

ELECTRONIC INDUSTRY WEEK

CENTRAL AND SOUTH- EASTERN EUROPE

INTERCONNECTION TECHNIQUES IN ELECTRONICS (TIE) PROFESSIONAL STUDENT CONTEST

The 31st Edition, 24th – 25th October 2022

INTERNATIONAL SYMPOSIUM FOR DESIGN AND TECHNOLOGY IN ELECTRONICS PACKAGING CONFERENCE AND EXHIBITION

The 28th Edition, 26th – 29th October 2022

Central library, 2nd floor @ UPB

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Electronic Packaging Education Training
and Research University Network

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THE ELECTRONIC WEEK OF ELECTRONICS PACKAGING COMMUNITY 2022

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Welcome to a new edition of the week dedicated to electronics

Prof. D.H.C. mult. Paul SVASTA, Ph.D.

UPB-University Politehnica of Bucharest Romania,
APTE-Association for Promoting Electronics Technology
EIWCSE General Chair

The post-pandemic evolution, in which we currently find ourselves, allows us to continue the good tradition of in-person meetings promoted throughout dozens of editions of TIE and SIITME, events that arrived at the 31st TIE and 28th SIITME editions.

The well-known format in which the electronics week takes place, that of promoting at the beginning of the week activities focused on certification, by the industry, of the students' competencies regarding the CAD of the design of the interconnection structure of the module, i.e. the PCB, followed by the SIITME conference, comes with the launch of the first edition of the TIE M, a new existing side in the design and realization of the electronic package. I consider TIE M as an event that offers students the framework in which they can prove the skills they have acquired in the CAD necessary for the design of the mechanical part of the electronic module. And within TIE M, the qualification of the students' skills, of the future professionals involved in the electronic industry, is pursued by the industry together with the academic environment, regarding the knowledge of the tools necessary for the CAD design of mechanical parts.

Just like TIE, TIE M represents a very good collaboration between academia and industry, a collaboration aimed at training future engineers in accordance with the requirements of the electronic industry.

Our edition takes place in the context in which the European Commission launched the Chips Act Program which, together with Pactt for Skills, raises numerous challenges for our community. Moreover, the recent edition, the 9th, of the Electronic System-Integration Technology Conference held last month in Sibiu highlighted through the numerous activities that took place, workshops, Professional Development Courses, oral sessions and poster sessions, KN presentations, as well as a rich exhibition, which included over 30 booths of companies in the field of electronic packaging, how important are the researches focused on electronic packaging, as well as the issue of human resource training for the electronic industry.

In my recent intervention I want to highlight that, this electronic industry week, we will launch the first edition of TIE M, an edition dedicated to CAD aspects focused on the mechanical part of the electronic product. The format will be similar to that of the traditional TIE and will give students the opportunity to demonstrate the skills acquired, during their education/training activities, during the four hard working hours of solving the subject. And finally, the evaluation, which will be carried out by teams made up of professionals from industry and the academic environment, will certify their competences.

The adding of TIE M event, to the TIE platform represents, in addition to the TIE plus started about 6 years ago, an important step in the completion of the TIE CAD platform intended for the design of the electronic module, the module which in fact represents an electrical assembly as well as a mechanical one.

I wish all attendees a pleasant stay and numerous interesting discussions for fruitful future collaborations during the events TIE, TIE M and SIITME.

Contact: paul.svasta@cetti.ro

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Bucharest, October 10th, 2022



Welcome to the 28th edition of the International Symposium for Design and Technology in Electronic Packaging

Prof. Eng. Ciprian Ionescu, PhD

UPB-University Politehnica of Bucharest Romania

Conference Chair

This 28th edition of SIITME marks the return of the Conference to in-person traditional conference after two online editions caused by the pandemic.

This edition also marks the return of SIITME in Bucharest, after 8 years, hosted at University Politehnica of Bucharest. I hope this will be a new start for revival of the contacts between traditional attendees or between them and companies.

As every new start, which is difficult, the SIITME 2022 will be a transition edition. We think here to internal and external context which is not always appropriate for technical and scientific debates.

Anyhow, I hope SIITME will continue the 27 years of tradition, being together with another important IEEE EPS event, TIE not only a Conference, but a real Autumn Convention of persons involved in the activity of Electronic Packaging.

In 1995, SIITME has started having only a couple of topics, being focused mainly to Electronic Design Automation (EDA). Now, after 27 years and at 28th edition, SIITME 2022 has new actual topics, tackling the trends of the electronics industry. Among the topics I will mention a few: Emerging Topics in Advanced Packaging, New Components and Manufacturing Technologies, Nanomaterials, Nanoelectronics and Nanotechnology, Smart Grid and Renewable Energy, Embedded Systems, Robotics and Artificial Intelligence, Virtual Prototyping and System Validation.

The growth and prestige of the SIITME Conference was a normal evolution process driven by the evolution of industry and research in this part of Europe.

This evolution was also favored by the contacts we had with the ISSE conference, especially with renown professors from Steering Committee (Prof. Zsolt Illyefalvi- Vitéz, Prof. Paul Mach, Prof. Johann Nicolics, Prof. Klaus Wolter, Dr. Heinz Wohlrabe). Their advice, support and participation to SIITME has offered the support for the evolution of SIITME.

Another important factor for SIITME development was the strong contacts with IEEE EPS Society (previous CPMT Society). The creation, in 1999 of the IEEE CPMT Hu&Ro Joint Chapter (in present Hu&Ro EPS&NTC Joint Chapter) was a consequence of these good contacts with IEEE. It is here to note that since 2008 SIITME is an IEEE event and the papers are published in the IEEE Xplore database. I wish to mention here the name of professor James Morris who has strongly support our activity.

Last but not least a major contribution was given by partner Universities from Romania who during years have hosted SIITME. I will mention here: Alba Iulia, Baia Mare, Braşov, Cluj-Napoca, Galaţi, Iaşi, Piteşti, Timişoara. A special edition, and only until now organized abroad, was held in Gyula in Hungary in 2009.

Finally, I wish you a fruitful participation, productive discussions and professional satisfaction.

On behalf of the Organising Committee of SIITME 2022 I look forward to meet you in Bucharest for an exciting and enjoyable conference.

Welcome to SIITME 2022!

Contact: ciprian.ionescu@cetti.ro

Bucharest, October 03rd, 2022



Monday, October 24 (TIE)

08:00 – 08:30	<i>Arrival, registration and installation for contest TIE_M</i>
08:30 – 09:00	TIE_M 2022 opening, subject introduction
09:00 – 13:00	TIE_M 2022 CONTEST
13:00 – 14:00	<i>Lunch Break</i>
14:00 – 14:30	Opening ceremony for the Electronic Week
14:30 – 17:30	TIE_M Assessment of the projects; litigations
17:30 – 18:00	<i>Coffee break</i>
18:00 – 19:00	TIE_M 2022 subject demystification (relevant for TIE participants)
19:00 – 20:00	TIE 2022 technical session
20:00 –	<i>Dinner</i>

Tuesday, October 25 (TIE)

07:45 – 08:15	TIE 2022 contest preliminary activities
08:15 – 12:45	TIE 2022 CONTEST
12:45 – 14:00	<i>Lunch Break</i>
14:00 – 20:00	Assessment of the projects; litigations
20:00 – 21:00	<i>Dinner</i>
21:00 – 22:00	TIE 2022 Committee Meeting

Wednesday, October 26 (TIE&SIITME)

09:00 – 09:30	<i>Registration</i>
09:30 – 11:30	Strategic Partnership for Education Workshop & ETTI - Student` LAB_ IEEE Student Branch Chapter
11:30 – 11:45	<i>Coffee break</i>
11:45 – 12:15	TIEplus 2023 Schedule and subject topics – Marcel Manofu
12:15 – 13:00	Awarding for TIE_M and TIE contests
13:00 – 14:00	<i>Lunch Break</i>
14:00 – 14:30	<i>Registration to IPCEI workshop and welcome coffee</i>
14:30 – 16:00	IPCEI ME/CT Workshop part 1 - status presentations by stakeholders
16:00 – 17:30	IPCEI ME/CT Workshop part 2 – next steps in implementation of DIH - all
17:30 – 18:30	IPCEI participants socializing event

18:30 – 20:00 IEEE – Hu & Ro EPS&NTC Joint Chapter Meeting – members & guests

20:00 – *Welcome to SIITME dinner*

Thursday, October 27 (SIITME)

09:00 – 09:15 SIITME 2022 Opening ceremony

09:15 – 11:15 Plenary Oral Session 1

11:15 – 11:45 *Coffee Break*

11:45 – 12:15 Industry Engagement with IEEE R8

12:15 – 13:30 *Conference Lunch*

13:30 – 14:00 Industrial Session 1

14:00 – 15:30 Poster Session 1

15:30 – 15:45 *Coffee Break*

15:45 – 17:15 Networking IEEE, IMAPS Student Branch

17:30 – *City walk and Conference Gala dinner*

Friday, October 28 (SIITME)

