batteries

G. Flutur[2)], G. Chindriș[1)], O.-P. Stan[2)]
1) Dept. of Applied Electronics, Technical University of Cluj-Napoca, Romania
2) Dept. of Automation, Technical University of Cluj-Napoca, Romania

P1.28 ID97 EMG Signal-Based Prosthetic Arm Prototype

M. Cîrlugea, A. Fazakas, M. Mureşan and A. Egyed
Bases of Electronics, Technical University of Cluj-Napoca, Romania

P1.29 ID98 ESP32 and RFID Access Control System with Real-Time Web Management and Full Offline Logging Supported by RTC and microSD Card

Egyed Ábel, and Mihaela Cîrlugea
Bases of Electronics Department, Technical University of Cluj-Napoca, Romania

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13:30 - 15:30 Plenary Oral Session 3

EEST | GMT +3h

Session Chair: Gabriel CHINDRIȘ, Technical University of Cluj-Napoca, Romania
Session Co-Chair: Bálint MEDGYES, Budapest University of Technology and Economics, Hungary

K3 Tracking Voiding of SMT Solder Joints by automated X-Ray Inspection – Result of a Round Robin Study

Dr.Ing. Heinz Wohlrabe
Retired, former Dresden University of Technology

OS3.1 ID62 Adaptive Q-Learning Based Anomaly Detection for Intrusion Detection Systems on Resource-Constrained Microcontrollers

Ana-Maria Nica, and Dorin Petreus
Technical University of Cluj Napoca, Romania

OS3.2 ID52 Thermal time constant used to determine MOSFET's maximum junction temperature

C.R. Mitulescu (Sandulescu)[2)], M.C. Mares[1)], C.Ionescu[1)], M.Bercu[2)], and P.M. Svasta[1)]
1) Department of Electronics Technology and Reliability CETTI, National University of Science and Technology POLITEHNICA Bucharest, Romania
2) Center for Surface Science and Nanotechnology-CSSNT, National University of Science and Technology POLITEHNICA Bucharest, Romania

Friday, October 24

9:00 - 10:20 **Poster Session 2 (Starts with a pitching session)**

EEST | GMT +3h

Session Chair: Alexandra FODOR, Technical University of Cluj-Napoca, Romania

Session Co-Chair: Cătălina NEGHINĂ, Lucian Blaga University of Sibiu, Romania

P2.1 ID5 Tire Monitoring with Advanced Infrared Sensors – An In-Depth Technical Study

F. Corciova, P. A. Cotfas, D. Cotfas

IESC, Universitatea Transilvania, Brașov, Romania

P2.2 ID6 Tire Monitoring for Performance with STM32, LabVIEW, Matrix temp sensor

F. Corciova, P. A. Cotfas, D. Cotfas

IESC, Universitatea Transilvania, Brașov, Romania

P2.3 ID12 Integrated IoT Monitoring and Decision Support System for Smart Agriculture Applications

A.B. Danila, R.A. Streche, O. Orza, T. Pintilie, C.M. Dobre, A.Tudor, D.Vasile and G. Suciu

R&D Department, BEIA Consult International, Bucharest, Romania

P2.4 ID18 Development of an External Testing Tool for Automotive Actuators

D. L. Prázsmári

Department of Electronics and Computers, Universitatea Transilvania of Brașov, Brașov,

P2.5 ID23 Design and Implementation of a Measurement System for Piezoelectric Ceramic Discs

A. Popovici, C. Farcas

Department of Applied Electronics, Technical University of Cluj-Napoca, Romania

P2.6 ID28 Robust Recursive Least-Squares Algorithm with the Conjugate Gradient and the Data Reuse Approach

R.A. Otopeleanu[1,2)], C. L. Stanciu[1,2)], C. Paleologu[1)], J. Benesty[2)], L.M. Dogariu[1,2)], and C. Anghel[1)]

1) Department of Telecommunications, National University of Science and Technology POLITEHNICA, Bucharest, Romania

2) Academy of Romanian Scientists, Ilfov 3, 050044, Bucharest, Romania

3) INRS-EMT, University of Quebec, Montreal, Canada

P2.7 ID47 Accelerometer Real-Time Data Filtering and Capture System 1st Vlad Baciu Automation and Applied

V. Baciu[1)], C. D. Căleanu [2)]
1)Informatics Department Politehnica University of Timișoara, Romania
2) Applied Electronics Department Politehnica University of Timișoara, Romania

P2.8 ID53 Comparative analysis of DC and AC power supply for resistive soil moisture sensors

I. H. Baciu and Al. Fodor
Applied Electronics Department Technical University of Cluj Napoca, Romania

P2.9 ID54 Vehicle security and safety systems

D. Ioana, I. B. Bacis, R.C. Negroiu and Al. Vasile
Department Electronic Technology and Reliability, University of Science and Technology Politehnica Bucharest, Romania

P2.10 ID66 Implementation of a Software-Defined Radio Communication System with QPSK Modulation Scheme that Eliminates the Phase Ambiguity

R. G. Bozomitu, Ş. C. Stoica, M. A. Corban
Faculty of Electronics, Telecommunications and Information Technology, Gheorghe Asachi Technical University of Iaşi, Romania

P2.11 ID75 CMOS voltage-averaging feedback relaxation oscillator

A. Ciobanașu, A. Cracan
Faculty of Electronics, Telecommunications and Information Technology, Gheorghe Asachi Technical University of Iași, Romania

P2.12 ID78 Automated Irrigation System Powered from Renewable Energy Sources with Integrated Monitoring

A. Simionov[1)], A. Fodor[1)], R. Jánó[1)], I. H. Baciu[1)] and D. Csipkes[2)]
1) Applied Electronics Department, Technical University of Cluj-Napoca, Romania
2) Bases of Electronics Department, Technical University of Cluj-Napoca, Romania

P2.13 ID83 Comparison of Multiple Feedback and Second-Order Bandpass Filters for Vibrating Wire Sensor Signals

A.F. Flutur, S.S. Pop, and V. Bande
Applied Electronics, Electronics, Telecommunications and Information Technology Faculty, Technical University of Cluj-Napoca, Romania

P2.14 ID84 A comparative study of some soil fertility sensors based on electrical conductivity measurements

G. Varzaru, R. Tulea, R. Ungurelu, V. Fatu[1)], and P. Svasta[2)]
Syswin Solutions, Bucharest, Romania
1) Research and Development Institute for Plant Protection, Bucharest, Romania
2) Electronic Technology and Reliability Department, National University for Science and Technology Politehnica, Bucharest, Romania

P2.15 ID89 SWOT Analysis of Self-Powering Wearable Sensors for Biomedical Applications

C. Pislaru, D. Ursutiu[1)] and C. Samoila[2)]
Electronics and Computers Department, Transilvania University, Brașov, Romania
1) Electronics and Computers Department, Transilvania University, Brașov, Romania Academy of Romanian Scientists – AOSR Romania
2) Materials Science Department, Transilvania University, Brașov, Romania Academy of Technical Sciences ASTR – Romania

P2.16 ID101 A Prototype IoT-based Modular Electronic System for Home Automation

V. Tsankov[1)], B. Evstatiev[1)], I. Valova[2)] and Ts. Kaneva[2)]
1) Department of Automatics and Electronics, University of Ruse, Bulgaria
2) Department of Computer Systems and Technologies, University of Ruse, Bulgaria

P2.17 ID106 Design and Development of an IoT-Based System for Monitoring the Operation Parameters of Vehicles

S. V. Okishelov, S. Y. Kadirova, and B. I. Evstatiev
Department of Electronics, University of Ruse Angel Kanchev, Ruse, Bulgaria

