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45th jubilee international convention
on information, communication and
electronic technology

mipro^{45th}
2022

HYBRID CONVENTION

PROGRAM

May 23 - 27, 2022 Opatija, Croatia

Grand Hotel Adriatic, Hotel Admiral
& Hotel Palace Bellevue



Lampadem tradere
ICT in Smart and Green Digital Ecosystems



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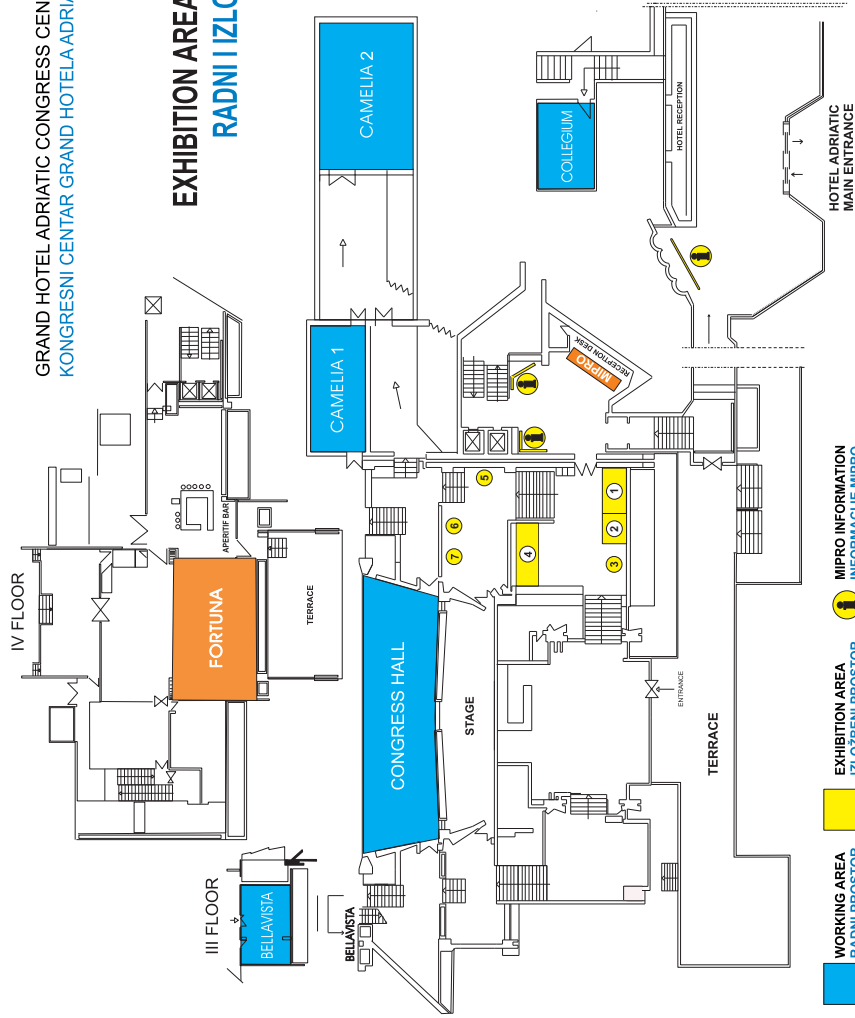
HRVATSKA GOSPODARSKA KOMORA



uniri



GRAND HOTEL ADRIATIC CONGRESS CENTRE
KONGRESNI CENTAR GRAND HOTELA ADRIATIC



EXHIBITION AREA AND LECTURE ROOMS RADNI I IZLOŽBENI PROSTOR

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- 2 PRACE - Partnership for Advanced Computing Europe
- 3 MJERNE TEHNOLOGIJE, Zagreb
- 4 HRVATSKA ELEKTROPRIVREDA, Zagreb
- 5 IEEE
- 6 BABEG Carinthian Agency for Investment Promotion and Public Shareholding, Klagenfurt
- 7 UMKI, Rijeka

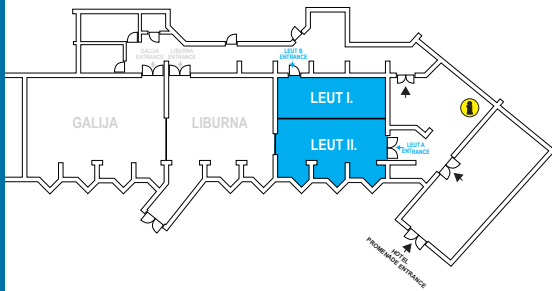
WORKING AREA
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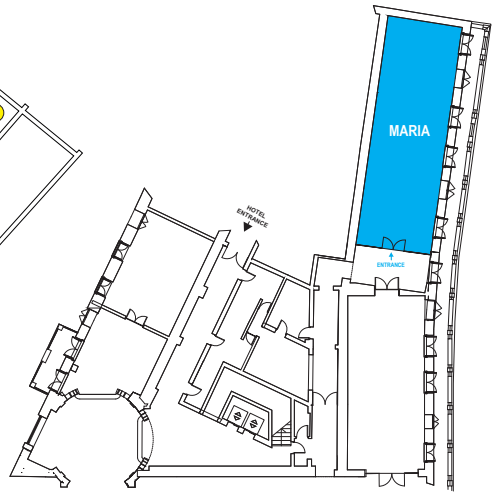
MIPRO INFORMATION
INFORMACIJE MIPRO

LECTURE ROOMS - DVORANE

HOTEL ADMIRAL LEVEL 0



HOTEL PALACE BELLEVUE GROUND LEVEL



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A1

Najbrža fiksna mreža u Hrvatskoj.



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HOTEL	HALL / DVORANA	23.05. PONEDELJAK		24.05. TUESDAY / UTORAK		25.05. WEDNESDAY / SRIJEDA		26.05. THURSDAY / ČETVRTAK		27.05. FRIDAY / PETAK	
		A.M. / DOPODNE	P.M. / POPODNE	A.M. / DOPODNE	P.M. / POPODNE	A.M. / DOPODNE	P.M. / POPODNE	A.M. / DOPODNE	P.M. / POPODNE	A.M. / DOPODNE	P.M. / POPODNE
GRAND HOTEL ADRIATIC	CONGRESS HALL KONGRESNA DVORANA		15.00-19.00 CE	09.00-13.00 CE	15.00-19.00 CE	10.00-13.00 CEREMONY PLEMURY SESSION	15.00-17.45 LECTURES PRESENTATIONS 18.00-19.30 WORK SHOP	09.00-13.00 SIDE	15.00-19.00 SIDE	09.00-14.00 DE-DS	
	BELLAVISTA		14.00-17.00 CCE	10.00-13.00 CCE	14.00-17.00 CCE			09.00-13.00 MEET	15.00-19.00 MEET	10.00-14.00 OPHO	
	CAMELIA 1		10.00-13.00 IRP-ZT	11.00-13.00 SPD	14.00-18.00 FI5.0			09.00-13.00 CIS-AIS	15.00-19.00 CIS-AIS	09.00-13.00 CIS-AIS	
	CAMELIA 2		09.00-12.45 RAB	09.30-12.30 HEP	15.30-19.00 HEP		14.00-15.30 GDPR	09.00-13.00 DS-BE	15.00-19.00 DS-BE	09.00-13.00 DS-BE	
	COLLEGIUM			10.00-13.30 ISS	15.00-18.00 miproBIS			09.00-13.00 CE	15.00-19.00 CE	09.00-13.00 CE	
	FORTUNA						20.00-22.00 COCKTAIL				
HOTEL ADMIRAL	LEUT I		15.00-19.00 SP					09.00-13.00 ICTLAW	14.00-19.00 EE		
	LEUT II							09.00-13.30 CTS	14.00-19.00 SSE		
HOTEL PALACE BELLEVUE	MARIA							10.00-13.00 CTI	15.00-19.00 CTI		

45th Jubilee convention MIPRO 2022 - Focusing on Smart and Green digital Ecosystems

The program of this year's MIPRO conference points to the fact that ICT technology plays an important role in shaping society and contemporary life. The new EU guidelines "*European twin to green and digital transition*" and the application of advanced technologies support the transition process. These principles have been incorporated into the new *Horizon Europe* framework program, which now includes a technology component in the Digital Europe program.