09:00 – 11:00 Plenary Oral Session 2

11:00 – 11:30 *Coffee Break*

11:30 – 13:00 Poster Session 2

13:00 – 14:00 *Conference Lunch*

14:00 – 15:00 Industrial Session, Workshop and Expo

15:00 – 17:00 Plenary Oral Session 3

17:00 – 18:00 Steering Committee Meeting

18:00 – 19:00 *Awarding ceremony; Welcome to SIITME 2023*

Saturday, October 29 (SIITME)

08:30-11:00 Event retrospective breakfast at IBIS hotel, preparation for next events

Opening ceremony for the Electronic Industry Week Central and South Eastern Europe

Monday, October 24, 2022 - 14:00 – 14:30

Paul SVASTA,

University Politehnica of Bucharest Romania
IEEE EPS Hu&Ro Joint Chapter co-founder
EIWCSE General Chair

Ovidiu Aurel POP,

Technical University of Cluj-Napoca
TIE & SIITME General Academic Co-Chair

Daniel Constantin COMEAGĂ,

University Politehnica of Bucharest Romania
TIE_M Steering Committee Chairman

Cosmin MOISA,

Continental Automotive Romania
TIE General Industrial Co-Chair
SIITME Conference Co-Chair

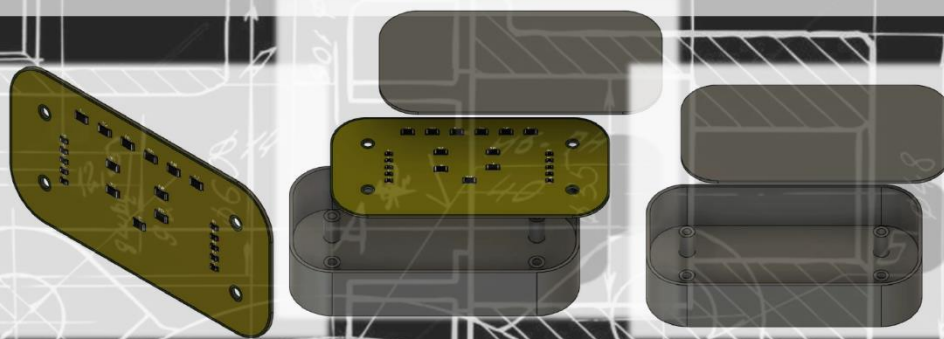


24-25 October 2022
Bucharest



TIE M 1st Edition

Professional Computer Aided
Mechanical Design Contest
for Students



TIE M....a Way to Turn Your Hobby Into Profession

Registration date: 10.10.2022-16.10.2022

About TIE



**You Have the Chance to Go
Home With Your Own 3D Printer!**

SIITME



Monday, October 24 (TIE)

08:00 – 08:30	<i>Arrival, registration and installation for contest TIE_M</i>
08:30 – 09:00	TIE_M 2022 opening, subject introduction
09:00 – 13:00	TIE_M 2022 CONTEST
13:00 – 14:00	<i>Lunch Break</i>
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19:00 – 20:00	TIE 2022 technical session
20:00 –	<i>Dinner</i>

Wednesday, October 26 (TIE_M & TIE)

11:30 – 11:45	<i>Coffee break</i>
11:45 – 12:15	TIEplus 2023 Schedule and subject topics – Marcel Manofu
12:15 – 13:00	Awarding for TIE_M and TIE contests

Chairman:

Daniel COMEAGĂ, University Politehnica of Bucharest

Co-Chairman:

Philip COANDĂ, University Politehnica of Bucharest



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TIE_M Participants



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TIE_M Committees

TIE_M Steering Committee

Chairman:

Daniel COMEAGĂ, University Politehnica of Bucharest

Co-Chairman:

Philip COANDĂ, University Politehnica of Bucharest

Members:

Leon BRAI, Robert BOSCH SRL

Bogdan GRĂMESCU, University Politehnica of Bucharest

Bogdan MIHĂILESCU, University Politehnica of Bucharest

Cosmin MOISĂ, Continental Automotive, Timișoara

Gabriel RACZ, Lucian Blaga University of Sibiu

Carmen STICLARU, University Politehnica of Timișoara

Paul SVASTA, University Politehnica of Bucharest

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Coordinator: Alina SPÂNU, University Politehnica of Bucharest

Members:

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Mădălin MOISE, University Politehnica of Bucharest

Edgar MORARU, University Politehnica of Bucharest

Delia PRISECARU, University Politehnica of Bucharest

TIE_M Technical Committee Members

Philip COANDĂ, University Politehnica of Bucharest

Emil NIȚĂ, University Politehnica of Bucharest

Răzvan PACURAR, Technical University of Cluj Napoca

Radu PETRUȘE, Lucian Blaga University of Sibiu

Carmen STICLARU, University Politehnica of Timișoara

TIE_M Industrial Committee

Ion DOGARIU, Continental Automotive Romania, Timișoara

David DRĂGAN, Continental Automotive Systems, Sibiu

Cristina-Georgiana LATEȘ, Continental Automotive Romania, Iași

Tuesday, October 25 (TIE)

07:45 – 08:15	TIE 2022 contest preliminary activities
08:15 – 12:45	TIE 2022 CONTEST
12:45 – 14:00	<i>Lunch Break</i>
14:00 – 20:00	Assessment of the projects; litigations
20:00 – 21:00	<i>Dinner</i>
21:00 – 22:00	TIE 2022 Committee Meeting

Wednesday, October 26 (TIE_M & TIE)

11:30 – 11:45	<i>Coffee break</i>
11:45 – 12:15	TIEplus 2023 Schedule and subject topics – Marcel Manofu
12:15 – 13:00	Awarding for TIE_M and TIE contests

TIE 2022 Chair:

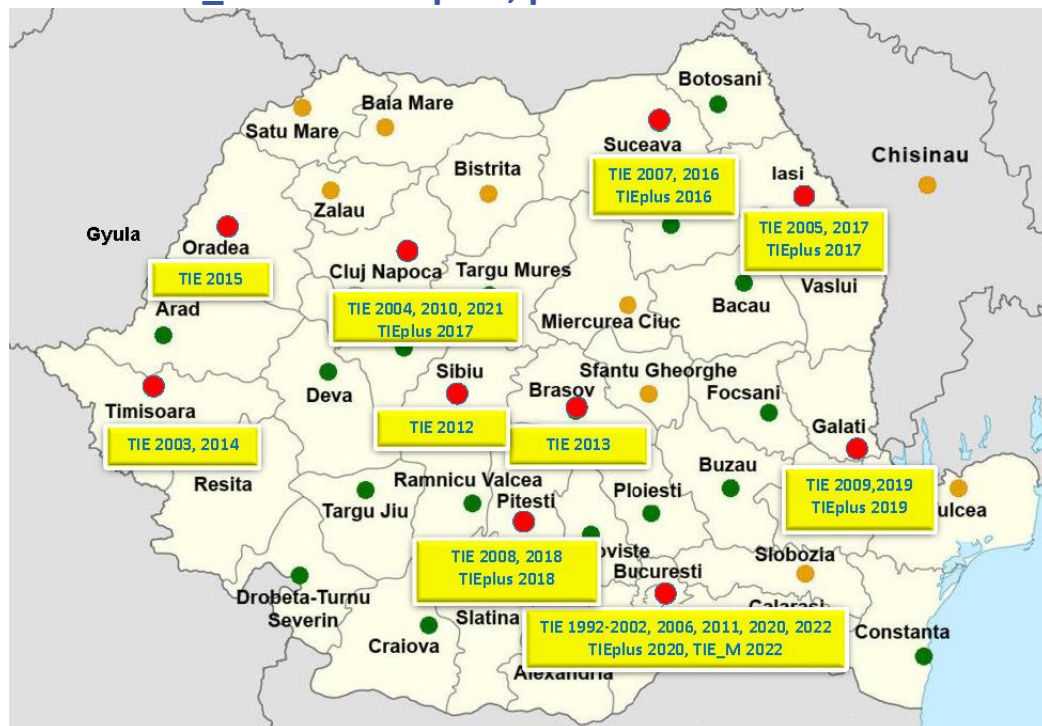
Norocel CODREANU, University Politehnica of Bucharest

TIE 2022 Co-Chairs:

Mădălin MOISE, University Politehnica of Bucharest

Mihaela PANTAZICĂ, University Politehnica of Bucharest

TIE & TIE_M & TIE^{PLUS} past, present and future editions



Year	University	Event
1992-2002	University Politehnica of Bucharest	TIE
2003	Politehnica University of Timișoara	TIE
2004	Technical University of Cluj-Napoca	TIE
2005	Gh. Asachi Technical University of Iași	TIE
2006	University Politehnica of Bucharest	TIE
2007	Ștefan cel Mare University of Suceava	TIE
2008	University of Pitești	TIE
2009	Dunărea de Jos University of Galați	TIE
2010	Technical University of Cluj-Napoca	TIE
2011	University Politehnica of Bucharest	TIE
2012	Lucian Blaga University of Sibiu	TIE
2013	Transilvania University of Brașov	TIE