P2.18 ID109 Enhancing Automotive Safety and User Experience: Advanced Integration of Opto-Electronics Sensors and Actuators

T. Csutak[1)2)], C. Moisa[1)3)], A. Botau[1)], P. Svasta[2)]
1) Continental Automotive Romania, Timișoara, Romania
2) National University of Science and Technology Politehnica Bucharest, Romania
3) Politehnica University Timișoara, Romania

P2.19 ID110 Research on Automated Insect Pest Monitoring Solutions

C. Abramov[1)], P. Svasta[1)], D.-C. Geambasu[2)]
1) Faculty of Electronics, Telecommunications and Information Technology, University of Science and Technology Politehnica Bucharest, Romania
2) INCDFM, Magurele, Romania

P2.20 ID113 Design and Implementation of a Plastic Optical Fiber-Based Displacement Sensor System

L. A. Szolga[1)], S. Majumdar[2)] and A. I. Potarchiche[1)]
1) Basis of Electronics Department, Technical University of Cluj-Napoca, Romania
2) Concordia Institute of Information Systems and Engineering, Concordia University, Montreal, QC H3G 1M8, Canada

P2.21 ID7 Second-Order Passive High-Pass Filter Application in PV System Output Power Transformers

Osmel Pérez Baluja[1) 2)], Carlos A. García Vázquez[1) 3)], Bernardo Yaser León Avila[1) 4)], Daniel Tudor Cotfas[1)], Petru Adrian Cotfas[1)] and Orlys E. Torres Breffe [2)]
1) Department of Electronics and Computers, Transilvania University of Brașov, Romania
2) Department of Electric Power Systems, Technological University of Havana, Cuba
3) Department of Automation and Computing, Technological University of Havana, Cuba
4) Department of Computer Engineering, University of Sancti Spiritus, Cuba

P2.22 ID24 Thermal Management of Batteries in Electric Vehicles

A. Tanțău, C. Fărcaș and M. Olteanu
Department of Applied Electronics, Technical University of Cluj-Napoca, Romania

P2.23 ID31 Infrared thermography for beamforming antenna measurement

A. Sârbu[1)], C. Neghină[2)], M. Neghină[2)], R.Papa[3)]
1) Department of Telecommunications, IT and Cyber Security, Nicolae Bălcescu Land Forces Academy, Sibiu, Romania
2) Faculty of Engineering, Lucian Blaga University, Sibiu, Romania
3) Faculty of Electronics, Telecommunications and IT, Technical University Cluj Napoca, Romania

P2.24 ID34 Thermal Analysis of TO-220 Passive Cooling Configurations

C. A. Marincas, C. M. Farcas[1)]
Technical University of Cluj-Napoca, Faculty of Electronics, Telecommunications and Information Technology, 26-28 G. Bariţiu Street, Cluj-Napoca, Romania.

P2.25 ID38 A Comparative Study on Cooling Techniques for Integrated Circuits in SOIC-8 Packages

D. A. Bulugheană, and C. M. Fărcaș
Applied Electronics, Technical University of Cluj-Napoca, Romania

P2.26 ID90 Modelling Thermal Impedance of Electronic Circuit Board using a Thermal Network Model

L. Dobre, Alex. Buburuzan, A. Bojita and M. Purcars
Department of Electrotechnics and Measurements, Technical University of Cluj-Napoca, Romania

P2.27 ID112 Interactive Heatsink Design Toolkit: A React Powered Thermal Simulation Dashboard

G.-M. Balea, R. Jánó
Faculty of Electronics, Telecommunications and Information Technology, Technical University of Cluj-Napoca, Romania

P2.28 ID114 Optimizing Li-ion Battery Pack Preconditioning for Small Urban Mobility Vehicles Using Thermo-Electric Heaters

R. Jánó[1), 2)], A. I. Ilieș[1), 2)] and A. Fodor[1), 2)]
1) Applied Electronics Department, Technical University of Cluj-Napoca, Cluj-Napoca, Romania
2) European University of Technology, European Union

10:25 – 11:25 **Industrial Session 2**
EEST | GMT +3h

Session Chair: Bogdan MIHĂILESCU, POLITEHNICA Bucharest, Romania
Session Co-Chair: Nicolae PÎNDARU, ICCO Brașov, Romania

BOSCH Group	**ROMTEK Electronics**
ARC Brașov	**Eberspaecher Controls RO**

11:45 - 13:45 **Plenary Oral Session 4**
EEST | GMT +3h

Session Chair: Heinz WOHLRABE, Dresden University of Technology, Germany
Session Co-Chair: Cristina MARGHESCU, POLITEHNICA Bucharest, Romania

K4 News about RFID Antennas

Dr. Dan PUPEZA
Manager
REP Radio Engineering Pupeza

OS4.1 ID58 A Futuring Training in TRIREME: Quality, Reliability and Testing of Electronics in the E-Transportation

B. Medgyes[1)], Cs. Farkas[1)], S. Danieli[2)], E. Cantiani[2)] M. Spanyik[3)] and J. Stolfa[3)]
1) Budapest University of Technology and Economics, Faculty of Electrical Engineering and Informatics, Department of Electronics Technology, Budapest/Hungary
2) Mylia – Adecco Formazione, Milan/Italy
3) VSB – Technical University of Ostrava, Faculty of Electrical Engineering and Computer Science, Department of Computer Science, Ostrava/Czech Republic

OS4.2 ID27 Hybrid Baseline and Bi-GRU Model for Multi-Horizon Solar Irradiance Forecasting

N. Merabti, A.M. Calin, P.A. Cotfas, D.T. Cotfas
Transylvania University of Brașov, Romania

14:45 - 16:10 **Poster Session 3 (Starts with a pitching session)**
EEST | GMT +3h

Session Chair: Seher KADIROVA, University of Ruse Angel Kanchev, Bulgary
Session Co-Chair: Mădălin MOISE, POLITEHNICA Bucharest, Romania

P3.1 ID105 Robust Sleep Bruxism Detection via Multimodal Physiological Signal Classification and Cross-Dataset Machine Learning

D.-A.-I. Pîrîțu[1)] and D.-D. Țarălungă[2)]
1)Faculty of Medical Engineering, National University of Science and Technology POLITEHNICA Bucharest, Romania
2) Faculty of Electronics, Telecommunications and Information Technology, National University of Science and Technology POLITEHNICA Bucharest, Romania

P3.2 ID19 Real-Time Estimation of Photovoltaic Power Output for Microgrid Applications

V. Voicu, D. Petreuș, N. Alex. Sârbu
Department of Applied Electronics, Technical University of Cluj-Napoca, Romania

P3.3 ID22 Time-Series Forecasting of PV Charging Power Using a Hybrid Model

A.-M. Comșiț, N. Merabti and D. T. Cotfas
1) Transylvania University of Brașov, Romania

P3.4 ID26 Deep Learning for PV Power Forecasting: An LSTM Approach for Residential Systems

Ts. Kaneva[1)], N. Valov[2)], and I. Valova[1)]
1) Department of Computer Systems and Technologies, University of Ruse, Bulgaria
2) Department of Automation and Electronics, University of Ruse, Bulgaria

P3.5 ID37 A novel RF Energy Harvesting design for Low Power Sensors

V.M. Maftei[1)], L.D. Gavrila[2)], E.L. Miron[3)], M. Alexandru[2)], P.A. Cotfas[2)] D.T.Cotfas[2)]
1) Nicolae Balcescu Land Forces Academy, Sibiu, Romania
2)Transilvania University, Brașov, Romania
3) Henri Coandă Air Force Academy, Brașov, Romania

P3.6 ID91 Investigation of a Façade PV Installations' Performance under Snowy Conditions