The EU and Croatia are at the stage of important strategic determinants defined in the *Smart and Green Strategy*. The introduction and application of new technologies play an important role in the implementation of the *Reconstruction and Recovery Program*. The creation of a new economy and market prosperity is only possible with rapid and high-quality adaptation to new paradigms and platforms.

So far, economic growth has not been conditioned by limiting the consumption of natural resources. The result is the current crisis of natural (primary) resources (sources) with the risk of shortage of raw materials and rising prices, as well as environmental pollution. Today, more and more countries (guided by the recommendations of respected economists) are turning to new economic models that develop and create a new economy while protecting the environment. The transition to a green economy must be made through advanced resource management, the use of economic instruments to promote environmental protection, support for innovative projects, the implementation of more efficient energy, water and waste management, and the development of sustainable consumption and production. These activities rely heavily on ICT technology and represent the pursuit of smart and green transformation. Therefore, the theme of this year's MIPRO is **ICT in Smart and Green Digital Ecosystems** in the light of today's need and tomorrow's sustainability. I wish everyone much success and satisfaction at the 45th Jubilee convention MIPRO 2022!



Academician Karolj Skala, PhD
International Program
Committee General Chair

45. jubilarni skup MIPRO 2022 – usmjeren prema pametnim i zelenim digitalnim ekosustavima

Program ovogodišnjeg skupa MIPRO ukazuje na činjenicu da ICT tehnologija preuzima glavnu ulogu u oblikovanju društva i života danas. Prateći nove EU smjernice "*European twin to green and digital transition*" i primjena naprednih tehnologija predstavlja podršku u procesima tranzicije. Ta načela su ugrađena u novi okvirni program *Horizon Europe* koji sad ima tehnološku komponentu u programu *Digital Europe*.

EU i Hrvatska se nalaze u fazi važnih strateških odrednica definiranih u „*Smart and Green Strategy*“. Provedbom *Programa za obnovu i oporavak* usvajanje i primjena novih tehnologija imaju istaknutu ulogu. Stvaranje novog gospodarstva i tržišnog

prosperiteta jedino je moguće brzim i kvalitetnim prilagodbama novim paradigmama i platformama.

Dosadašnji gospodarski rast nije bio uvjetovan ograničenjem potrošnje prirodnih resursa. Posljedica toga je sadašnja kriza prirodnih (primarnih) resursa (izvora) uz prijetnju nestajanja sirovina i povećanje cijena te zagađenja okoliša.

Danas se sve više država (vođenih preporukama uglednih ekonomista) okreće novim modelima poslovanja, kojima se razvija i stvara novo gospodarstvo čuvajući okoliš. Javlja se potreba za prijelaz na zeleno gospodarstvo kroz napredno upravljanje resursima, korištenjem ekonomskih instrumenata koji pogoduju zaštiti okoliša, podržavanjem inovativnih projekata, provođenjem učinkovitije politike upravljanja energijama, vodama i otpadom te ulaganjem napora u razvoj održive potrošnje i proizvodnje.

Ove aktivnosti u velikoj mjeri se oslanjaju na ICT tehnologiju i predstavljaju težnju za pametnom i zelenom transformacijom u svjetlu nužnosti današnjice i opstojnosti budućnosti i zato je slogan ovogodišnjeg skupa **ICT u pametnim i zelenim digitalnim ekosustavima**.

Svima želim uspjeh i zadovoljstvo na 45. Jubilarnom skupu MIPRO 2022!

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PHYSICAL EVENT
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HYBRID EVENT
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TIMETABLE

All events will be regularly updated on MIPRO website. Detailed information and timetables can be checked at www.mipro.hr.

VREMENIK

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Organizer maintains the right to make minor changes in the program. · Organizator zadržava pravo manjih izmjena u programu skupa.

01. GENERAL INFORMATION

OPĆE INFORMACIJE

45



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WORKING TIME · RADNO VRIJEME

DATE DATUM	RECEPTION PRIJEMNI URED	EXHIBITION IZLOŽBA
23.05.2022., Monday · ponedjeljak	08 ³⁰ – 18 ⁰⁰	–
24.05.2022., Tuesday · utorak	08 ⁰⁰ – 18 ⁰⁰	10 ⁰⁰ – 19 ⁰⁰
25.05.2022., Wednesday · srijeda	08 ³⁰ – 18 ⁰⁰	08 ⁰⁰ – 19 ⁰⁰
26.05.2022., Thursday · četvrtak	08 ⁰⁰ – 18 ⁰⁰	08 ⁰⁰ – 18 ⁰⁰
27.05.2022., Friday · petak	08 ⁰⁰ – 13 ⁰⁰	–

The detailed schedule for all MIPRO 2022 events will be placed on bulletin boards and at www.mipro.hr. All registered participants have free access to plenaries and exhibition with obligatory badge carrying.

Mikrosatnica svih događanja na MIPRO 2022 bit će istaknuta na oglasnim pločama i na www.mipro.hr. Svim registriranim sudionicima slobodan je pristup plenarnom radu i izložbi i programsko-stručnim prezentacijama uz obavezno nošenje bedževa.

TERMS · ROKOVI

- until / do 09.05.2022. Hotel reservation · **Rezervacija hotela**
- until / do 09.05.2022. Registration and fee payment · **Prijava i uplata kotizacije**
- 23.05.2022. Delivery of equipment/exhibits and booth setup
Doprema izložbenih eksponata i postavljanje izložbi
- 24.05.2022. Opening of the exhibition at 10⁰⁰ AM
Početak rada u 10⁰⁰ sati
- 26.05.2022. End of the exhibition at 6⁰⁰ PM
Završetak rada u 18⁰⁰ sati i otprema eksponata

HOTEL RESERVATION · REZERVACIJA HOTELA

Please arrange your accommodation in time, no later than May 9, 2022.
Molimo Vas da rezervirate hotel što prije, najkasnije do 09.05.2022.



For all information please contact: **Reservation office in Grand Hotel Adriatic d.d. Opatija**, phone +385 (0)51 719 010, fax +385 (0)51 719 015 or e-mail: info@hotel-adriatic.hr. Parking ticket is cca EUR 20,00 per day.

Za sve potrebne informacije obratite se na **Rezervacijski ured Grand hotela Adriatic d.d. Opatija**, tel. +385 (0)51 719 010, fax +385 (0)51 719 015 ili e-mail info@hotel-adriatic.hr. Dnevna parkirališna karta iznosi 150,00 HRK.

Booking can be made over the following QRcode:

QR kod za rezervaciju smještaja



Accommodation booking in Hotel Istra is made exclusively through the web portal www.liburnia.hr with the obligatory entry of the reservation code **MIPRO22**. In case of difficulties with booking, please contact the **Liburnia Hotels & Villas Reservation Center** at tel. +385 (0) 51 710 444 or e-mail reservations@liburnia.hr.