2014	Politehnica University of Timișoara	TIE
2015	University of Oradea	TIE, TIE ^{Plus} Kick-off
2016	Ștefan cel Mare University of Suceava	TIE, TIE ^{Plus}
2017	Gh. Asachi Technical University of Iași	TIE, TIE ^{Plus}
2018	University of Pitești	TIE, TIE ^{Plus} 1 st TIE bootcamp
2019	Dunărea de Jos University of Galați	TIE, TIE ^{Plus}
2020	University Politehnica of Bucharest - Virtual Event	TIE, TIE ^{Plus}
2021	Technical University of Cluj-Napoca - Virtual Event	TIE, TIE ^{Plus}
2022	University Politehnica of Bucharest	TIE, TIE_M Kick-off
2023	Politehnica University of Timișoara	TIE ^{Plus}



TIE Winners

Year	Name	University
2021	Alexandru Ioniță	Technical University of Cluj Napoca
2020	Victor Țurca	Ștefan cel Mare University of Suceava
2019	Ghineț Dragoș	Technical University of Cluj Napoca
	Chiraș Ovidiu Marius	Ștefan cel Mare University of Suceava
2018	Goglea Alexandru Nicolae	University of Pitești
2017	Cojocariu Gheorghe	Ștefan cel Mare University of Suceava
2016	Voina Radu	Technical University of Cluj Napoca
2015	Luchian Teodor	Ștefan cel Mare University of Suceava
2014	Grigoraș Eduard	Ștefan cel Mare University of Suceava
2013	Bostan Adrian	University Politehnica of Bucharest
2012	Aldea Alin	University of Pitești
2011	Precup Călin	Politehnica University of Timișoara
2010	Dungă Tudor Dan	Politehnica University of Timișoara
2009	Răducanu Bogdan	University Politehnica of Bucharest
2008	Oșan Adrian	Politehnica University of Timișoara

2007	Tamaş Cosmin Andrei	University Politehnica of Bucharest
2006	Moscalu Dragoş	Gh.Asachi Technical University of Iaşi
2005	Andreiciuc Adrian	Politehnica University of Timișoara
2004	Berceanu Cristian	Politehnica University of Timișoara
2003	Munteanu George	University Politehnica of Bucharest
2002	Rangu Marius	Politehnica University of Timișoara
2001	Toma Corneliu	University Politehnica of Bucharest
2000	Vlad Andrei	University Politehnica of Bucharest
1999	Savu Mihai	University Politehnica of Bucharest
1998	Alexandrescu Dan	University Politehnica of Bucharest
1997	Gavrilaş Cristian	University Politehnica of Bucharest
1996	Vintilă Mihai	University Politehnica of Bucharest
1995	Ştefan Marius Sorin	University Politehnica of Bucharest
1994	Bucioc Mihai	University Politehnica of Bucharest
1993	Teodorescu Tudor	University Politehnica of Bucharest
1992	Teodorescu Tudor	University Politehnica of Bucharest

Recognition by the industry of student competences in PCB design



TIE 2022 Certificate of Competence

The „PCB Designer” certificate is awarded, after evaluation, by the TIE IC (Industrial Committee) to selected contestants, as recognition of their high level of knowledge in the field of EDA and CAD for development of electronic modules/assemblies. The evaluation is based on the worldwide known and accepted IPC standards. The certificate is offered under the “umbrella” of the Association for Promoting Electronics Technology (APTE) and L&G Advice Serv SRL (L&G).

Please see more details on www.apte.org.ro and www.lg-advice.ro

TIE 2022 Participants

Transilvania University of Braşov

University Politehnica of Bucharest

Technical University of Cluj-Napoca

University of Craiova

Dunărea de Jos University of Galaţi

Gh. Asachi Technical University of Iaşi

University of Piteşti

Lucian Blaga University of Sibiu

Ştefan cel Mare University of Suceava

Politehnica University of Timişoara





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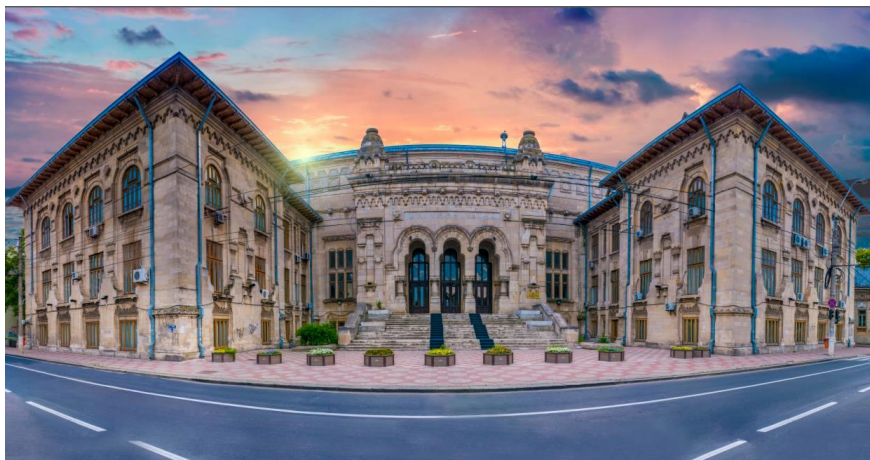
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Dunărea de Jos University of Galați

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Technical secretariat

Chair:

Delia LEPĂDATU, University Politehnica of Bucharest

*For detailed committee please visit www.tie.ro

Wednesday, October 26**09:00 – 09:30** **Registration****09:30 – 11:30** **Strategic Partnership for Education Workshop:***Electronics Packaging Higher Education**EU Pact for Skills – Up skilling & Re skilling***&****ETTI - Student` LAB_ IEEE Student Branch Chapter****11:30 – 11:45** **Coffee break****11:45 – 12:15** **TIEplus 2023 Schedule and subject topics – Marcel Manofu****12:15 – 13:00** **Awarding for TIE_M and TIE contests****13:00 – 14:00** **Lunch Break****14:00 – 14:30** **Registration to IPCEI workshop and welcome coffee****14:30 – 16:00** **IPCEI ME/CT Workshop part 1 - status presentations by stakeholders****16:00 – 17:30** **IPCEI ME/CT Workshop part 2 – next steps in implementation of DIH - all****17:30 – 18:30** **IPCEI participants socializing event****18:30 – 20:00** **IEEE – Hu & Ro EPS&NTC Joint Chapter Meeting – members & guests****20:00 –** **Welcome to SIITME dinner**

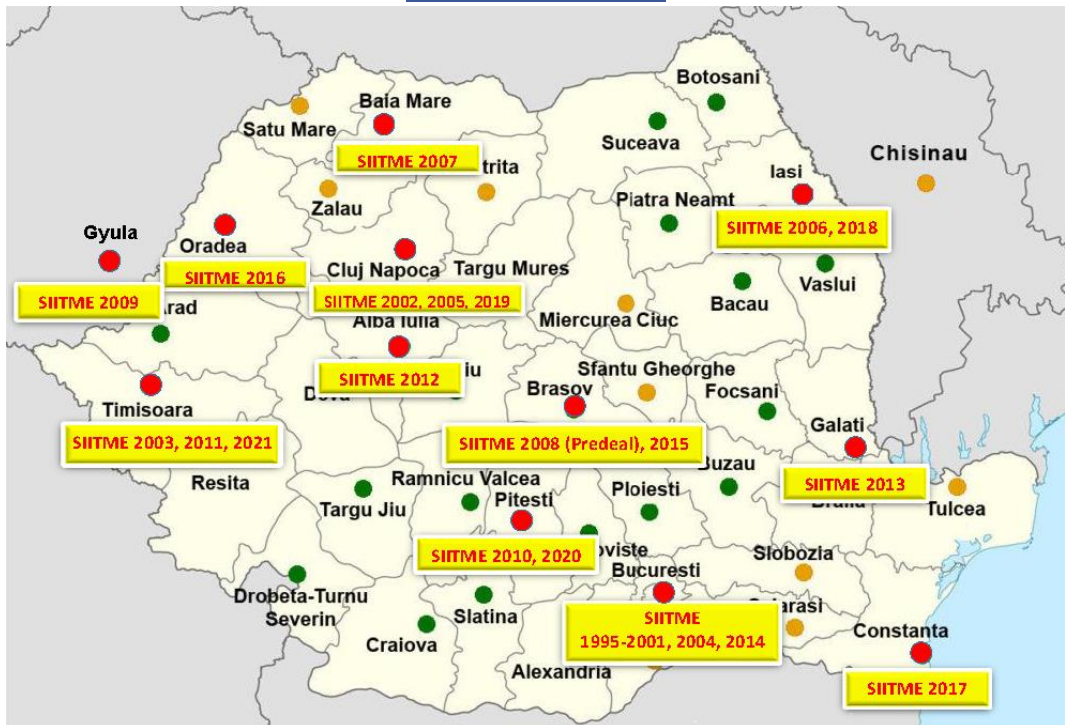
SIITME 2022

IEEE 28th International Symposium for
Design and Technology in Electronic
Packaging

CONFERENCE & EXHIBITION

26th – 29th of October

SIITME History



1995 - Utilizarea calculatoarelor în Tehnologia Subansamblelor electronice CAE-CAD-CAM, UPB, București, România

SIITME'96, Al II-lea Seminar Internațional de Informatică Tehnologică în domeniul Fabricației Modulelor electronice, 23-24 Octombrie 1996, București, România

SIITME'97, The 3rd International Seminar for Informatics and Technology in the domain of Electronic modules, 22-23 October 1997, Bucharest, Romania

SIITME'98, The 4th International Symposium for Informatics and Technology in Electronic Modules Domain, September 22-24 1998, Bucharest, Romania

SIITME'99, 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 6th 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, Pitești, Romania.