B. Evstatiev[1)], N. Valov[1)], V. Keseev[2)], D. Trifonov[1)] and N. Mihailov[3)]
1) Department of Automatics and Electronics, University of Ruse A. Kanchev, Ruse, Bulgaria
2) Department of Telecommunications, University of Ruse A. Kanchev, Ruse, Bulgaria
3) Department of Electrical Power Engineering, University of Ruse A. Kanchev, Ruse, Bulgaria

P3.7 ID102 Comparative Analysis of Supercapacitors and Batteries Based on Electrical Performance

V. Cristescu[2)], A.C. Popescu[1)], V. Veliciu[2)], T. Sauciuc[1)], A. I. Ilies[2)], A. Fodor[2)], R.C. Negroiu[1)], I.M. Burcea[1)]
1) IEEE Nanotechnology Council Student Branch Chapter of POLITEHNICA Bucharest, NANO42, SBC63061A, National University of Science and Technology POLITEHNICA Bucharest, Romania
2) IEEE Electronics Packaging Society Student Branch Chapter of Technical Univ. of Cluj Napoca, EP21, SBC10228, Technical University of Cluj-Napoca, Romania

P3.8 ID104 Use of solar panels to reduce the energy consumption for heating of an AHU

C. A. García Vázquez, B. Y. León Ávila[1)], O. Pérez Baluja[1)], P. A. Cotfas[1)], A. I. González Santos[2)], and D. T. Cotfas[1)]
1) Department of Electronics and Computers, Transilvania University of Brașov, Brașov, Romania
2) Department of Automation and Computers, Technological University of Havana, Havana, Cuba

P3.9 ID111 Modern Technologies to Revive Electricity Storage Systems in Isolated Areas

I. B. Bacis, L. Perisoara; R. Negroiu, and Alex. Vasile
Department Electronic Technology and Reliability, University of Science and Technology Politehnica Bucharest, Romania

P3.10 ID14 Validation of a multisource eMMC Interface through SI Simulations

A.M. Silaghi[1),2)], C. Pescari[1),2)], A. Sirbu[1),2)], A. De Sabata[1)] and M.F. Cioanca[1)]
1) Department of Measurements and Optical Electronics, University Politehnica Timișoara, Romania
2) Dept. Qualification Laboratories Technologies, AUMOVIO Timișoara, Romania

P3.11 ID16 Automotive Experimental Investigations Using Bulk Current Injection Testing Method

M. Al Khamis[1),2)], A. M. Silaghi[1),2)], A. Buta[1)] and A. De Sabata[2)]
1) Department Qualification Laboratories, AUMOVIO Timișoara, Romania
2) Department of Measurements and Optical Electronics, University Politehnica Timișoara, Romania

P3.12 ID95 Simulation-Based Comparative Analysis of Signal Integrity in an RGMIIv2.0 Interface Using CST Studio and Keysight ADS

C. I. Oprița[1)], O. C. Axinte[2)], M. Dărăban[2)] and L. Viman[2)]
1) HW Engineering, Robert Bosch, Cluj-Napoca, Romania
2) Applied Electronics, Technical University of Cluj-Napoca, Romania

P3.13 ID70 Evaluating the Impact of Capacitor Degradation on Precision Analog-to-Digital Converter Performance

N. I. Gross, P. Svasta
Electronics, Telecommunications & Information Technology, National University of Science and Technology POLITEHNICA Bucharest, Romania

P3.14 ID80 Buck Converter MIL-HDBK-217F Reliability's Calculation Revision using ANSI-VITA 51.1

D. Butnicu, O. T. Paulet
Electronics Faculty, Technical University of Iași, Romania

P3.15 ID103 In-circuit Reliability Metrics and ESR-Performance Hands-on evaluation for PoL Output Filter Capacitor

D. Butnicu, D. Ionescu
Electronics Faculty, Technical University of Iași, Romania

P3.16 ID115 Effects of EMI Noise Suppression Materials on High Speed Microstrip Interconnects

D. A. Antonovici, P. M. Svasta
Faculty of Electronics, Telecommunications and Information Technology, National University of Science and Technology POLITEHNICA Bucharest, Romania

P3.17 ID116 Comparative Analysis of ASK, FSK, GFSK, and MSK Modulations in LPWAN Scenarios

A.I. Petrariu, A. Lavric, A.A. Maftei and V. Popa
Computers, Electronics and Automation Department, Stefan Cel Mare University of Suceava, Romania

P3.18 ID117 Enhancing Emergency Communication with SDR Based PMR Capture and Speech Recognition

A. Lavric, P.-M. Mutescu, A.I. Petrariu and E. Coca
Computers, Electronics and Automation Department, Stefan Cel Mare University of Suceava, Romania

P3.19 ID35 Applying Kirchhoff's Laws using an Educational and Interactive Car Analogy Model

N. C. Rohatinovici[1)], A. N. Dărău[1)], M. M. Nan[1)], and R. Rotar[2)]
1) Technological Highschool of Electronics and Automation Caius Iacob, Arad, Romania
2) Department of Computer Science, Politehnica University, Timișoara, Romania

P3.20 ID9 Development of a Wheeled Robotic System with Articulated Arm and Sensor Feedback

T.-E. Petre, R.-C. Constantinescu[1)], B. Alexandrescu[1)], C.-I. Dinuț[1)]
Doctoral School of Electronics, Telecommunications & Information Technology
1)Faculty of Electronics, Telecommunications and Information Technology, National University of Science and Technology POLITEHNICA Bucharest, Bucharest, Romania

P3.21 ID10 Development of a Smart Headband for Non-Invasive Monitoring of Vital Signs

T.-E. Petre, R.-C. Constantinescu[1)], B. Alexandrescu[1)], C.-I. Dinuț[1)]
Doctoral School of Electronics, Telecommunications & Information Technology
1)Faculty of Electronics, Telecommunications and Information Technology, National University of Science and Technology POLITEHNICA Bucharest, Bucharest, Romania

P3.22 ID11 Development of a Low-Power Person Detection and 7-Segment Display System using CIPs

T.-E. Petre[1)], R.-C. Constantinescu[2)], B. Alexandrescu[2)], C.-I. Dinuț[2)]
1) Doctoral School of Electronics, Telecommunications & Information Technology,
2) Faculty of Electronics, Telecommunications and Information Technology, National University of Science and Technology POLITEHNICA Bucharest, Romania

P3.23 ID43 Remote Laboratory Setup using Raspberry Pi for a Digital Signal Processors Course

Cs. Z. Kertész, C. B. Ciobanu
Department of Electronics and Computers, Transilvania University of Brașov, Romania

P3.24 ID49 Innovative Youth Competition Electroniada – an Environment for Building Engineering Knowledge in Electronics

A. Manukova, I. Stoev, Y. Neykov and S. Zaharieva
Department of Automation and Electronics, University of Ruse, Bulgaria

P3.25 ID56 Teaching Reversible Logic through Interactive Fredkin Gate Modules with MS Excel and Logisim

A. N. Borodzhieva
Department of Telecommunications, University of Ruse Angel Kanchev, Ruse, Bulgaria

P3.26 ID65 Hands-On Teaching of CNF Conversion with Tseytin Transformation: From Boolean Expressions to ombinational Logic Circuits

A. N. Borodzhieva
Department of Telecommunications, University of Ruse Angel Kanchev, Ruse, Bulgaria

P3.27 ID88 An Integrative Approach to a Web Platform Development for the Management of a Sports Association

M.-D. Mărăscu, B. Alexandrescu and R.-C. Constantinescu
Faculty of Electronics, Telecommunications and Information Technology,
National University of Science and Technology Politehnica Bucharest, Romania