Rezervacija smještaja u Hotelu Istra vrši se isključivo putem web portala www.liburnia.hr uz obavezan upis rezervacijskog koda **MIPRO22**. U slučaju poteškoća prilikom rezervacije, molimo kontaktirajte **Rezervacijski centar Liburnia Hotels & Villas** na tel. +385 (0)51 710 444 ili e-mail reservations@liburnia.hr.

Booking can be made over the following QRcode:
QR kod za rezervaciju smještaja



HOTELS HOTELI	BED & BREAKFAST NOĆENJE S DORUČKOM	
	1/1	1/2
ADRIATIC I ****	110	75
ADRIATIC II ***	89	60
ISTRA ***	71	45

All prices are in EUR. The daily tax is EUR 1,95 per person per day and it isn't included in the above prices.

Sve cijene su izražene u EUR, a plaća se u kunama prema važećem tečaju HNB-a na dan plaćanja. Boravišna pristojba nije uključena u cijenu i iznosi 14 HRK po osobi dnevno.

PROGRAM FOR ACCOMPANYING PERSONS

For accompanying persons we propose some of the many programmes offered by the tourist agencies of Opatija. For more information, please ask at Grand Hotel Adriatic Opatija (www.hotel-adriatic.hr) or send an e-mail to the address info@hotel-adriatic.hr. Shorter and longer excursions are offered to the nearby City of Rijeka, the picturesque Istrian Peninsula with a string of charming medieval small towns, the world-renown Brioni islands, the mountainous region of Gorski Kotar, or a bit further Venice with its lagoons. In any case, see the sights of Opatija, visit her beautiful parks, one of the oldest seafront promenades on the Mediterranean which links the settlements of Volosko, Ičići, Ika and Lovran with Opatija, the Croatian Museum of Tourism, numerous restaurants and Viennese cafes with a first-class offer.

Last but not least, experience Kvarner Bay and Opatija by taking a pleasant boat trip from Opatija's harbour or visit Učka Nature Park with magnificent views from the peek Vojak (1400m).



REGISTRATION FEES · KOTIZACIJE

EVENTS DOGAĐAJI	PRICES IN EUR · CIJENA U EUR (plaća se po srednjem tečaju Narodne banke Hrvatske na dan uplate)	
	FEES · KOTIZACIJE up to / do 09.05.2022.	from / od 10.05.2022.
HEP	270	300
IRP-ZT	250	280
SIDE	250	280
MEET	250	280
OPHO	250	280
DS-BE	250	280
CTI	250	280
CE	250	280
CTS	250	280
CIS-AIS	250	280
ISS	250	280
miproBIS	250	280
DE-DS	250	280
ICTLAW	250	280
EE	250	280
SSE	250	280
SP	120	140
RAB *	125	145
CCE	130	150
SPD + FI5.0	125	145
AWS	Free access · Slobodan pristup	
Panel GDPR	Free access · Slobodan pristup	
Presentations · Prezentacije	Free access · Slobodan pristup	

* MIPRO group members have free access to RAB workshop. *Skupni članovi MIPRO-a imaju slobodan pristup radionici RAB.*
 * All fees include Croatian VAT. *Sve cijene kotizacija uključuju PDV.*

All visitors have free access to the Formal Opening, Panel, AWS workshop, plenary presentations and exhibition.

[Svim posjetiteljima slobodan je pristup svečanom otvaranju, okruglom stolu, radionici AWS, plernarnim prezentacijama i izložbi.](#)

Members of MIPRO or IEEE have a 20 EUR fee discount. The unique fee for students (undergraduate and graduate) primary and secondary school teachers is 120 EUR (without any additional discount). **Discount doesn't apply to PhD students.** There will be a 10% discount for the registration fee to those participants who are attending more than one tutorial or conference.

[Članovi MIPRO i IEEE imaju popust od 20 eura. Preddiplomski i diplomski studenti te nastavnici osnovnih i srednjih škola plaćaju jedinstvenu kotizaciju od 120 eura bez prava na dodatni popust. **Popust se ne odnosi na studente doktorskog studija.** Sudionicima koji sudjeluju na više seminara ili savjetovanja, ukupna kotizacija umanjuje se za 10%.](#)

REGISTRATION · PRIJAVA

Conference fee payment can be done after the registration is processed. Registration can be made online at www.mipro.hr or via e-mail mipro@mipro.hr.

The fee is payable in EUR to the following IBAN of **MIPRO Croatian Society** (MIPRO, Jadranski trg 1/II, HR-51000 Rijeka, Croatia): **HR9824020061100139672** at Erste & Steiermärkische Bank d.d., Jadranski trg 3a, HR-51000 Rijeka, Croatia (SWIFT: ESBCHR22), with the name of the person registered.

Note that bank charges are at the expense of the debtor.

The fee includes:

- MIPRO 2022 Proceedings on digital medium
- Conference material
- Official opening program (plenary session) with a cocktail party on Wednesday, 25 May 2022 from 8:00 PM until 10:00 PM. (Grand hotel Adriatic)

Kotizacija se plaća na temelju Prijave za MIPRO 2022. Prijava se vrši on-line preko portala www.mipro.hr ili putem e-maila mipro@mipro.hr. OIB/porezni broj udruge je 67645105540. Sudionici iz Hrvatske plaćaju u kunama (HRK) po srednjem tečaju Hrvatske narodne banke na dan uplate na IBAN MIPRO-a **HR9824020061100139672** kod Erste & Steiermärkische Bank d.d. Rijeka s naznakom "ime i prezime osobe za koju se uplaćuje + kratica odabranog događaja".

Kotizacija uključuje:

- zbornik radova skupa MIPRO 2022 na digitalnom mediju
- konferencijski materijal
- svečani program (plenarni rad) s koktelom u srijedu 25.05.2022. s početkom od 20:00 do 22:00 sata (Grand Hotel Adriatic)

Uplate se, kao i prijave, rade za svaku osobu pojedinačno. Budući da banka u izvodu dostavlja MIPRO-u samo uplaćeni iznos, molimo vas da nam e-mailom ili faksom pošaljete kopiju o obavljenoj uplati.

VAŽNO!

Sudionici plenarnih tema, okruglog stola, radionica i pratećih aktivnosti, koji nisu registrirani putem seminara ili savjetovanja, obavezni su se po dolasku registrirati na Prijemnom uredu MIPRO, gdje će dobiti bedževe i sve potrebne informacije. Nošenje bedževa je obavezno u svim prostorima odvijanja aktivnosti MIPRO-a. Osobe bez bedževa nemaju pravo pristupa niti jednom događaju.