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

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

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

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

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

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

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

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

2021 IEEE 27th International Symposium for Design and Technology in Electronic Packaging - October 27–29, 2020, Timișoara, Romania – On-line edition

Thursday, October 27 (SIITME)

09:00 – 09:15	SIITME 2022 Opening ceremony
09:15 – 11:15	Plenary Oral Session 1
11:15 – 11:45	<i>Coffee Break</i>
11:45 – 12:15	Industry Engagement with IEEE R8
12:15 – 13:30	<i>Conference Lunch</i>
13:30 – 14:00	Industrial Session 1
14:00 – 15:30	Poster Session 1
15:30 – 15:45	<i>Coffee Break</i>
15:45 – 17:15	Networking IEEE, IMAPS Student Branch Chapter
17:30 –	<i>City walk and Conference Gala dinner</i>

Friday, October 28 (SIITME)

09:00 – 11:00	Plenary Oral Session 2
11:00 – 11:30	<i>Coffee Break</i>
11:30 – 13:00	Poster Session 2
13:00 – 14:00	<i>Conference Lunch</i>
14:00– 15:00	Industrial Session, Workshop and Expo
15:00 – 17:00	Plenary Oral Session 3
17:00 – 18:00	Steering Committee Meeting
18:00 – 19:00	<i>Awarding ceremony; Welcome to SIITME 2023</i>

Saturday, October 29 (SIITME)

08:30-11:00	Event retrospective breakfast at IBIS hotel, preparation for next events
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Networking IEEE, IMAPS Student Branch Chapter

Thursday, October 27 15:45-17:15

15:45 – 16:00 Welcome, introduction of the agenda

- **Paul SVASTA – IEEE SBC UPB Past Advisor**

16:00 – 17:00 Open Discussions

Paul SVASTA – Moderator

- Promotion of electronics with priority in the pre-university environment, using the example of the “Electroniada” contest;
- Future opportunities for collaboration – how Student Branch Chapters can be involved in the activities of the EPS HU & RO Chapter;
- Ongoing projects between Chapters;
- Next Summit of Student Branch Chapters.

17:00 – 17:15 Closing event (conclusions)



SIITME 2022 Keynote speakers

(in alphabetical order)



Name: Marius Enăchescu, Ph.D.
Job position: Professor
Company: University POLITEHNICA of Bucharest
e-mail: enachescu2007@gmail.com
Presentation: "Measurements for Micro-Nano-Electronics"

Prof. Marius Enăchescu, with international recognition, being among the world pioneers in designing and building STM-AFM systems as basic instruments for investigations at atomic and nanoscale (at Technical University of Munich, Germany, 1990-1995). After a long period of research in world leading laboratories in the field of nanoscience and nanotechnologies (1997-2009 at Lawrence Berkley laboratory and CEO&CTO-Marena Systems Corporation, Hayward-Silicon Valley, USA) he returned in his country of origin, Romania, bringing with him an invaluable expertise in exploiting quantum effects and nano-scale phenomena in order to design and develop new fundamental concepts and building innovative devices for various applications, including nanoelectronics, nanofabrication, nanotechnologies, nanotribology, nanomechanics and nanooptics fields. He is currently Professor at University POLITEHNICA of Bucharest and Vice-Rector and Director of Council for Doctoral Studies at the University of Pitesti. He is also the founder and Head of the Center for Surface Science and NanoTechnology (CSSNT) at UPB.

Abstract:

The importance and necessity of semiconductor devices in our lives is indisputable. Researchers and engineers are devoting continuous efforts to develop key technologies for the new ICs generations with increasingly smaller electronic nodes following the Moore's Law. Current developments are targeting 3nm and 2nm nodes. One of the crucial pillars that allow such technological advances is the metrology. It is mandatory to optimize/develop the metrological tools and enable them to meet the requirements imposed by the new electronic nodes. CSSNT-UPB offers state-of-the-art metrological solutions/services in support of industrial developments, carried out within the most challenging nanoelectronics projects (e.g. R3POWER-UP, REACTION, OCEAN12, MADEin4, PiN3S, IT2, BEYOND5).



Name: Andreas Wild, Ph.D.
Job position: Consultant
Company: AWKonsult
e-mail: andreasantonwild@outlook.com
Presentation: "Electronics Packaging - Some Recent Trends"

Dr. Andreas Wild has a MS from the University Politehnica Bucharest and a Ph.D. from the Institute of Atomic Physics, Bucharest.

He worked in various R&D and management capacities at IPRS Băneasa (1974); at Motorola, Semiconductor Product Sector (1982) in Germany, U.S.A. and France becoming its chief technologist; and at its spin-off Freescale Semiconductor (2005). In parallel he run the world-wide Motorola SPS University Program and delivered lectures at several Universities in Romania, SUA and France.

Dr. Wild authored 36 patents and more than 80 papers and book chapters; chaired or was a member in the Technical Committee of international conferences (ESSCIRC/ESDERC); and co-founded and co-chaired the Conference on Modeling and Simulation of Microsystems (MSM), becoming a Fellow of the Nano Science and Technology Institute (NSTI).

In 2009, Dr. Wild became Executive Director of ENIAC Joint Undertaking, then ECSEL JU, autonomous public-private partnerships of the European Union co-funding research in nanoelectronics, embedded software and smart system integration.

He retired in 2015, becoming a consultant. He is a member of the Commission for the Science and Technology of Microsystems of the Romanian Academy. In 2017 SEMI Europe recognized him with the „Special Service Award”.

Abstract:

As part of the electronics packaging concept, semiconductors feature over proportional growth as compared to the electronic systems in general. Technological progress in front end (wafer fab) and back end (assembly and test) have been supported by economic approaches based on disintegration and offshoring, and served users involved in system integration. While the technologic progress does not seem to be slowing, the shortcomings of the geographic distribution of the industry have been recognized and are in the process of being addressed, both by State intervention and by industry initiatives, that are also reshaping the interactions among the participants in electronic packaging activities.



Name: Vladimir CORNEA
Job position: Senior Expert Touch Displays
Company: Continental Automotive
e-mail: vladimir.cornea@continental.com
Presentation: „Automotive display technologies”

Vladimir Cornea is currently a Senior Expert in the field of Touch-Displays within the R&D User Experience Business Area of Continental Automotive. He was the technical founder and then the leader of the multidiscipline „display technologies” in the Timișoara location in Romania. As a consistent key player in both management and expertise roles, he has led multiple display concept developments and architecture definitions for OEM customers worldwide, from best cost to premium projects, from innovation up to large-scale platform projects. Throughout his 20-year career in major technology companies, he has acquired extensive experience in the fields of research, development and manufacturing.

Abstract:

Display solutions have seen an exponentially increased interest from OEM car manufacturers, especially with recent years. Today, displays are one of the main driving forces in defining the brand character and creating automobiles interior differentiation. Input and output devices are melting together through various display centered products types. The advanced design requirements, together with the continuously increased number of built-in functions, have brought display solutions to a very high level of complexity. The talk would like to introduce the audience into the world of automotive displays, market and design trends and the related technologies. Finally, we will review the innovative and emerging display technologies.

Programme in detail

Thursday, October 27

09:00 – 09:15 **Opening ceremony SIITME 2022, Welcome words**
EEST | GMT +3h

Ciprian IONESCU, *University Politehnica of Bucharest, Romania*

Ovidiu Aurel POP, *Technical University of Cluj-Napoca, Romania*

Thursday, October 27

09:15 – 11:15 **Plenary Oral Session 1**
EEST | GMT +3h

Session Chair: Ovidiu Aurel POP, Technical University of Cluj-Napoca, Romania

Session Co-Chair: Ciprian IONESCU, University Politehnica of Bucharest, Romania

09:15 KN1.1 Measurements for Micro-Nano-Electronics

Marius ENACHESCU, University Politehnica of Bucharest, Romania

09:55 Laser Cleaning of Flux Residues on Copper Surfaces in Electronics Production

Christoph Hecht, Jan-Niklas Slama, Felix Häußler, Mario Sprenger and Jörg Franke

Friedrich-Alexander-Universität Erlange-Nürnberg, Institute for Factory Automation and Production Systems, Nürnberg, Germany

10:20 Solutions for Acoustic Noise caused by Multilayer Ceramic Capacitors

Corina Covaci, Florin Burza¹⁾, and Aurel Gontean²⁾

Applied Electronics Department, Politehnica University, Timisoara, Romania

1) A HEAT LM TSR UX AE CS AD, Continental Automotive, Timisoara, Romania

2) Applied Electronics Department, Politehnica University, Timisoara, Romania

10:45 Printed Circuit Board Assembly Modeling for Predictive Reliability Assessment