P3.28 ID92 Innovative Web Application for Managing Personal Finances

N. D. Coandă, R. C. Constantinescu, A. E. Sultana and B. Alexandrescu
Faculty of Electronics, Telecommunications and Information Technology, National University of Science and Technology POLITEHNICA Bucharest, Romania

P3.29 ID94 Online Platform for Readers: Virtual Library Management

D. E. Dima, R. C. Constantinescu, D. I. Sacaleanu and B. Alexandrescu
Faculty of Electronics, Telecommunications and Information Technology, National University of Science and Technology POLITEHNICA Bucharest, Romania

P3.30 ID96 Interactive Excel-Based Visualization of the Blum-Goldwasser Cryptosystem for Telecommunication Security Education

A. N. Borodzhieva
Department of Telecommunications, University of Ruse Angel Kanchev, Ruse, Bulgaria

P3.31 ID13 Adaptive Power-Thermal Management for Embedded SoCs using Reinforcement Learning

C.-I. Dinuț[1], R.-C. Constantinescu[1], B. Alexandrescu[1], T. -E. Petre[2]
1) Faculty of Electronics, Telecommunications and Information Technology, National University of Science and Technology POLITEHNICA Bucharest, Bucharest, Romania,
2) Doctoral School of Electronics, Telecommunications & Information Technology

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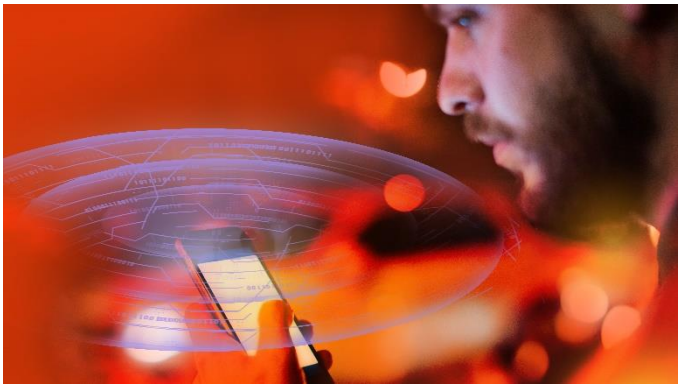
In Romania, **AUMOVIO** has a strong national presence, with operations in Brașov, Iași, Sibiu, and Timișoara. The company runs four research and development centers (R&D) and two production facilities, located in Sibiu and Timișoara. The Romanian team includes approximately 13,000 employees, with more than half being engineers and IT specialists working in R&D.

All the company's global business areas are also represented in Romania, ensuring a complete and well-established presence on the local market.

The **Autonomous Mobility (AM)** business area offers a comprehensive range of products for automated and autonomous driving, holding a leading position in the global market for commercial vehicles and key autonomous driving components and systems (e.g.: sensors, radars, etc.). With its "as a service" approach, the business area is also tapping into new business models.



The **Architecture and Network Solutions (ANS)** business area is geared to the key requirements of the software-defined vehicle, with a product portfolio encompassing high-performance computers, telematics, drive systems, sensors and actuators. Today, ANS already occupies a leading market position with around 90 percent of its core product portfolio.

With more than 100 years of experience in vehicle safety, the **Safety and Motion (SAM)** business area is one of the global market leaders in brake systems, integrated safety systems and sensor systems. The business area is a pioneer in developing dry brake systems and was one of the first suppliers to receive a high-volume order for a semi-dry brake system. AUMOVIO sees tremendous potential for the future in these brake systems due to their improved product characteristics.

In the **User Experience (UX)** business area, AUMOVIO is a leading provider of display solutions and head-up displays. UX has a broad and diversified portfolio ranging from modern high-tech displays to competitive products for the high-volume market. UX expects the value of components installed per vehicle to increase in the future, driven by larger displays and new products such as scenic view head-up displays that extend across the full length of the dashboard. Furthermore, UX intends to consolidate its competitive strength by leveraging economies of scale in production in its megafactories**.**

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Bosch Engineering Center Cluj plays an essential role in the great transformation of the mobility sector ever since its foundation in 2013. With vast expertise in software, hardware & mechanical and reliability engineering, but also in sales planning, the Center contributes to the development of excellent products, services and innovative AI-based solutions for **automated driving**, **connected & electric mobility**. Thanks to the close collaboration with other Bosch engineering centers and with Bosch Cluj Plant, and to its state-of-the-art offices and laboratories from Cluj-Napoca, Jucu and Bucharest, the Center offers unique solutions to its clients from around the world.

At Bosch Engineering Center we value and invest in educational programs, and in partnership with the Technical University of Cluj-Napoca and Babeș-Bolyai University we offer **3 Master's Programs** and **4 courses** for university students.

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DEERY BROOK SRL was founded by Hungarian individuals with decades experience in the electronic assembly market. The mission is to build relationship with the partners in the electronics assembly market in Romania, Hungary, Bulgaria and Moldova. Our approach is cooperative and analytical. Besides offering materials we like to think together with our clients. No problem of our partners is small. Issues are all important. We thrive to keep providing outstanding support and our philosophy is not to promise things that we can not keep. Coming from multinational environment, the systematic treatment of problems is natural. Six Sigma methodology and value calculation are used to provide tangible value to our partners.

Our vision is to become the first point of contact for electronic manufacturers in Romania for improvement of supply and manufacturing processes based on trustful cooperation with respected partners.

Our main activities are:

- Technical sales of solder, silicon, acrilic, urethane potting, coating and glue products (around 180 active customers) representing several brands (Alpha, Kester, Momentive, ABChimie, etc.)

- Sales of electronic assembly related consumables (cleaners, wipes, manual selective spot-on material, etc.)

- Technical sales and representation of customised electronic enclosures, jigs and ICT add-ons

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ICCO EMT, is a leading technical distributor of equipment and related materials to the microelectronic & advanced technology sectors, as well as electronic assembly having solution from Kulicke & Soffa, OMRON, AMX and Nano Dimension.

Our commitment is to provide our customers with first-class technology and complete services, from the configuration and the supply of the equipment, continuing with installation, programming, and maintaining the equipment, and finally, concluding with training the customer's personnel and supporting the customers during the product ramp-up period.

Due to the high diversity of the products we offer to our customers, we are now able to configure and provide turn-key solutions for electronic production, fully functional manufacturing lines, including ball bonding, wedge bonding, advanced dispensing solutions, sintering process, P&P equipment, electronic testing equipment, wave and reflow ovens, coating systems, electronic production automated machinery, soldering repair, rework tools.

We offer integrated electronic assembly services, SMT and THT technologies, complemented by testing, engineering services and box build. Our modern automated inspection equipment (SPI, AOI-3D, X-ray) and functional testing ensure high quality standards for every order. Our quality standards are certified ISO 9001:2015 and IATF 16949:2016.

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The German group **ifm**, a global leader in the development of sensors, automation systems and digital solutions, is present in Romania (Sibiu) through three divisions:

🔷 **ifm efector** – production of position sensors
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Founded in 1969, **ifm** combines the strength of an international group with the flexibility of a medium-sized company, with 9,005 employees in 150 countries..

What defines us?

✓ Open and people-oriented management
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✓ Investments in employee development
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Our mission is to become a benchmark in the Western Industrial Zone of Sibiu, being not just a supplier, but a trusted partner for customers and an exceptional employer.