**MIPRO 2022 certificate of attendance is being issued upon request.
MIPRO izdaje potvrde obveznicima stručnog usavršavanja na njihov zahtjev.**

02. GENERAL EVENTS

ZAJEDNIČKI DOGAĐAJI ZA SVE SUDIONIKE



FORMAL OPENING · SVEČANO OTVARANJE

(Formal Opening, Plenary session and Plenary presentations will be simultaneously translated)

EN

HR

25.05.22. 10⁰⁰-13⁰⁰ Congress Hall · Kongresna dvorana, Grand hotel Adriatic

Event managers · **Voditelji:** Barbara Kolar & Zorislav Šojat

Opening Addresses of Sponsors, Patrons and Guests

Pozdravne riječi sponzora, pokrovitelja i gostiju

ANNOUNCEMENT OF PLENARY KEYNOTE LECTURES · NAJAVA PLENARNIH ISTAKNUTIH PREDAVANJA

- **Blockchain Technology in Smart Digital Ecosystems**
Tuan Trinh (European Institute of Innovation & Technology - EIT Digital, Brussels, Belgium)
- **European Blockchain Partnership - Recent Developments towards More Resilient and Sustainable Europe**
Nena Dokuzov (Ministry of Economic Development and Technology, Republic of Slovenia, Ljubljana)

PANEL DISCUSSION · PANEL RASPRAVA

- **Smart and Green Croatia - How to Achieve it?**
Pametna i zelena Hrvatska - kako je ostvariti?
Organizers · Organizatori: MIPRO and Končar Electrical Industry
Moderator: Mladen Perkov (Končar Electrical Industry, Zagreb)
Participants · Sudionici: Hrvoje Balen, Nena Dokuzov, Božidar Poldrugač, Velimir Srića, Tuan Trinh, Slavko Vidović, Ernest Vlačić

About Discussion · O raspravi:

In the past economic growth was based on the consumption of natural resources as if they were unlimited. The consequence is the current crisis of primary sources with the threat of shortage of raw materials and rising prices. Today, more and more states and businesses are turning to other models of the economy, according to which new value can be created without destroying the environment. There is a growing need to move towards green economy – through smart resource management, the use of environmentally friendly economic instruments, support for innovative projects, more effective energy, water and waste management, policies and efforts to develop sustainable consumption and production. Such activities represent the pursuit of green transformation.

Dosadašnji gospodarski rast odnosio se prema potrošnji prirodnih resursa kao da su neograničeni. Posljedica toga je sadašnja kriza prirodnih (primarnih) resursa (izvora) uz prijatnu nestašicu sirovina i sve veće cijene. Danas se sve više društava/država i ekonomista okreće drugim modelima gospodarstva, prema kojima se može stvarati bez uništavanja okoliša. Postoji sve veća potreba za prijelazom na zeleno gospodarstvo – kroz napredno upravljanje resursima, korištenje ekonomskih instrumenata koji pogoduju zaštiti okoliša, podržavanje inovativnih projekata, provođenje učinkovitije politike upravljanja energetikom, vodama i otpadom te ulaganje napora u razvoj održive potrošnje i proizvodnje. Takve aktivnosti predstavljaju težnju za zelenom transformacijom.

PLENARY KEYNOTE LECTURES AND PRESENTATIONS · PLENARNA ISTAKNUTA PREDAVANJA I PREZENTACIJE

25.05.22. 15⁰⁰-19³⁰ Congress Hall · Kongresna dvorana, Grand hotel Adriatic

PLENARY KEYNOTE LECTURES · PLENARNA ISTAKNUTA PREDAVANJA

15:00-15:15 Tuan Trinh (European Institute of Innovation & Technology - EIT Digital, Brussels, Belgium)

Blockchain Technology in Smart Digital Ecosystems

15:15-15:30 Nena Dokuzov (Ministry of Economic Development and Technology, Republic of Slovenia, Ljubljana)

European Blockchain Partnership - Recent Developments towards More Resilient and Sustainable Europe

PLENARY PRESENTATIONS · PLENARNE PREZENTACIJE

15:30-15:45 Tadej Slapnik (Tolar io, Slovenske Konjice, Slovenia)

Distributed Open Metaverse and NFTs for Industry & Businesses

15:45-16:00 Velimir Srića (Faculty of Economics and Business, Zagreb)

Social Innovation - a Driver of Industry 5.0

16:00-16:15 Drago Cmur (CAD/CAM Design Centar d.o.o., Zagreb)

Facing the Industry 5.0: Production Modeling and Digital Twins
Nadomak Industrije 5.0: modeliranje proizvodnje i digitalni blizanci

16:15-16:30 15 minute break / pauza 15 min

16:30-17:00 Domagoj Šarić (Croatian Chamber of Economy, Center for Innovation and EU Projects, Zagreb), Tomislav Bronzin (Citius and Croatian Chamber of Economy, IT Association, Zagreb)

Digital and Creative Society in the New Smart Specialization Strategy
Digitalno i kreativno društvo u novoj Strategiji pametne specijalizacije

17:00-17:15 Aleksandar Roksandić (King ICT d.o.o., Zagreb)

INUKING - Interoperability of Critical Infrastructure Subsystems in Cloud Environment

17:15-17:30 Ivan Šeparović (Siemens Energy d.o.o., Zagreb)

SINCRO-GRID Advanced Network Project
Projekt naprednih mreža SINCRO-GRID

17:30-17:45 Vjekoslav Diklić (dSpace Engineering d.o.o., Zagreb)

Vehicle and Traffic Simulation with dSPACE Tools
Simulacija vozila i prometa dSPACE alatima

WORKSHOP · RADIONICA

18:00-19:30 **Afterwork sa Srićom** (vidi str. 17)

FREE ACCESS · SLOBODAN PRISTUP



Notice: Simultaneous translation will be provided via an additional ZOOM channel. For this purpose, participants are asked to bring their own earphones.

Napomena: Simultani prijevod će se osigurati preko posebnog ZOOM kanala. U tu svrhu mole se sudionici da ponesu svoje slušalice.

03. PANEL OKRUGLI STOL



GDPR

4 GODINE PRIMJENE GDPR-A: JESMO LI SIGURNI?

HR

25.05.22. 14⁰⁰-15³⁰

Hall · Dvorana Camelia 2, Grand Hotel Adriatic

Organizatori: MIPRO i GDPR Croatia

Kontakt: Igor Barlek, GDPR@biconsult.hr (GDPR Croatia)

Uvodničari: Predstavnici AZOP-a, referentni profesionalci u području zaštite podataka i informacijske sigurnosti, službenici za zaštitu podataka iz poslovnog svijeta

Tema okruglog stola: Uz pregled stanja u Hrvatskoj i svijetu na 4. obljetnicu početka pune primjene GDPR-a kroz otvorenu diskusiju sudionici panela prenijet će svoje poglede i iskustva u izazovima u području informacijske sigurnosti, općeprisutnih cyber prijetnji i osiguranja usklađenosti organizacija unatoč sve intenzivnijim izazovima post-COVID današnjice.

The workshop will be held in Croatian.

FREE ACCESS · SLOBODAN PRISTUP

25.05.22. 8⁰⁰-10⁰⁰ PM
Grand Hotel Adriatic

**COCKTAIL FOR
PARTICIPANTS
AND GUESTS**

25.05.22. 20⁰⁰-22⁰⁰ sata
Grand hotel Adriatic

**KOKTEL ZA SUDIONIKE,
GOSTE I UZVANIKE**



04. WORKSHOPS

RADIONICE



RAB

BLOCKCHAIN AND CRYPTOCURRENCY IN SMART ECOSYSTEMS
BLOCKCHAIN I KRIPTOVALUTE U PAMETNIM EKOSUSTAVIMA

EN

23.05.22. 09 ⁰⁰ -12 ⁴⁵	14 ⁰⁰ -20 ⁰⁰	Hall · Dvorana Camelia 2, Grand Hotel Adriatic
23.05.22. 14 ⁰⁰ -17 ⁰⁰		Hall · Dvorana Collegium, Grand Hotel Adriatic

Organizers: MIPRO, Moon Code and Base58

Contact: Josip Maričević, josip.maricevic@tolar.io (Moon Code d.o.o., Zagreb, Croatia)

Chairs: Josip Maričević (Moon Code d.o.o., Zagreb, Croatia), Marko Vukobratović (Base58 d.o.o., Osijek, Croatia)

About: The workshop aims to intensify the application of Blockchain technology in EU and strengthen the development of the application and process of building a pilot blockchain infrastructure (CroBSI) as part of the EU EBSI partnership.