Iulia Eliza Tinca¹⁾³⁾, Iulian – Ionuț Ailinei²⁾⁴⁾, and Arjana Davidescu¹⁾

1)Dept. of Mechatronics, University Politehnica Timișoara, Romania

2) Dept. of Mechanics and Strength of Materials, University Politehnica Timișoara, Romania

3) Autonomous Mobility, Continental Automotive Romania, Timișoara, Romania

4) Qualification Laboratories, Continental Automotive Romania, Timișoara, Romania

Thursday, October 27

11:45 – 12:15 **Industry Engagement with IEEE R8 – AFI Intro**
 EEST | GMT +3h

Session Chair: John Baptist MATOGO, AFI, IBM

Session Co-Chair: Marian VLĂDESCU, University Politehnica of Bucharest, Romania

Thursday, October 27

13:30 – 14:30 **Industrial Session 1**
 EEST | GMT +3h

Session Chair: Daniel COMEAGĂ, University Politehnica of Bucharest, Romania

Session Co-Chair: Bogdan MIHĂILESCU, University Politehnica of Bucharest, Romania

Continental Automotive -- *Confidence in Motion*

RomTek Electronics -- *Almost a Quarter of a Century of Excellence and Progress*

L&G Advice Serv SRL -- *IPC standards and electronics industry*

Robert Bosch SRL -- *DfX - Design for Excellence*

Thursday, October 27

14:00 - 15:30 Poster Session 1 (Start with a pitching session*)
 EEST | GMT +3h **Each author must deliver a maximum 1-minute video presentation of her/his work.*

Session Chair: Mihai BRANZEI, University Politehnica of Bucharest, Romania

Session Co-Chair: Daniel Vişan, University of Piteşti, Romania

P1.1 Microsystem for measuring audio PCB vibrations

C. Bărbulescu, M. Marinca, and E. Ilieş

Applied Electronics Department, Politehnica University, Timisoara, Romania

P1.2 IR Drop Simulation for an Automotive Device

Catalin Pescari¹, Andrei-Marius Silaghi¹, Aldo De Sabata¹ and Ciprian Bleoju²

1)Department of Measurements and Optical Electronics, University Politehnica Timisoara, Timisoara, Romania

2)Department of Mechanics and Material Strength, University Politehnica Timisoara, Romania

P1.3 Study Regarding the Configuration Setup used inside an EMC Laboratory for NFC Communication Measurement

Teodor-Octavian Pacurar¹⁾, Andrei-Marius Silaghi¹⁾, Catalin Balan¹⁾, Aldo De Sabata¹⁾, and Cornel Balint²⁾

1) Department of Measurements and Optical Electronics, University Politehnica Timisoara, Timisoara, Romania

2) Department of Communications, University Politehnica Timisoara, Timisoara, Romania

P1.4 Measurement of some properties for material qualification in solderless assembly for electronics

Florin Baci¹⁾, Mihai Branzei²⁾, Bogdan Mihailescu³⁾, and Gaudentiu Varzaru⁴⁾

1) Material Strength Department, Politehnica University, Bucharest, Romania

2) Center of Expertise for Special Materials, Politehnica University, Bucharest, Romania

3) Center for Electronic Technology and Interconnection Techniques, Politehnica University, Bucharest, Romania

4) Syswin Solutions SRL, Bucharest, Romania

P1.5 Gesture Interaction with 3D Printed Hybrid Compression and Inertial Tracking Device Based on Plastic Embedded Antenna for Virtual Reality Integration

Claudiu Bratu, Mircea-Alexandru I Călin, Paul Svasta

Center for Technological Electronics and Interconnection Techniques, University Politehnica of Bucharest, Romania

P1.6 Study of Dye-Sensitized Solar Roof Tile under Partial Shading Conditions

Szilard Bularka, Elisei Ilies, Magdalena Marinca, Radu Ricman, Melinda Vajda¹⁾, Daiana Albulescu²⁾

Applied Electronics Department, Politehnica University Timisoara, Romania,

1) Applied Chemistry and Engineering of Inorganic Compounds and Environment Department, Politehnica University, Timisoara, Romania,

2) Organic and Natural Compounds Engineering Department, Politehnica University, Timisoara, Romania,

P1.7 Portable Device which Transmits Fused Data from Several Sensors for

Monitoring a Person's Activity

Marius Mareş, Alexandru Vasile, and Paul Svasta

Politehnica University of Bucharest, Bucharest, Romania

P1.8 Contrast Enhancing by Applying Histogram Analysis in Image Processing

Teodora I. Petrova and Zhivo B. Petrov¹⁾

Agricultural Engineering, Trakia University, Stara Zagora, Bulgaria

1) Defence Advanced Research Institute, Rakovski National Defence College, Sofia, Bulgaria

P1.9 Colour detector for visual impaired users

Radu Papara, Ilas Crina, Galatus Ramona and Loredana Buzura

Technical University of Cluj-Napoca, Memorandumului 28th, Cluj-Napoca, Romania

P1.10 Conceptual Model of a System for Controlling the Process of Egg-Hatching in Incubators

Boris I Evstatiev, Nadezhda Evstatieva

Department of Electronics, University of Ruse Angel Kanchev, Ruse, Bulgaria

P1.11 IoT-Based Electronic System for Control of Foundry FurnaceSnezhinka L. Zaharieva¹⁾, and Martin N. Stoyanov²⁾

1) Department of Electronics, University of Ruse Angel Kanchev, Ruse, Bulgaria,

2) Department of Electronics, University of Ruse Angel Kanchev, Ruse, Bulga

P1.12 A Robust Radiocommunication System for FM Transmission Based on Software Defined Radio Technology

Radu Gabriel Bozomitu, Stefan Corneliu Stoica

Faculty of Electronics, Telecommunications and Information Technology, Gheorghe Asachi

Technical University, Iași, Romania

P1.13 Design of Electronic System for Control of Parameters in an IncubatorSeher Y. Kadirova, Stiliyan V. Okishelov¹⁾ and Zhivko D. Kolev²⁾

Department of Electronics, University of Ruse Angel Kanchev, Bulgaria

1) Department of Electronics, University of Ruse Angel Kanchev, Bulgaria

2) Department of Heat, Hydraulics and Environmental Engineering, University of Ruse Angel Kanchev, Bulgaria

P1.14 The Advantages of Using IoT Technology in Romanian Dams Management and Monitoring Activity

Alexandru Flutur, Septimiu Pop, Vlad Bande

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

P1.15 Implementation of a Node Red workflow for the Beia-IoT tool compliant with the Arrowhead Framework

George Suciu, Maria Niculae, George Iordache, Cristian Beceanu, Robert Streche, Mihai Sterea, Theodor Bratu

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

P1.16 Smart grid performance enhancement

Cristian Beceanu, Roxana Roscaneanu, Cristina Balaceanu, George Suciu

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

P1.17 Virtual Instrumentation Based Benchmark System for AC Motors Testing

Daniel Visan, Ioan Lita

Electronics, Computers and Electrical Engineering Department, University of Pitesti, Romania

P1.18 System for Generation and Analysis of Line Codes

Daniel Visan, Ioan Lita

Electronics, Computers and Electrical Engineering Department, University of Pitesti, Pitesti, Romania

P1.19 Platform for researching the efficiency of conversion of light energy into electricity for the automotive field

Irina Bristena Bacîș, Lucian Andrei Perisoara, Alexandru Vasile
University Politehnica of Bucharest, Bucharest, Romania

P1.20 EDLC hybrid system for engine starting and energy recovery when braking vehicles

Alexandru VASILE, Lucian Andrei PERIȘOARĂ, Irina Bristena BACÎȘ
University Politehnica of Bucharest

P1.21 Current Implementations of Fluid Level Sensors from an Automotive Safety Perspective

Nicolae Ioan Gross, Paul Svasta
University Politehnica of Bucharest, Romania

P1.22 Improved Electronic Driver for Fast-Response On-off Valves for Digital Hydraulics

Andrei Drumea¹⁾, Marian Blejan²⁾, and Cristina Marghescu¹⁾

1) Department of Electronics Technology, University Politehnica Bucharest, Romania

2) Research Institute for Hydraulics and Pneumatics INOE2000-IHP, Bucharest, Romania

P1.23 An accurate prediction of PM2.5 concentration for a web application

Andrei Alexandrescu, Andrei Daniel Andronescu, and Dumitru Iulian Năstac
Faculty of Electronics, Telecommunications and Information Technology, University POLITEHNICA of Bucharest, Romania

P1.24 Study of dilatation and contraction produced by temperature

Ionel Horea Baci
Applied Electronics Department, Technical University of Cluj Napoca, Romania

P1.25 Investigations regarding the increase of the nominal voltage of the supercapacitors

Rodica Negroiu, Paul Svasta, Mihaela Ramona Buga¹⁾, Cosmin Ungureanu¹⁾

University Politehnica of Bucharest, Romania, Center of Technological Electronics and Interconnection Techniques, UPB-CETTI