🔹 **ifm values**:
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📌 **Industrial sensors** – proximity, position, pressure, temperature detection
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🍏 **Food industry** – Production process safety
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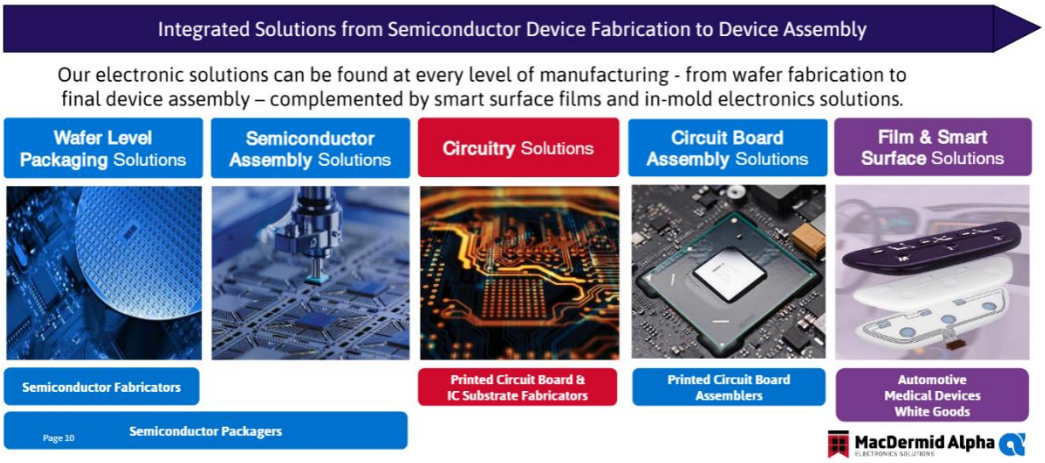
⚡ **Energy & Environment** – Efficiency and Sustainability

💡 At **ifm**, we continuously innovate to contribute to a more efficient and sustainable future!

MacDermid Alpha ELECTRONICS SOLUTIONS

MacDermid Alpha Electronics Solutions, a business unit of Element Solutions Inc, is a global leader in high-performance specialty chemicals, materials, and process technologies for every stage of the electronics manufacturing process. With expertise spanning circuitry formation, wafer-level packaging, circuit board assembly, semiconductor assembly, and film and smart surfaces, MacDermid Alpha delivers advanced, sustainable, and integrated solutions that drive innovation and reliability across the electronics supply chain. Operating worldwide and backed by more than a century of innovation, the organization supports a broad range of industries including automotive, consumer electronics, data infrastructure, high-performance computing, and telecommunications enabling next-generation electronics.



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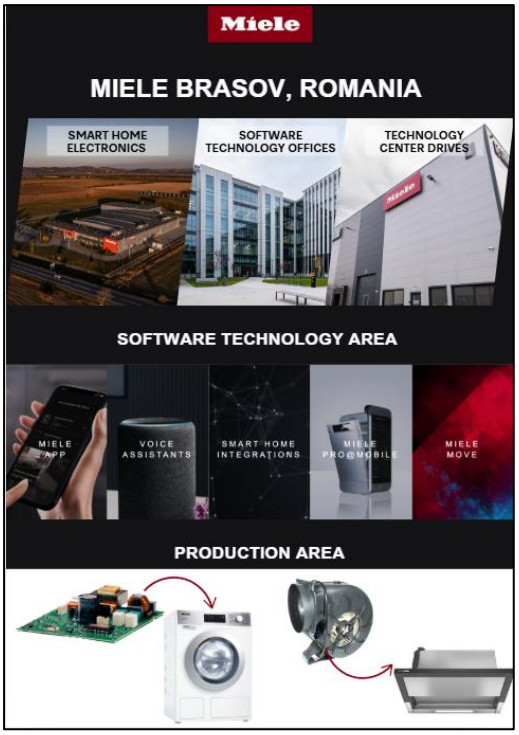


Miele - Premium brand for 125 years

As the world's leading manufacturer of premium domestic appliances, we create delightful experiences – not only regarding the quality of our products, but also in terms of performance, design, technology, and sustainability.

Miele is an independent family-owned company since its establishment in 1899 and is equally committed to its owners, employees, customers, suppliers, the environment and society.

Miele stands for long-term thinking and planning, continuity of values and goals, good relationships with customers and suppliers, as well as an employee-oriented corporate and leadership culture. Miele offers products to its customers that set the standards for durability, performance, ease of use, energy efficiency, design and service.

Since 2009, Miele Tehnica in Brașov, Romania, has been part of this legacy , experiencing sustainable growth. Today Miele Brasov represents a reliable partner for the entire **Miele Group.**

As part of the Smart Home Electronics division, we have developed business areas in Brașov:

- since 2009 - Operations Electronic Production area
- since 2015 - Software Technology Development Center area
- since 2021 - Global IT Services area
- since August 2024 - Operations Technology Center Drives area

Within the Software Technology Area, we have been developing new competencies since 2015, growing our business with the Development Center

Area (Electronic Product Development and Digital Product Development) and the Global IT (IT Service Desk, IT Infrastructure, and IT Engineering).

We create and develop innovative digital solutions that inspire customers.

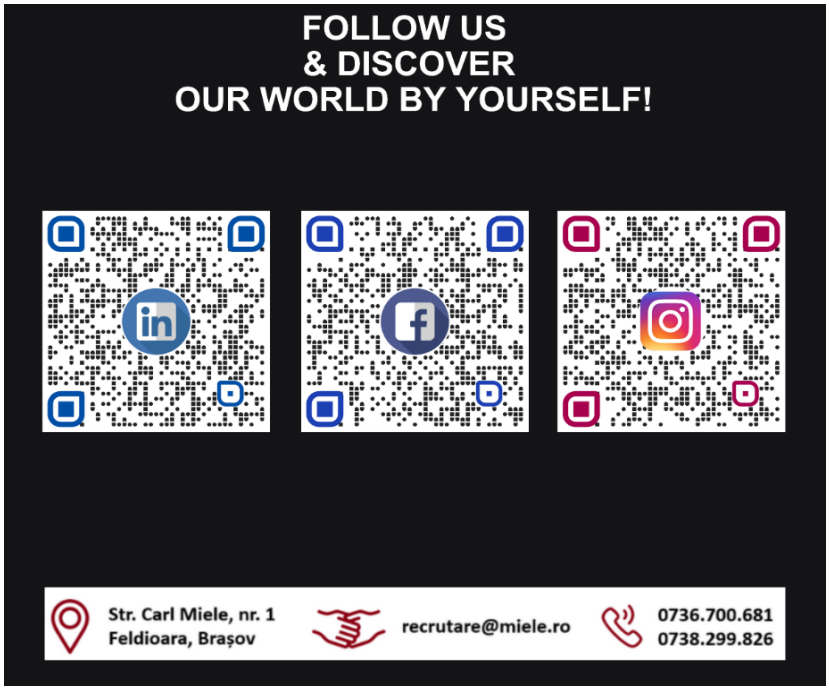
Our skilled colleagues design advanced solutions that enhance the Miele experience for users around the globe.

At our state-of-the-art Production Plant in Feldioara we assemble electronic power boards and mechanical components that serve as the core of the control systems for Miele appliances.

Within the Technology Center Drives in Brașov, we perform the pre-assembly and final assembly of the various systems that will later be installed in Miele appliances.

Our vision in Brasov "We at Miele develop ourselves to have a premium experience" is derived from Miele's philosophy "Immer Besser" /„Always Better".