Target audience: It is intended for advanced economic entities that wish to contribute to the development of innovative applications in new circumstances and opportunities related to the circular economy and beyond.

All participants will be able to get involved in this initiative and in a joint symbiosis with the participants in the organization of MIPRO to launch a new wave of high-tech creativity for faster growth in the market. Interested institutions, economic entities and individuals are expected at this technologically advanced tutorial.

Program:

09:00-09:15	Welcome Note
09:15-10:45	FinTech (R)Evolution 101 Lucija Župan, Ivan Ostheimer (Base58 d.o.o., Osijek, Croatia)
10:45-11:15	Coffee break and Q&A session
11:15-12:45	First generation Blockchain - printf("Hello Bitcoin") Goran Horvat (Base58 d.o.o., Osijek, Croatia)
12:45-14:00	Lunch break

General track		Developers track	
14:00-15:30	Bitcoin and Energy consumption in PoW systems Marko Vukobratović (Base58 d.o.o., Osijek, Croatia)	14:00-14:45	Technical Introduction to Blockchain Josip Maričević (Moon Code d.o.o., Zagreb, Croatia)
15:30-17:00	CODOS - Next generation Blockchain Luca Kern, Luka Đurović (Codos Foundation, Zug, Switzerland)	14:45-15:15	Break and Q&A session
		15:15-17:00	Hands-on: Smart contract development Igor Jerković, Josip Maričević (Moon Code d.o.o., Zagreb, Croatia)

17:00-20:00 - Blockchain lounge and discussion

The workshop will be held in English.



23.05.22. 10⁰⁰-13⁰⁰ 14⁰⁰-17⁰⁰
24.05.22. 10⁰⁰-13⁰⁰ 14⁰⁰-17⁰⁰

Hall · Dvorana Bellavista, Grand Hotel Adriatic

Organizatori: MIPRO i Computer Controls

Kontakt: Robert Brekalo, robert.brekalo@ccontrols.hr (Computer Controls d.o.o., Zagreb)

Voditelji: Robert Brekalo, Matija Marković (Computer Controls d.o.o., Zagreb)

O radionici: Na radionici će biti predstavljeni novi trendovi s područja projektiranja i proizvodnje u elektronici. Bit će prikazana svojstva i mogućnosti najnovijih programskih alata za profesionalno elektroničko projektiranje.

Prezentacije i seminarske vježbe održat će se na PC računalima za sljedeće proizvode:

- Altium Designer – popularni programski paket za projektiranje u elektronici: SCHEMATIC, VHDL, SPICE SIMULATOR, PLD, FPGA, PCB, SIGNAL INTEGRITY, SITUS TOPOLOGICAL AUTOROUTER, CAMTASTIC
- TASKING – C/C++ /EC++ kompileri za niz DSP-a, 8-, 16-, i 32-bitnih procesora/kontrolera, alati za debugiranje, integracija sa RTOS i TCP/IP rješenjima...
- Maxim Integrated, Silicon Labs, Alliance... - nova tehnološka dostignuća vodećih svjetskih proizvođača integriranih elektroničkih komponentata.

Predavanja će popratiti praktičan rad na računalima, gdje će polaznici biti vođeni stručnjacima za specifična područja i to:

- hijerarhijsko projektiranje i izrada električne sheme
- analiza oblika signala – analogno-digitalna simulacija
- VHDL projektiranje, CPLD i FPGA optimizacija
- automatsko postavljanje i povezivanje elektroničkih veza
- optimizacija električnih veza
- priprema za proizvodnju tiskanih pločica
- EMC analiza (integritet signala, refleksija, preslušavanje)
- pravila za optimalno analogno projektiranje
- izrada potrebne dokumentacije
- primjena elektroničkih komponentata visoke integracije

Kome je radionica namijenjena: Radionica je namijenjena svima koji žele unaprijediti svoje znanje, upoznati mogućnosti najnovijih vrhunskih programskih paketa, te dobiti kvalitetnu edukaciju, što će im omogućiti brži i uspješniji budući rad.

Oprema: Sva predavanja i vježbe izvode se na PC računalima

Materijali: Zbornik, tiskane materijale i CD-e s primjerima izradit će Computer Controls i dobit će ih polaznici seminara.

The workshop will be held in Croatian.

**SPD****RAZVOJ PAMETNOG PROIZVODA KROZ DIGITALNI EKOSUSTAV PAMETNE INDUSTRIJE****HR****24.05.22. 11⁰⁰-13⁰⁰****Hall · Dvorana Camelia 1, Grand Hotel Adriatic****Organizatori:** MIPRO i InfoDom**Kontakt:** Slavko Vidović, slavko.vidovic@infodom.eu (InfoDom d.o.o., Zagreb, Croatia)**Voditelj:** Slavko Vidović, Goran Marković (InfoDom d.o.o., Zagreb, Croatia)

O radionici: Cilj ove radionice je predstaviti generičku arhitekturu pametnih proizvoda, koja predstavlja najvažnije postignuće pametne industrije. Pametni proizvodi mogu bitno ubrzati industrijsku tranziciju prema onome što danas zovemo Pametna industrija 5.0 (Smart Industry 5.0).

Digitalni ekosustavi s pripadnim virtualnim zajednicama predstavljaju nove forme organiziranja izvan samih organizacija (poduzeća i javnih institucija), kroz koje se na principima suradnje stvaraju nove vrijednosti i zajednička dobrobit.

U današnjem dinamičkom i konkurentnom okruženju organizacije moraju preuzeti aktivnu ulogu i biti sposobne brzo se prilagoditi kako na tehnološke promjene tako i na sve druge promjene unutar svog okruženja.

Na taj način i gospodarski subjekti i javna uprava, kao i akademska zajednica povećavaju svoj relacijski kapital da bi ostvarili svoje misije, vizije i strateške ciljeve. Kompanije, kao i druge organizacije, kroz suradnju žele biti što inovativnije jer su svjesne da pojedinačno ne mogu stvoriti dovoljno inovacija da zadovolje potrebe tržišta. Pri tome se oslanjaju na mrežu partnera i komplementara iz svog ekosustava kako bi, po principima Otvorenih inovacija (Open Innovation), bili što inovativniji. Četvrta industrijska revolucija (4IR), kao posljedica tehnoloških promjena i ubrzanog globalnog razvoja, iznjedrila je koncept Pametne industrije (Smart Industry - SI) kao novi strateški okvir za razvoj gospodarstva, uz nepobitnu i nužnu potrebu suradnje s vladom i akademskom zajednicom. Koncept pametnog proizvoda se sastoji od tri digitalne platforme: izvršne platforme, platforme za upravljanje uslugama (na bazi digitalnih blizanaca) i platforme digitalne tvornice (Digital Factory Platform), što u naravi predstavlja platformu za razvoj softvera i podatkovno inženjerstvo.

Metodologija razvoja pametnog proizvoda ima PLM integracijsku metodologiju te tri specifične metodologije za digitalne platforme.