1) The National Research and Development Institute for Cryogenic and Isotopic Technologies – ICSI, Râmnicu Vâlcea

Thursday, October 27

15:45 – 17:15 Networking IEEE, IMAPS Student Branch Chapter
EEST | GMT +3h

Session Chair: Ovidiu Aurel POP, Technical University of Cluj-Napoca, Romania

Session Co-Chair: Rodica NEGROIU, University Politehnica of Bucharest, Romania

Friday, October 28

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

Session Chair: Boris EVSTATIEV, University of Ruse Angel Kanchev, Ruse, Bulgaria

Session Co-Chair: Rajmond JANO, Technical University of Cluj-Napoca, Romania

09:00 KN2.1 - Electronics Packaging - Some Recent Trends

Andreas Wild, AWKonsult

09.40 An attempt to design a new air quality sensor

Alexandru Popescu, Dumitru Iulian Năstac

Faculty of Electronics, Telecommunications and Information Technology, Politehnica University of Bucharest, Bucharest, Romania

10.05 Attention-based image compression in sensor assembly

S. Meier, A. Erkan, N. Thielen, S. Klarmann¹⁾, M. Schwab¹⁾, and J. Franke

Institute for Factory Automation and Production Systems (FAPS), Friedrich-Alexander Universität Erlangen-Nürnberg (FAU), Nuremberg, Germany

1) Valeo Schalter und Sensoren GmbH, Wemding, Germany

10.30 Dopants Effect on the Conductive Polymer Performances, Used for Artificial Muscles

Daniela Ionescu¹⁾, Gabriela Apreotesei²⁾

1) Department of Telecommunications and Informational Technologies, 1),2) “ Gh. Asachi” Technical University of Iasi, Romania, 2) Department of Physics

Friday, October 29

11:30 - 13:00 **Poster Session 2 (Start with a pitching session*)**
EEST | GMT +3h **Each author must deliver a maximum 1 minute video presentation of her/his work*

Session Chair: Detlef BONFERT, Fraunhofer – EMFT, Munich, IEEE EPS, Germany

Session Co-Chair: Cristina MARGHESCU, University Politehnica of Bucharest, Romania

P2.1 A brief record of upgrading a Battery Management System

Cosmin-Ionut Nastase

Dept. Electronica si Calculatoare, Universitatea Transilvania din Brasov, Brasov, Romania

P2.2 Real-Time Embedded Framework Debugger

Mihai Daraban¹⁾, Cosmina Corches²⁾, Raul Fizesan¹⁾, Gabriel Chindris¹⁾

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

2) Automation Department, Technical University of Cluj-Napoca, Cluj-Napoca, Romania

P2.3 Mapping the environment at range: implications for camera calibration

Mălin Stănescu*, Cristina Laura Sîrbu*†, Ciprian Orhei*‡

*Dept of Advanced Driver Assistance Systems, Continental Automotive, Romania

†Department of Applied Electronics, Politehnica University of Timișoara, Romania

‡Department of Communications, Politehnica University of Timișoara, Romania

P2.4 Solar Irradiance Nowcasting using IoT with LSTM RNN

Vladimir Voicu, Dorin Petreus, and Radu Etz

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

P2.5 Analysis and comparison between urban traffic control systems

Alin Alexandru Serban, Madalin Frunzete

Faculty of Electronics, Telecommunications and Information Technology, University Politehnica Bucharest, Romania

P2.6 Experimental evaluation of LoRa for remote vehicle tracking and control in urban areas

Adrian I. Pop, Claudiu Lung, Sebastian Sabou, Radu Țarcă¹⁾ and Nicolae Pop²⁾

Department of Electric, Electronic and Computer Engineering, Technical University of Cluj-Napoca, Baia Mare, Romania

1) Mechatronics Department, University of Oradea, Oradea, Romania

2) Institute of Solid Mechanics of Romanian Academy, Bucharest, Romania

P2.7 Vibration spectrum analysis using FFT in the microcontroller

Nicutor Nistor, Laurentiu Baicu, Bogdan Dumitrascu,

Department of Electronics and Telecommunications, University Dunarea de Jo of Galati, Romania

P2.8 Voice Controlled Robot Dog

Georgescu Ioana, Jan-Alexandru Văduva

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P2.9 Web Interface for IoT Vehicle Monitoring System

Nicușor-Mirel Drogeanu¹⁾, Lucian-Andrei Perișoară¹⁾, Jan-Alexandru Văduva²⁾

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P2.10 Air Quality Monitoring System Inside and Outside a Vehicle

L. M. Dragomir, Mihaela Pantazică

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P2.11 Implementation of a Wireless Measuring and Data Acquisition System for Hydro-generator Monitoring

Vasile Madalin Moise, Mihaela Pantazică, and B. S. Nedelcu¹⁾

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P2.12 Thermal Simulations for 18650 Li-Ion Batteries

Rajmond Jánó, Adelina Ioana Ilieș, and Alexandra Fodor

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

P2.13 Workbench Study of Loading Consequences on Reliability of DC-DC PoL Converters Based on Discrete Transistors

Dan Butnicu

Electronics Department, Technical University of Iasi, Iasi, Romania

P2.14 Preliminary study for outdoor testing: Effect of Moisture and Temperature on the Stability of UV Dye Sensitized Solar Cells

M. Vajda^{1),3)}, D. Albuлесcu^{2),3)}, D. Ursu³⁾, E. Ilies⁴⁾, M. Marinca⁴⁾, A. Gontean⁴⁾, N. Miclau⁵⁾, N. Duteanu¹⁾, S. Bularka⁴⁾, and M. Miclau³⁾

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4) Department of Applied Electronics, Politehnica University Timisoara, Timisoara, Romania

5) Department of Communications, Politehnica University Timisoara, Timisoara, Romania

P2.15 An Automated Data Acquisition System for the Characterization of Photovoltaic Cells

Elisei Ilies, Magdalena Marinca, S. Bularka, M. Vajda¹⁾, D. Albuлесcu²⁾ and R. Ricman

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2) Organic and Natural Compounds Engineering Department, Politehnica University, Timisoara, Romania,

P2.16 Energy consumption monitoring using private blockchain network based on Ethereum smart contracts

Laurențiu Ionescu¹⁾, Alin Gheorghita Mazare¹⁾, Nadia Ionescu²⁾ and Adrian-Ioan Lita³⁾

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2) Management and Industrial Manufacturing, University of Pitesti, Pitesti, ROMANIA

3) Applied Electronics, Polytechnic University Bucharest, ROMANIA

P2.17 QVCO used for PLL Grid Voltage Reference

Alina Pricopie, Mihaela Andrei, and Radu Belea

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P2.18 Design and analysis of hybrid couplers using lumped elements and microstrip topology

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2) Department of Electronics Technology and Reliability, University Politehnica of Bucharest, Romania

P2.19 Analysis of Different Types of Wireless Communication Modules With a Real-Time Spectrum Analyzers

Burciu Loredana-Maria, Fotescu Radu-Petru, Constantinescu Rodica-Claudia, Moise Madalin and Svasta Paul

Faculty of Electronics, Telecommunications and Information Technology, University Politehnica of Bucharest, Romania

P2.20 Electromagnetic and Electric Field Radiation inside Electric Vehicles and Classic Vehicles

Radu-Petru Fotescu, Loredana-Maria Burciu, Rodica Constantinescu and Paul Svasta
ETTI, University Politehnica of Bucharest, Romania

P2.21 On Data Preprocessing for an Improved Performance of the Sources Classification

Bogdan Dumitrascu and Dorel Aiordachioaie

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P2.22 Multi-platform diet management application, including speech synthesis/recognition subsystem

George Suciu Jr., Luminita Marcu, Svetlana Segarceanu, Serban Calescu, Cosmina Stalidi
R&D Department BEIA Consult International Bucharest, Romania

P2.23 System for detecting and preventing cyber attacks in small businesses

Cosmina Stalidi, George Suciu Jr., Eduard-Cristian Popovici
R&D Department BEIA Consult International Bucharest, Romania

P2.24 Experiential Learning Approach for Teaching the Topic “Implementation of Brent-Kung Adders Using Computer-Based Training”

Adriana N. Borodzhieva

Department of Telecommunications, University of Ruse Angel Kanchev, Ruse, Bulgaria

P2.25 Merkle-Hellman Knapsack Cryptosystems in Undergraduate Telecommunication Security Course Using Project-Based Learning

Adriana N. Borodzhieva

Department of Telecommunications, University of Ruse Angel Kanchev, Ruse, Bulgaria

P2.26 Developing Scientific and ICT Literacy Skills when Teaching the Topic "Design and Research of Digital Comb Filters Using MATLAB"

Adriana N. Borodzhieva

Department of Telecommunications, University of Ruse Angel Kanchev, Ruse, Bulgaria

Friday, October 29

14:00– 15:00 Industrial Session 2
EEST | GMT +3h

Session Chair: Cosmin MOISĂ, Continental Automotive, Timișoara, Romania

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SC Intelligent Convergent Solutions SRL