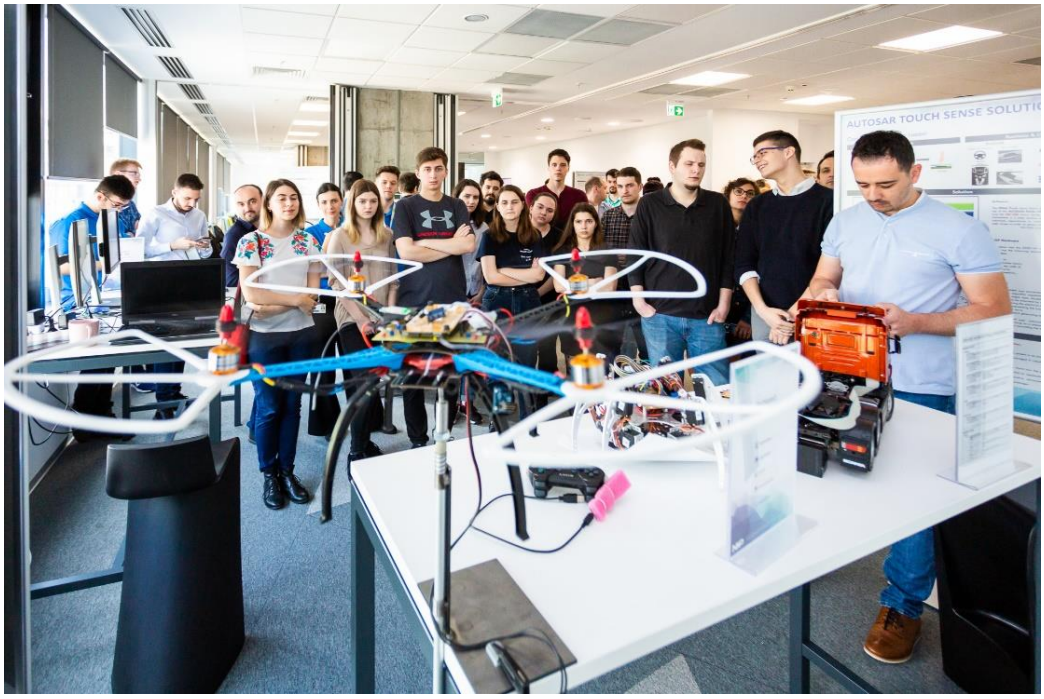
Keeping this vision in mind , we ensure that we deliver a Premium Employee and Customer Experience.



As a world leader in secure connectivity solutions for embedded applications, **NXP Semiconductors** is pushing boundaries in the automotive, industrial & internet of things (IoT), mobile, and communication infrastructure markets while delivering solutions that advance a more sustainable future.

The company has experienced substantial growth over the past few years. In May 2023, it opened its second research and development (R&D) center in Sibiu and continues to actively recruit, with open positions available across all key development areas.

NXP Romania contributes to the development of solutions for automotive, consumer and industrial IoT markets by developing software platforms that integrate NXP components and software from partners. In addition to software development, NXP also invests in research as part of intellectual property creation programs.



The R&D centers of excellence have more than 20 years of experience in designing, developing and innovating software products. The center of excellence in Bucharest focuses on two areas in continuous transformation: automotive and IoT. As automotive architectures are evolving, the teams are specialized in developing integrated software products that enhance customer experience by providing reference hardware and software platforms that are easy to use and configure. NXP also has dedicated teams that focus on IT service management and chip sales and order management operations.

Each year, **NXP Romania** hosts interns who learn the specifics of software development in Automotive, Edge Computing and IoT. We are proud that our interns extend their experience with practical contributions in real-life projects. Search for latest internship openings on https://shorturl.at/hkluP.

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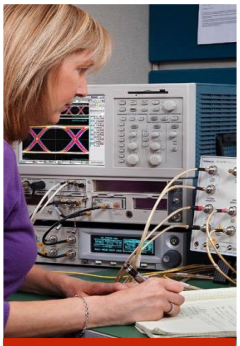

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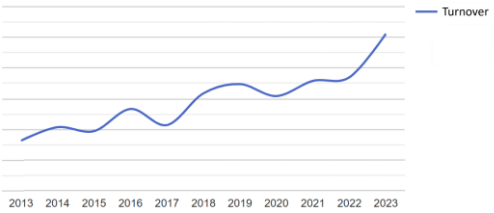

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Equipment / Solutions for <u>TEST & MEASUREMENT:</u>

Academic-Level Educational Training Platforms ● **General-Purpose T&M Instrumentation** (Oscilloscopes, Signal Generators, Spectrum and Signal Analyzers, Digital Multimeters, Data Acquisition Systems etc) ● **Low-level Instruments / Sensitive and Specialty Instruments** (SMUs, Picoammeters, Ultra-Sensitive Current Sources, Ultra-Low Resistance Meters, Nanovoltmeters, Electrometers) ● **Semiconductor Parameter Analyzers** (for component and wafer testing) covering I-V, C-V and ultra-fast pulsed I-V tests ● **Probing Stations and Probe Cards** (for Advanced Semiconductor Wafer Thermal Testing) ● **Sources and Supplies** (AC+DC Power Supplies, AC+DC Electronic Loads, Bidirectional Power Supplies, Grid Simulators, Battery Testers) ● **EMC Compliance and RF Solutions** (CE, CI, RE, RI test systems, ESD, H&F, Dips, Interrupts & Variations, Transient Generators (Burst/Surge), Magnetic Fields), RF Amplifiers (Solid State, Pulsed TWT, Milimeter TWT), RF Immunity Test Systems ● **EMC Infrastructure** (EMC & Reverberation Anechoic Chambers, EMC Tents, EMC Antennas, Turn-tables, Filters, Positioners etc) ● **Acoustic T&M Instrumentation and Infrastructure** (test microphones & analyzers, acoustic chambers).

Tektronix KEITHLEY A Tektronix Company ITECH SIGLENT AMETEK COMPLIANCE TEST SOLUTIONS ETS-LINDGREN

Equipment / Solutions for <u>TELECOM:</u>

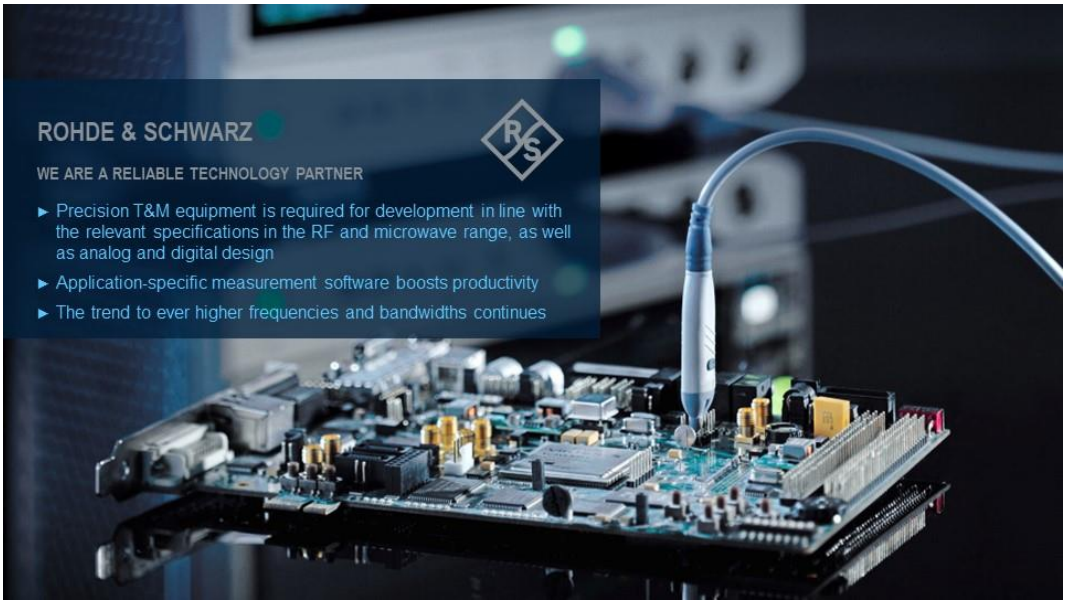
DVB and IP Digital Head-ends ● **DVB Turn-key Platforms** (CATV, DTH, DTT) ● **OTT** ● **Video Processing** (encoding, transcoding, conversion etc.) ● **Video Contribution & Distribution** (via Satellite, Fiber, IP & Cloud) ● **Infrastructure for Remote Video Production** ● **Network Management and Monitoring** ● **Middleware and Conditional Access** ● **GPON / FTTH infrastructure** ● **CPEs** (ONTs, STBs etc.)