The workshop will be held in Croatian.**FI5.0****USUSRET INDUSTRIJI 5.0 - STRATEGIJA, METODE I NAJBOLJE PRAKSE****HR****24.05.22. 14⁰⁰-18⁰⁰****Hall · Dvorana Camelia 1, Grand Hotel Adriatic****Organizatori:** MIPRO i CADCAM Group**Kontakt:** Drago Cmkuk, drago.cmkuk@cadcam-group.eu (CADCAM Group, Zagreb)**Voditelj radionice:** Drago Cmkuk (CADCAM Group, Zagreb)

O radionici: Cilj radionice je upoznati vlasnike, direktore i voditelje u proizvodnim tvrtkama s izazovima Industrije 5.0. te ih oduševiti dinamikom i mogućnostima digitalnog svijeta. Naučenim principima i konkretnim rješenjima koje će upoznati moći će nadahnuti vlastiti tim stručnjaka i malim, ali promišljenim koracima pobjeđivati na putu ka digitalnoj izvrsnosti. U digitalnom dobu nove tehnologije nemilosrdno disruptiraju tržište i uobičajeno poslovanje postaje oksimoron. Digitalne tehnologije danas su pristupačne, jeftinije nego ikad i otvaraju brojne mogućnosti u poslovanju pa su samim time izvor konkurentne prednosti za sve koji ih ispravno koriste. Iskustvo predavača, strateški pristup i metode koje će biti predstavljene primjenjive su na svaku vrstu poslovanja, a posebice na proizvodnju.

Najbolje prakse i vodeća rješenja koja oni razvijaju i implementiraju omogućuju tvrtkama da osvoje (i zadrže) vodeću poziciju na tržištu u kojem djeluju. U sklopu radionice predstaviti će se nekoliko konkretnih primjera Industrije 5.0, kao vodeće industrije u regiji.

Preliminarni program:

1. *Vizija Industrije 5.0* – Drago Cmuk, EMBA
2. *Digitalne platforme – nova generacija PLM sustava* – Inđa Balagić, PMP
3. *Digital Twins for Plant Layout and Optimisation* – Damiano Nardo
4. *Overdrive – najbrži put do pametne tvornice* - Drago Cmuk, EMBA
5. *Napredno planiranje proizvodnje* – Krunoslav Glavač
6. *Napredna rješenja za integraciju električnog i mehaničkog 3D dizajna* – Zlatko Šimunec

The workshop will be held in Croatian.



AWS

AFTERWORK SA SRIĆOM: IZAZOVI UPRAVLJANJA PROMJENAMA I INOVACIJAMA U POST-COVID SVIJETU

HR

25.05.22. 18⁰⁰-19³⁰

Congress Hall · Kongresna dvorana, Grand Hotel Adriatic

Organizatori: MIPRO i Srića Consulting

Kontakt: info@velimirsrica.com; ana@velimirsrica.com; <https://www.velimirsrica.com/>

Voditelj: Velimir Srića (Srića Consulting, Zagreb)

O radionici: Afterwork sa Srićom već 10 godina privlači menadžere, poduzetnike, stručnjake i političare koji rade na sebi i teže osobnom napretku. Menadžment mnogih informatičkih i drugih tvrtki koristio je Afterwork sa Srićom kao platformu za razvoj menadžerskih i liderskih vještina, na primjer Ericsson Nikola Tesla, mStart, Infodom, Infobip, In2, Metronet, Vipnet, A1, RIS, Imaves, Omega Software, T-Com, PeveX, dm, INA, HEP, Končar, Podravka, Tisak i Orbico ... Radionicu na ovu temu voditelj je izložio na eWorld Marketing Summitu 2021, najvećoj svjetskoj online konferenciji u organizaciji Kotler Impacta. Radionica je temeljena na najnovijoj voditeljevoj knjizi „From Crisis to Strategic Harmony“ kojoj je predgovor napisao Philip Kotler, otac modernog marketinga (<https://empowerus.world/>).

Predviđeni rezultati: Bolje sagledati aktualne izazove upravljanja promjenama i inovacijama, usporediti svoje osobne i organizacijske ciljeve i prioritete sa svjetskim trendovima, unaprijediti vještine bavljenja promjenama.

Kome je radionica namijenjena: Poduzetnicima, startuperima, informatičkim profesionalcima, menadžerima i svima koje zanima razumijevanje trendova i ključne dileme upravljanja promjenama i inovacijama.

Program:

Prvi dio radionice namijenjen je sagledavanju glavnih svjetskih trendova i izazova, od digitalne transformacije do pandemije i rata u Ukrajini, uz naglasak na problemima vrijednosti i organizacijske kulture. Drugi dio radionice bavi se menadžerskim i liderskim pristupima krizi i načinima na koje inovacije i uspješno upravljanje promjenama donose uspjeh pojedincima, timovima i čitavim organizacijama.

The workshop will be held in Croatian.

FREE ACCESS · SLOBODAN PRISTUP

05. LIFELONG EDUCATION – TUTORIAL CJELOŽIVOTNO OBRAZOVANJE – SEMINAR



HEP

INFORMATION AND COMMUNICATION TECHNOLOGY IN THE ELECTRIC POWER SECTOR
INFORMACIJSKA I KOMUNIKACIJSKA TEHNOLOGIJA U ELEKTROPRIVREDNOJ DJELATNOSTI

HR

24.05.22. 09³⁰-12³⁰ 15³⁰-19⁰⁰

Hall · Dvorana Camelia 2, Grand Hotel Adriatic

CHAIRS · VODITELJI

Vitomir Komen, vitomir.komen@hep.hr (HEP-ODS d.o.o., Rijeka, Hrvatska), **Ivan Periša** (HEP-ODS d.o.o., Zagreb, Hrvatska), **Renato Ćučić** (HEP-ODS d.o.o., Zagreb, Hrvatska)

THEMATIC FRAMEWORK · TEMATSKI OKVIR

- napredne tehnologije, spremnici energije, mikromreže, fleksibilna trošila, energetska
- učinkovitost
- informacijska integracija elektroprivredne organizacije
- informacijska i komunikacijska tehnologija (ICT) u vođenju elektroenergetskog sustava
- IP tehnologija i informacijski sustavi u elektroprivredi
- komunikacije u sustavima upravljanja
- nova rješenja i standardi za SCADA, EMS, DTS i DMS programske sustave
- sekundarni sustavi u elektroenergetskim objektima
- sigurnost sustava procesne informatike
- sustavi namijenjeni vođenju tržišta električne energije



IRP-ZT

GREEN TRANSITION OF THE POWER SYSTEM – R&D PROJECTS
ZELENA TRANZICIJA ELEKTROENERGETSKOG SUSTAVA - ISTRAŽIVAČKO RAZVOJNI PROJEKTI

HR

23.05.22. 10⁰⁰-13⁰⁰ 15⁰⁰-18⁰⁰

Hall · Dvorana Camelia 1, Grand Hotel Adriatic

CHAIRS · VODITELJI

Dubravko Sabolić, dubravko.sabolic@hops.hr (HOPS d.d., Zagreb), **Hrvoje Pandžić**, hrvoje.pandzic@fer.hr (Fakultet elektrotehnike i računarstva, Zagreb), **Antun Andrić**, antun.andric@hops.hr (HOPS d.d., Zagreb)

ABOUT TUTORIAL · O SEMINARU

Seminar je namijenjen prvenstveno polaznicima iz poduzeća i ustanova zahvaćenih procesima deregulacije sektora elektroenergetike odnosno zelene tranzicije energetskega sektora.