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Friday, October 28

15:00 - 17:00 Plenary Oral Session 3
EEST | GMT +3h

Session Chair: Heinz WOHLRABE, TU Dresden, IEEE EPS, Germany

Session Co-Chair: Leon BRAI, Robert BOSCH SRL, Romania

15.00 KN3.1 Automotive Display Technologies

Vladimir CORNEA, Continental Automotive Romania

15.40 Performance Analysis of Thermoelectric Cooler – Thermoelectric Generator System for Heat Recovery Applications

Viorel Ionescu¹⁾ and Anisoara-Arleziana Neagu²⁾

1) Department of Physics and Electronics, Ovidius University of Constanta, Romania

2) Department of Chemistry and Chemical Engineering, Ovidius University of Constanta, Romania

16.05 Routing Aspects in PCB Design for High Frequency Circuits

Mihaela Andrei, Mihnea Dumitriu, Viorel Nicolau, and George Petrea

Department of Electronics and Telecommunications, Dunarea de Jos University of Galati,
Romania

16.30 Microcontroller assisted wireless energy transmission

Nicusor Nistor, Laurentiu Baicu, and Bogdan Dumitrascu

Department of Electronics and Telecommunications, University Dunarea de Jos of Galati, Romania

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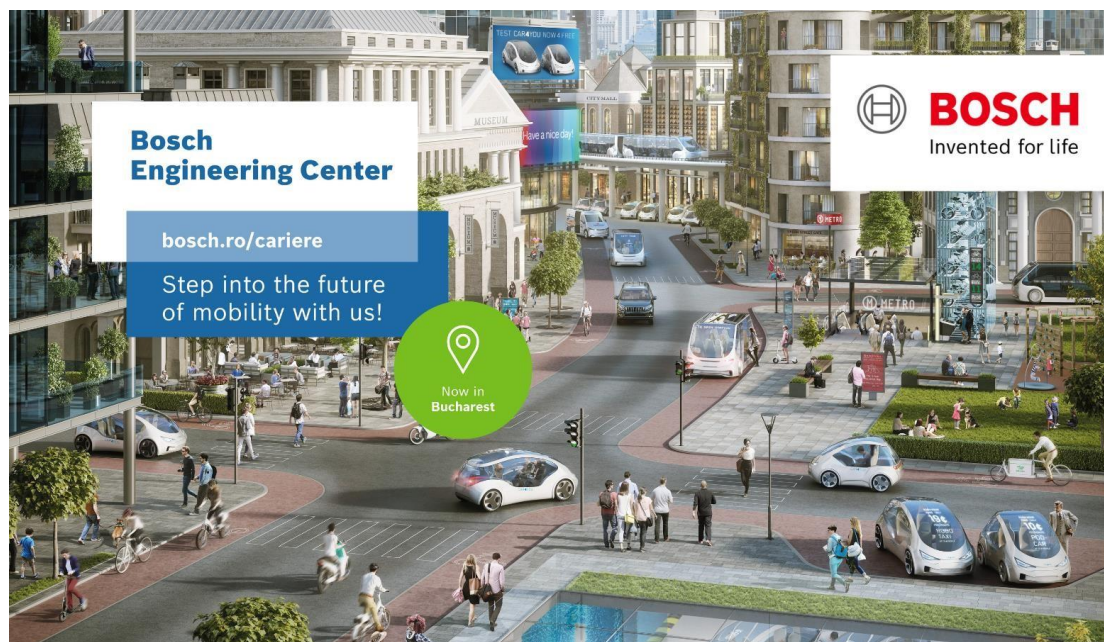
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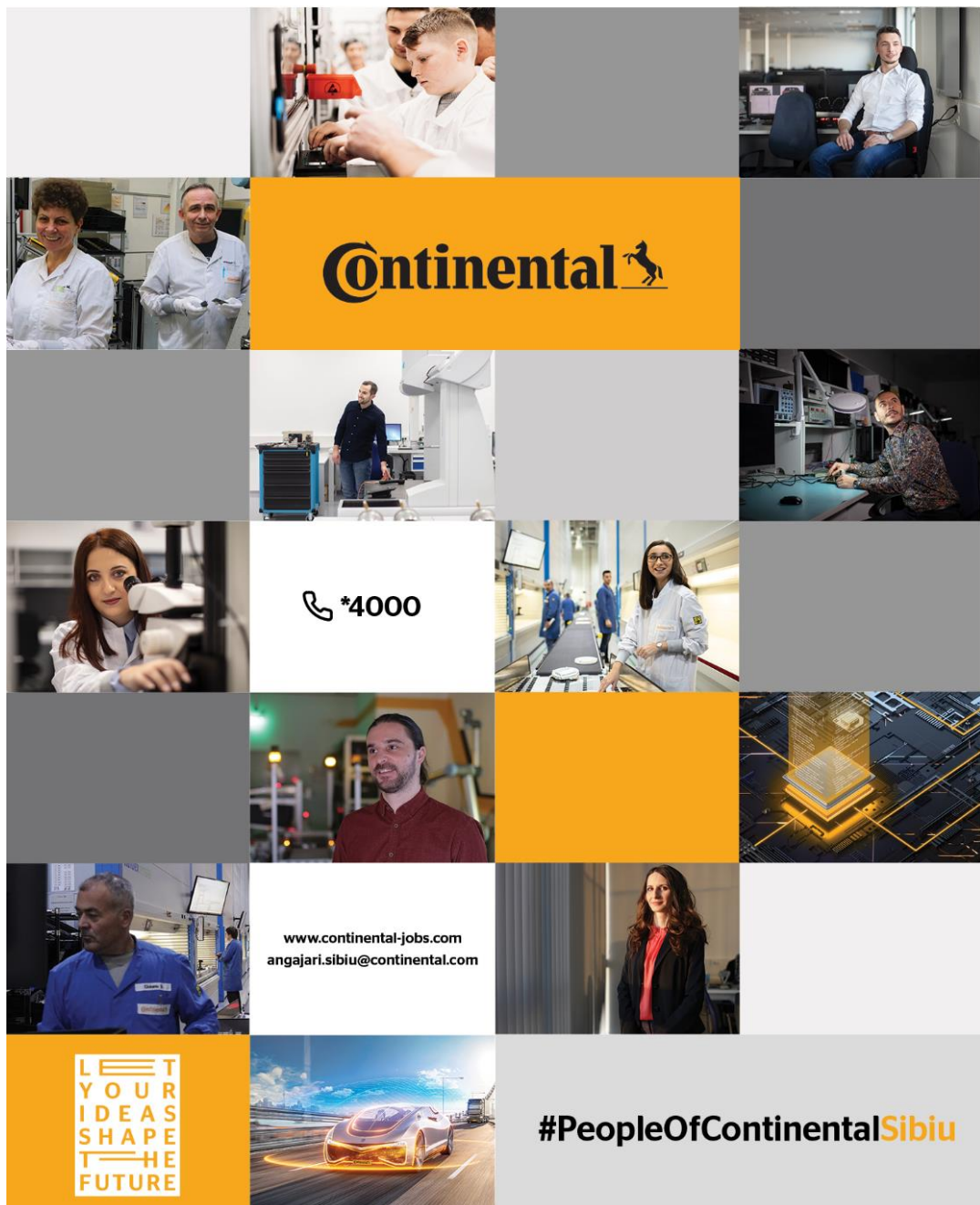
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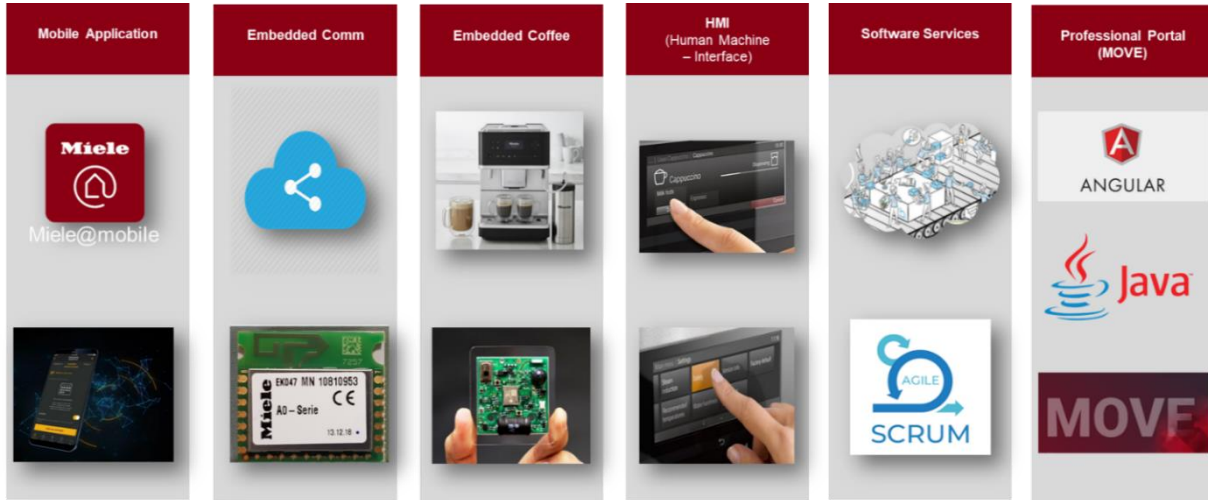
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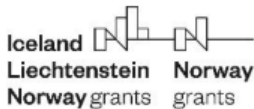


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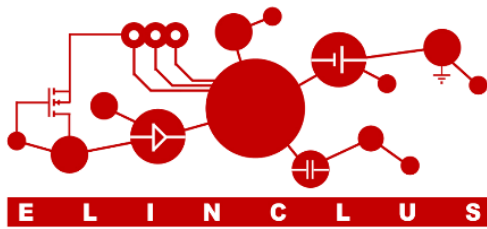
On 27.07.2021, the implementation of the project "Integrated system for monitoring, analysis and diagnosis of electrical equipment and energy quality in the EEA in order to increase energy efficiency in the generation of electricity for hydroelectric power plants - acronym SMESEE PROD CHE" concluded with Innovation Norway through the EEA and Norway Grants 2014-2021 program.