appear Synamedia MediaKind netinsight KYBIO

Equipment / Solutions for <u>AUDIO|VIDEO|TV|FILM:</u>

TV and Radio Studios ● **Virtual & Augmented Reality Systems** ● **OB and DSNG Vans** ● **Airborne Broadcast Systems** (installed on drones or helicopters) ● **Fly-Away Systems** ● **Newsroom Computer Systems** ● **On/Off-Air Graphics Systems** ● **Master Control and Playout facilities** ● **A|V Post-Production Systems** ● **Restoration and Digital Format Conversion** ● **Digital Cinematography**

SONY Canon RIEDEL ROSS Production Technology Experts Blackmagicdesign



Rohde & Schwarz is a global technology group striving for a safer and connected world. With its Test & Measurement, Technology Systems and Networks & Cybersecurity Divisions, the company creates tomorrow's innovations today. The company's leading-edge products and solutions empower industrial, regulatory and military customers to attain technological and digital sovereignty.

Innovation has been part of Rohde & Schwarz since the very beginning. The company founders Dr. Lothar Rohde und Dr. Hermann Schwarz were technological pioneers. With their hands-on entrepreneurial spirit, the two college friends entered the unexplored field of RF engineering. Ninety years later, the company is still pushing technological boundaries – as a successful shaper of cutting-edge technologies such as artificial intelligence (AI), 6G, cloud and quantum technologies.

The privately owned company is known for stability and resilience. Independence is at the core of its entrepreneurial identity. The company finances its growth with its own resources. Because the company does not have to think in terms of quarterly results, it can plan sustainably for the long term. The high added value of Rohde & Schwarz makes the company a reliable, trustworthy and relevant partner for its customers.

TEST & MEASUREMENT	TECHNOLOGY SYSTEMS	NETWORKS & CYBERSECURITY
Wireless I Industry, Components & Research I Aerospace & Defense Testing I Automotive	Secure Communications I Critical Infrastructure & Networks I Government I IP Network Analytics I Broadcast, Amplifiers & Media	Endpoint Security I Secure Networks I Certified & High-Grade Crypto Solutions

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E-mail: RO-CJ-Office@eberspaecher.com
www.eberspaecher.com

The Eberspächer Group ranks as a leading system developer and supplier in the automotive industry. The family-owned company stands for innovative solutions in exhaust technology, thermal management, and automotive electronics for different vehicle types. In classic drives and in e-mobility, Eberspächer components and systems ensure increased comfort, higher safety, and a clean environment.

The R&D center in Cluj-Napoca, Eberspaecher Controls Ro, is focused on design and development for e-mobility projects, like the new generation of control units for electrical heating solutions and energy management systems for both batteries and super-capacitors. Over the last four years, the team in Romania has reached more than 50 colleagues, most of whom are engineers specialized in Basic Software, Algorithms/Model-Based Development, and Functional Testing.

Keytek Innovation is a design house capable of ensuring the development, security, and efficiency of custom electronic systems from idea to production, regardless of any challenges that may arise during the process. Our analytical skills and critical thinking, combined with a solid background in electronic engineering and hardware system design, will help you reduce time-to-market while keeping the development process cost-effective.

As an official partner for Rohde & Schwarz in Romania and a value-added reseller for Dassault Systèmes with focus on CST Studio Suite in the Balkans, we don't just provide access to these industry-leading tools - we actively use them in our daily engineering work. Our team's hands-on experience with R&S test and measurement equipment and CST electromagnetic simulation software enables us to support clients beyond tool selection, offering deep technical expertise in their practical application. At Keytek, we leverage this expertise in High-Density Interconnect (HDI) PCB design, performing comprehensive signal and power integrity analysis for complex systems. We understand the importance of this in today's digital world, where emerging standards demand higher data rates, faster speeds, and increasingly complex designs that require both the right tools and the knowledge to use them effectively.

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info@syswinsolutions.com

Syswin Solutions, founded in 2014, is a Romanian company providing high-performance IoT and M2M solutions integrated into a single platform.
The platform combines advanced technologies, communication protocols, and precision sensors to meet the connectivity needs of businesses and the public sector, particularly in fields such as precision agriculture, environmental monitoring, and smart cities.
Its registered trademarks include **SysAgria**, **SmartAir City**, **SysParking**, and **SysTraffic**.
Syswin Solutions operates under ISO-certified management systems, ensuring the highest standards of quality, safety, and performance. The company is an active member of **A.R.E.I.S.** (Romanian Association for the Electronics and Software Industry) and participates in **ELINCLUS**, The national innovation cluster for electronics and embedded systems. Through these collaborations, Syswin Solutions contributes to advancing research, development, and technological innovation in Romania's high-tech ecosystem.
https://www.syswinsolutions.com

Research

ASSOCIATION FOR PROMOTING ELECTRONICS TECHNOLOGY (ASOCIAȚIA PENTRU PROMOVAREA TEHNOLOGIEI ELECTRONICE)

IMAPS ROMANIA

A globally-competitive workforce with theoretical, as well as applied engineering/hands-on, education must be trained. In addition to the areas of science, engineering, microelectronics, and packaging, this training must encompass the broader areas of business, economics, ethics, foreign culture, and languages.

The Association for Promoting Electronics Technology (APTE, see https://apte.org.ro/) is IMAPS Romania. APTE was founded in 2003, by the Center for Technological Electronics and Interconnection Techniques (UPB-CETTI) together with highly respected members of the electronics industry, in order to support the electronics packaging education and engineering, in a climate of trust, ethics, and social responsibility.

APTE/IMAPS Romania is the management entity of the ELINCLUS Cluster (see http://elinclus.ro/), which has currently 94 members. ELINCLUS was established starting from the economic relationship existing between UPB-CETTI (which developed a Technological and Business Incubator, entity accredited by the National Innovation and Technology Transfer Network – ReNITT) and companies from Bucharest and Ilfov county. This structure has offered to ELINCLUS the status of a regional cluster in the field of electronics.

APTE offers annually a comprehensive set of short courses and training classes in the area of electronics packaging, IPC standards certification, management, and industrial development, in order to serve the needs of the electronics industry. APTE organises annually The International Symposium for Design and Technology in Electronics Packaging (SIITME, see http://siitme.ro/) and the Interconnection Techniques in Electronics (TIE, see www.tie.ro/) Professional Student Design Contest.