Zelena tranzicija energetskega sustava uzrokuje rapidno ozelenjivanje proizvodnog dijela elektroenergetskog sustava te opću elektrifikaciju prometnog te ostalih sektora. Na djelu je ubrzana integracija europskih tržišta energije, što podrazumijeva i upravljanja zagušenjima te uravnoteženje sustava, sve s ciljem ubrzanja tranzicije te efikasnijeg korištenja resursa. S druge strane, težnje ka ostvarivanju sustava s distribuiranom proizvodnjom i posljedično uvođenje novih sudionika na tržištima električne energije, gdje praktički svako kućanstvo može postati aktivan sudionik tržišta, umjesto da bude, kao do sad, samo pasivni potrošač, kao i poslovnih modela, stavlja sve sudionike u zelenoj tranziciji pa tako i operatore sustava pred velike izazove u razdoblju koje je pred nama. Posljedično, vezano na izazove, operatori sustava, akademska zajednica i industrijski partneri, pripremaju se za izazove budućnosti kroz razne istraživačko razvojne projekte. Na ovom seminaru prezentirat će se projekti iz okvira Horizon 2020:

- CROSSBOW - „CROSS Border management of variable renewable energies and storage units enabling a transnational Wholesale market“ s ciljem demonstracije mogućnosti prekograničnog upravljanja nestalnom energijom obnovljivih izvora i spremnicima energije

- FLEXGRID – „A novel smart grid architecture that facilitates high RES penetration through innovative markets towards efficient interaction between advanced electricity grid management and intelligent stakeholders“ s ciljem razvoja tržišnog mjesta fleksibilnosti za elektroenergetski sustav budućnosti što se razmatra iz perspektive tržišnog sudionika kao i tradicionalnih elektroenergetskih subjekata poput operatora sustava
- FACROSS – „Facilitating Regional CROSS-border Electricity Transmission through Innovation“ s ciljem povećanja opteretivosti te bolje iskoristivosti prekograničnih kapaciteta s ciljem unaprjeđenja tržišta za unutardnevni i dan-unaprijed vremenski okvir
- ATTEST – „Advanced Tools Towards cost-efficient dEcarbonization of future reliable power SysTems“ s ciljem istraživanja i demonstracije koordinacije prijenosnog i distribucijskog sustava u vidu zajedničkog planiranja i vođenja prijenosne i distribucijske mreže

PRELIMINARY PROGRAM · PRELIMINARNI PROGRAM

- 10:00-11:30 **Projekt CROSSBOW**
Matej Krpan (Fakultet elektrotehnike i računarstva, Zagreb), Antun Andrić (Hrvatski operator prijenosnog sustava d.d., Zagreb)
- 11:30-13:00 **Projekt FLEXGRID**
Matea Pavić (Hrvatski operator prijenosnog sustava d.d., Zagreb), Hrvoje Pandžić, Hrvoje Badanjak (Fakultet elektrotehnike i računarstva, Zagreb)
- 13:00-15:00 Pauza za ručak
- 15:00-16:30 **Projekt FARCROSS**
Ivan Pavić, Tomislav Capuder (Fakultet elektrotehnike i računarstva, Zagreb), Ivan Ubrekić, Krešimir Mesić (Hrvatski operator prijenosnog sustava d.d., Zagreb)
- 16:30-18:00 **Projekt ATTEST**
Mirna Gržanić, Karlo Šepetanc (Inovacijski centar Nikola Tesla; Fakultet elektrotehnike i računarstva, Zagreb), Dajana Vrbičić Tenđera (Hrvatski operator prijenosnog sustava d.d., Zagreb)

(Manje izmjene u redoslijedu predavanja i sastavu predavača su moguće).

06. CONFERENCES SAVJETOVANJA



Accepted papers will be published in the ISBN registered conference proceedings. Presented papers in English will be submitted for inclusion in the IEEE Xplore Digital Library. After being published on IEEE Xplore they are going to be indexed in Scopus and Compendex.

Prihvaćeni radovi bit će objavljeni u zborniku radova s ISBN brojem. Prezentirani radovi na engleskom jeziku bit će poslani za uključenje u digitalnu bazu IEEE Xplore. Nakon objave u bazi IEEE Xplore, radovi se naknadno indeksiraju u bazama Scopus i Compendex.

Prema Ministarstvu znanosti i obrazovanja RH i Matičnom odboru za područje elektrotehnike i računarstva, radovi na konferencijama pisani na engleskom jeziku i razvrstani u kategoriju znanstvenih radova priznaju se u postupku izbora u znanstveno nastavna zvanja.

Note: The exact schedule of paper presentations will be published on MIPRO web pages.

Važno: Točan raspored predavanja bit će objavljen na portalu MIPRO.



SIDE

SMART INDUSTRIES AND DIGITAL ECOSYSTEMS
PAMETNA INDUSTRIJA I DIGITALNI EKOSUSTAVI



25.05.22. 15⁰⁰-17⁴⁵
26.05.22. 09⁰⁰-13⁰⁰, 15⁰⁰-19⁰⁰

Congress Hall · Kongresna dvorana
Grand Hotel Adriatic



CHAIRS · VODITELJI

Neven Vrčec, nvrcek@foi.unizg.hr (University of Zagreb, Varaždin, Croatia), **Karolj Skala** (Ruđer Bošković Institute, Zagreb, Croatia)

STEERING COMMITTEE · VODITELJSTVO

Darinko Bago (Croatian Exporters Association, Zagreb, Croatia), **Hrvoje Balen** (Algebra University College, Zagreb, Croatia), **Vladimir Olujić** (Storm Computers, Zagreb, Croatia), **Nedjeljko Perić** (University of Zagreb, Croatia), **Tadej Slapnik** (Hashnet, Slovenske Konjice, Slovenia), **Marija Ščulac Domac** (Croatian Chamber of Economy, Zagreb, Croatia), **Ivan Vidaković** (Infodom, Zagreb, Croatia), **Slavko Vidović** (Infodom, Zagreb, Croatia), **Ernest Vlačić** (Algebra University College, Zagreb, Croatia)

PROGRAM COMMITTEE · PROGRAMSKI ODBOR

Zoran Aralica (Institute of Economics, Zagreb, Croatia), **Tadej Bajd** (University of Ljubljana, Slovenia), **Ante Bakić** (Inetec, Lučko, Croatia), **Boris Blumenschein** (Ilba, Zagreb, Croatia), **Vesna Bosilj Vukšić** (University of Zagreb, Croatia), **Darko Bosnar** (Infodom, Zagreb, Croatia), **Ricardo Branco** (Portugal), **Bojan Jerbić** (University of Zagreb, Croatia), **Zlatko Katalenić** (Robotics, Novo mesto, Slovenia), **Igor Kotenko** (St. Petersburg Institute for Informatics and Automation, Russia), **Zdenko Kovačić** (University of Zagreb, Croatia), **Danica Kragić Jensfelt** (KTH, Royal Institute of Technology, Stockholm, Sweden), **Jadran Lenarčič** (Jožef Stefan Institute, Ljubljana, Slovenia), **Goran Marković** (Infodom, Zagreb, Croatia), **Mladen Mrvelj** (Infodom, Zagreb, Croatia), **Duc Truong Pham** (University of Birmingham, UK), **Vincenzo Piuri** (University of Milan, Italy), **Ioan Sacala** (University of Bucharest, Romania), **Bruno Siciliano** (University of Naples Federico II, Italy), **Mario Spremić** (University of Zagreb, Croatia), **Matija Srbić** (University of Zagreb, Croatia), **Uroš Janez Stanič** (Biomedical Research Institute - BRIS, Ljubljana, Slovenia), **Nebojša Stojčić** (University of Dubrovnik, Croatia), **Zorislav Šojat** (Ruđer Bošković Institute, Zagreb, Croatia), **Marija Šutina** (Croatian Chamber of Economy, Zagreb, Croatia), **Marko Švaco** (University of Zagreb, Croatia), **Domen Verdnik** (Infodom, Zagreb, Croatia), **Marko Vidović** (Infodom, Zagreb, Croatia)