The aim of the project: the introduction of a new product by SIMTECH INTERNATIONAL called Integrated system for monitoring, analysis and diagnosis of electrical equipment and energy quality in the EEA in order to increase energy efficiency in electricity generation for hydropower plants, designated by the acronym SMESEE PROD CHE.

The main result of the proposed project will be the product prototype Integrated system for monitoring, analysis and diagnosis of the technical condition of power equipment in a hydroelectric plant and all documentation for the transition to mass production of the product.

The expected integrated monitoring, analysis and diagnostic system consists of a series of subsystems dedicated to different categories of electrical equipment in hydroelectric power plants. In turn, the subsystems consist of modules with specific monitoring and diagnostic functions for different subassemblies of the equipment category.

Manufactured for the first time in Romania SMESEE PROD CHE has as beneficiaries identified at this moment: SC HIDROELECTRICA, manufacturers and repairers of large electric cars, large industrial consumers of energy (especially in the Eastern European market).



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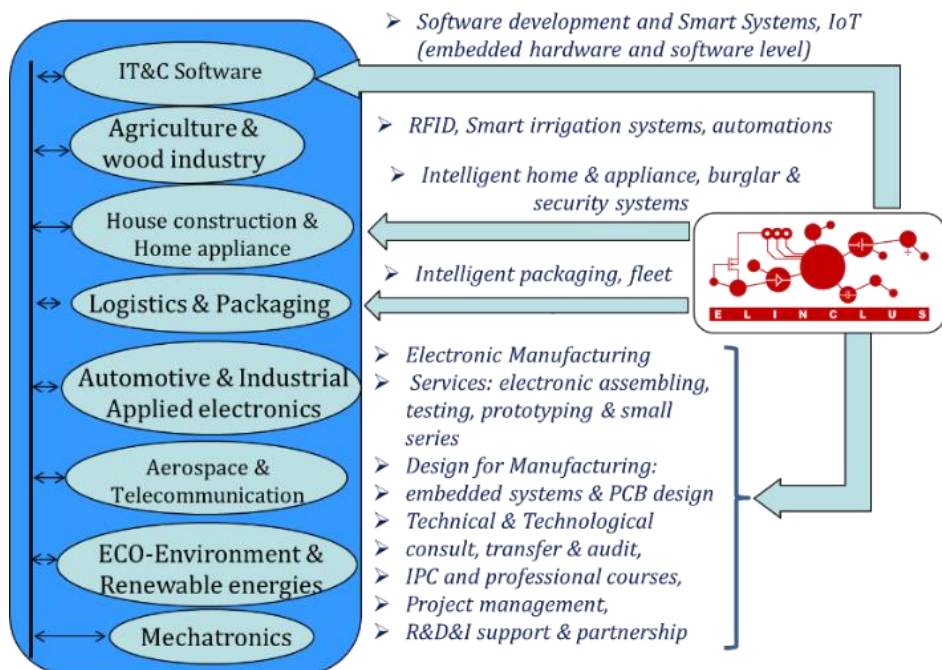
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- Founding member of the Clusters Association from Romania, CLUSTERO - www.clustero.eu
- European Cluster Excellence Initiative Silver Label Certificate from ESCA since 2016
- Founding member of the IT Cluster Network from Romania comprised of 9 members
9: Transilvania IT Cluster, ALT – Braşov, Banat Software, Innovative Cluster Open Hub, INOMAR, **ELINCLUS**, ICT Oltenia, ICT Cluster Lower Danube şi 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

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

APTE



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 2002, 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.



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E-mail: apte@apte.org.ro

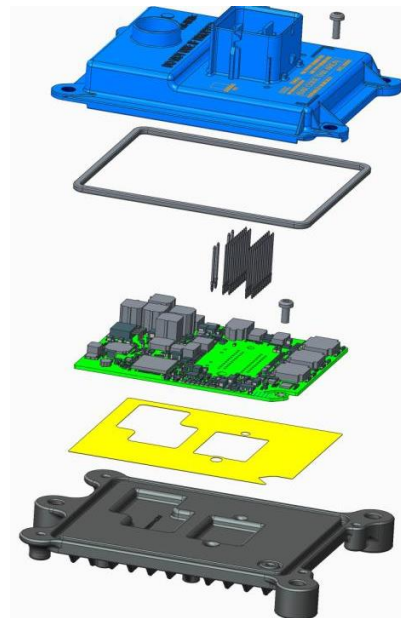


ITEC Research Center

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 testing systems: SW and HW testing process, HiL and SiL, design of test-cases SW;
- Training services: LabVIEW trainings, Embedded Systems trainings, TW and HiL operation;
- PCB DESIGN: DfX, SI and PI.



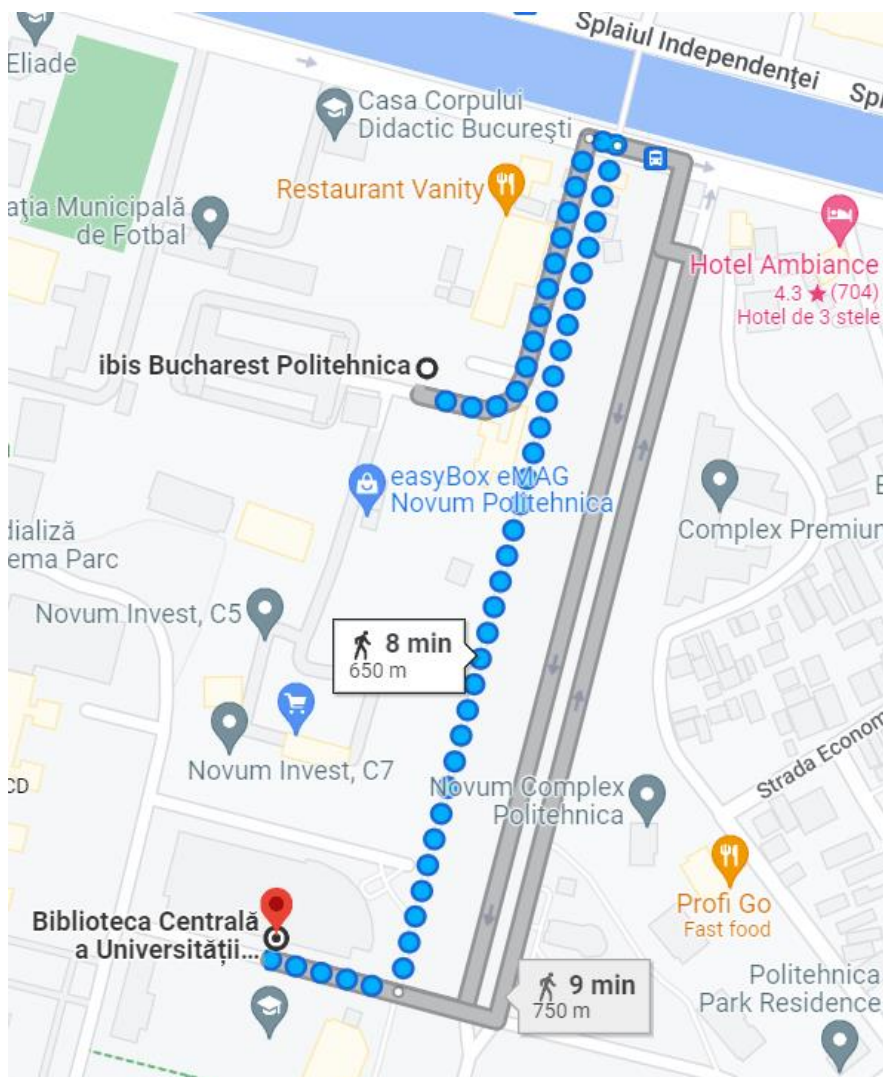
of
for

Contact

Information Technology in Electronics Research Center | Technical University of Cluj-Napoca
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Venue of the Electronic Week

The ELECTRONIC WEEK OF ELECTRONICS PACKAGING COMMUNITY 2022 will take place at the Central Library of the Politehnica University, which is an 8-minute walk from the Ibis hotel.





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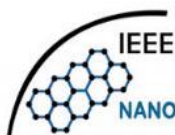


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