Contact:

Phone: +40214103108 E-mail: apte@apte.org.ro

ELINCLUS ELectronic INnovation CLUSter

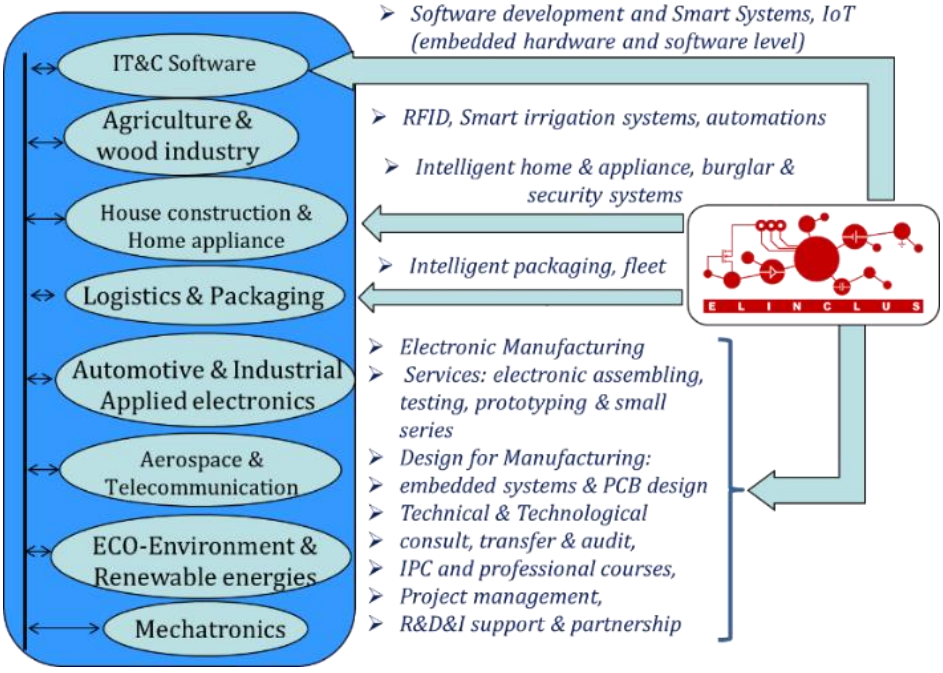
EMC: Association for Promoting Electronics Technology – APTE (www.apte.org.ro)

Founded 2011; 94 registered members

President: Prof. DHC. mult. Paul SVASTA,Ph.D.

Executive Manager: Lect. Eng. Bogdan Mihăilescu, Ph.D.

- Founding member of the Clusters Association from Romania, CLUSTERO - www.clustero.eu
- European Cluster Excellence Initiative Silver Label Certificate from ESCA since 2016
- Founding member of the IT Cluster Network from Romania comprised of 9 members 9: Transilvania IT Cluster, ALT – Brașov, Banat Software, Innovative Clsuter Open Hub, INOMAR, **ELINCLUS**, ICT Oltenia, ICT Cluster Lower Danube și Smart Alliance Cluster.
- Founding member of the regional Digital Innovation Hub – Smart e-Hub https://smartehub.eu/



• **E-mail**: office@elinclus.ro **Web page**: **www.elinclus.ro**

ITEC Information Technology in Electronics Research Center

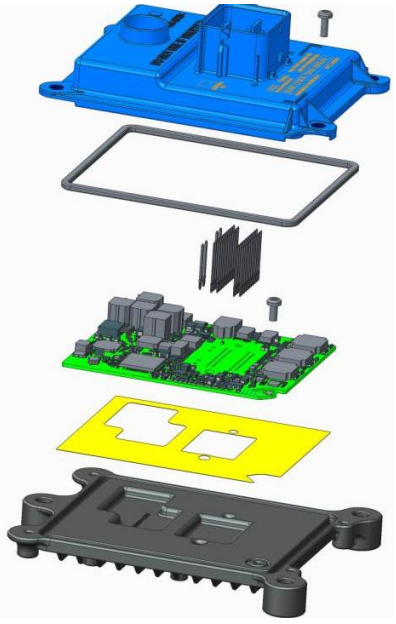
TECHNICAL UNIVERSITY OF CLUJ-NAPOCA ROMANIA

ITEC Research Center

belongs to the Technical University of Cluj-Napoca having 25 researchers in Embedded Systems (electronics & software). ITEC can access the entire infrastructure of Technical University of Cluj-Napoca, resources from all other research centers and resources from Romanian University Alliance.

ITEC Competencies

- Circuit design: modeling, simulation and cross-simulation of electronic circuits (analog, digital, power, RF/EMI) & system design: modeling and simulation for electro-mechanical systems: power devices, actuators, mechatronics;
- HW Application design: fast-prototype design, PCB design for mass production, BOM/AVL design, DfM & DfT for embedded applications, power supplies, interface/signal conditioning boards;
- SW Application design: embedded control applications for OS and non-OS targets;
- TW Application design: testing and design of testing systems: SW and HW testing process, HiL and SiL, design of test-cases for SW;
- Training services: LabVIEW trainings, Embedded Systems trainings, TW and HiL operation;
- PCB DESIGN: DfX, SI and PI.



Contact

Information Technology in Electronics Research Center | Technical University of Cluj-Napoca 400027, G. Baritiu 26-28, Cluj-Napoca, Romania | E-Mail: gabriel.chindris@ael.utcluj.ro

TRIREME Project

DigiTal & GReen SkIlls TowaRds FuturE of the Mobility Ecosystem

TRIREME is a 4 year Erasmus+ funded project aimed at developing tools and activities to enhace skills and foster collaboration within the automotive sector, facilitating the transition towards a greener and more digital future. The project aligns with the European Pact for Skills and its respective large-scale Partnership, the Automotive Skills Alliance.

4-year **ERASMUS+ Blueprint** Project (2024 – 2028)

31 project partners from the **Automotive Skills Alliance** partnership

Support skills agenda in the Automotive-Mobility Ecosystem through the Large-scale Pact for Skills Partnership

AUTOMOTIVE SKILLS ALLIANCE

Contact details:
Bogdan MIHĂILESCU – bogdan.mihailescu@apte.org.ro

APTE

Proiectul WE HUB for digital transformation

Co-funded by the European Union

Wallachia eHUB

Drive innovation and digitalisation to growth

Free services offered by Wallachia eHUB for SME companies

SUPPORT TO FIND INVESTMENTS

TEST BEFORE INVEST

SKILLS DEVELOPMENT AND PROFESSIONAL TRAINING IN THE DIGITAL WORLD

CREATING DIGITAL COMMUNITIES AND NETWORKING

Through the Wallachia e-Hub project, we increase the digital capacity of SMEs and LPAs, in order to develop processes, products, digital services and interoperability, by offering specialized services based on advanced technologies such as AI, cyber security, robotics, mobility, location technologies (GIS), Building Information Modeling (BIM), etc.

With a total value of 3,172,262.50 euros, the Wallachia e-Hub project is financed by the Digital Europe Program (EC/101083410) - WeH and by the Increasing Intelligence, Digitization and Financial Instruments Program (POCIDIF/1147/2/1/161799), being implemented between January 1, 2023 and December 31, 2025.

Project Coordinator:

Project Partners:

Contact details:
Bogdan MIHĂILESCU – bogdan.mihailescu@apte.org.ro

If you fulfil the eligibility conditions please apply here:

TÂRGOVIȘTE WELCOMES SIITME 2026

In the autumn of 2026, October 28-31, Târgoviște is honored to host the traditional conference & exhibition: the 32nd International Symposium for Design and Technology in Electronic Packing (SIITME).

The Royal Court and the Chindia Tower of Târgoviște

Târgoviște is a city rich in history located just 80 km from Bucharest. This city served for centuries as the capital for the medieval kingdom of Wallachia. The Royal Court of Târgoviște was home to numerous leaders from Romania's history, including the famous Vlad Țepeș/Dracula.

The local industry is focused on electronics manufacturing, most notably home appliances and consumer electronics. Târgoviște also has a history in the field of metallurgy. Valahia University of Târgoviște is dedicated to further nurture these industries with future generations of engineers.

Valahia University of Târgoviște is looking forward to meeting you in Târgoviște!

Assoc. Prof. **Angelescu Nicoleta**, PhD
Dean of the Faculty of Electrical Engineering, Electronics and Information Technology
Valahia University of Târgoviște

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IEEE Romania Section

IEEE ELECTRONICS PACKAGING SOCIETY

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