1. I. Cvitanović (Agenor automatika d.o.o. Zagreb, Croatia), M. Seder (Innovation Centre Nikola Tesla, Zagreb, Croatia)
Autonomna izgradnja topologije industrijskih prostora za automatski vođena vozila
2. M. Radovan, B. Tomaš, N. Vrček (Faculty of Organization and Informatics, Varaždin, Croatia)
Intelligent Road Traffic Solutions and Technologies – A Research Field
3. B. Memić, S. Čaušević, A. Hasković Džubur, M. Begović (Faculty of Traffic and Communications, Sarajevo, Bosnia and Herzegovina)
Green IoT in Terms of System Approach
4. J. Babić, M. Bilić, I. Kovač (KONČAR - Electrical Engineering Institute Ltd., Zagreb, Croatia)
Safety Vest System for Human-Robot Collaboration
5. A. Bochem (University of Goettingen, Institute for Computer Science, Germany), A. Abugabab (Zayed University, College of Technological Innovation, Abu Dhabi, United Arab Emirates), A. Al Smadi (Xidian University, School of Artificial Intelligence, China)
Smart RFID Application in Health Care: Using RFID Technology for Smart Inventory and Logistic Systems in Hospitals
6. S. Friesen, T. Runzheimer, J.T. Milde (Fulda University of Applied Sciences, Germany)
A VR Based Mobile Usability Lab to Study Multi Modal Human Robot Communication
7. D. Bačnar (Faculty of Engineering, Rijeka, Croatia), L. Leytner (University of Angers, Polytech Angers, France), N. Stojković, J. Lerga (Faculty of Engineering, Rijeka, Croatia)
An Insight into Communication Technologies Utilized in Smart Metering Systems
8. L. Budin, I. Duilo, M. Delimar (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Day-ahead Multiple Households Load Forecasting Using Deep Learning and Unsupervised Clustering
9. L. Župan, I. Ostheimer, F. Horvat, M. Vukobratović (Base58, Osijek, Croatia)
Small Energy Prosumer Revenue Diversification with ASIC Hardware
10. Z. Tabak (Elektroprivreda HZ HB, Mostar, Bosnia and Herzegovina), H. Keko, S. Sučić (KONČAR - Digital Ltd., Zagreb, Croatia)
Semantically Interoperable Data Models for Cyberphysical Hydro Power Plant Security
11. L. Luttenberger Marić, H. Keko, S. Sučić (KONČAR - Digital Ltd., Zagreb, Croatia)
Semantic Alignment in Monitoring and Verification of Energy Savings Achieved by Demand Response Flexibility Programs
12. J. Héjrová, J. Bučko, E. Exenberger (Faculty of Economics, Košice, Slovakia)
Disaggregation Technology as a Facilitator of Desired Behavioral Change. Case of Energy Efficiency in Slovakia
13. B. Bijelić, M. Hercog, G. Horvat, I. Ostheimer, M. Vukobratović (Base58, Osijek, Croatia)
Modeling Energy Aspects of ASIC Hardware for PoW Applications
14. M. Curavić (IT Sistemi, Split, Croatia), Z. Mavretić (eVision, Zagreb, Croatia), I. Duilo, L. Budin, M. Delimar (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Blockchain Application in Digital Platform FieldWork 4 RES Used for Planning and Realization of Renewable Energy Sources Projects
15. I. Ostheimer, G. Horvat, M. Vukobratović, B. Bijelić, Z. Balkić (Base58, Osijek, Croatia)
PoW Blockchain Infrastructure as a Novel Approach to Power System Balancing
16. I. Ostheimer, L. Župan, G. Horvat, M. Vukobratović, Z. Balkić (Base58, Osijek, Croatia)
Energy to Digital Asset Conversion as a Business Model for Complex Energy Systems
17. L. Matulin, A. Hrga, T. Capuder (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
The Development and Implementation of a Microgrid SCADA System Simulator
18. M. Odak, J. Stegić, I. Erceg, D. Sumina, Ž. Rendulić, E. Topčagić (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Thermal Simulation Analysis of Control Cabinet Connection Technology Using Laminated Conductors
19. G. Marković (Faculty of Organization and Informatics, Varaždin, Croatia), S. Sučić (KONČAR - Digital Ltd., Zagreb, Croatia), Z. Tabak (JP Elektroprivreda HZ HB d.d., Mostar, Bosnia and Herzegovina)

Capabilities for Platform Ecosystem Adoption: the Case of Industrial Incumbent Company

20. Z. Šojat, K. Skala (Ruđer Bošković Institute, Zagreb, Croatia)

Threats and Consequences of Non-Smart Industry: Quo vadimus? Quo vademus?



MEET

MICROELECTRONICS, ELECTRONICS AND ELECTRONIC TECHNOLOGY
MIKROELEKTRONIKA, ELEKTRONIKA I ELEKTRONIČKA TEHNOLOGIJA

EN

26.05.22. 09⁰⁰-13⁰⁰ 15⁰⁰-19⁰⁰

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INVITED LECTURE · POZVANO PREDAVANJE

Mindaugas Lukosius (IHP - Leibniz Institute for High Performance Microelectronics, Frankfurt (Oder), Germany)

Graphene Research in 200 mm CMOS Pilot Line

PAPERS · RADOVI

1. B. Požar, I. Berdalović, F. Bogdanović, L. Marković, T. Suligoj (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Layout-Dependent Noise Performance of Single-Photon Avalanche Diodes in 180 nm High-Voltage CMOS Technology
2. M. Matić, T. Župančić, M. Poljak (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Parallelized *Ab Initio* Quantum Transport Simulation of Nanoscale Bismuthene Devices
3. M. Poljak, M. Matić, I. Prevarić, K. Japec (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Bandstructure and Transport Properties of Semiconducting Gallenene Nanoribbons
4. M. Bendra, S. Fiorentini, J. Ender (Christian Doppler Laboratory for Nonvolatile Magnetoresistive Memory and Logic, Wien, Austria), R.L. de Orio (Institute for Microelectronics, Wien, Austria), T. Hadáček, W.J. Loch, N.P. Jørstad (Christian Doppler Laboratory for Nonvolatile Magnetoresistive Memory and Logic, Wien, Austria), S. Selberherr (Institute for Microelectronics, Wien, Austria), W. Goes (Silvaco Europe Ltd., Cambridge, United Kingdom), V. Sverdlov (Christian Doppler Laboratory for Nonvolatile Magnetoresistive Memory and Logic, Wien, Austria)
Spin-Transfer Torques in Ultra-Scaled MRAM Cells
5. V.A. Kuznetsov, A.A. Fedorov, E.N. Tkachev (Novosibirsk State Technical University, Department of Semiconductors and Microelectronics, Russia), B.C. Kholkhoev, V.F. Burdukovskii (Baikal Institute of Nature Management, Ulan-Ude, Russia)
Composites of Polybenzimidazole with SWCNTs – Temperature Dependences of Resistance
6. D. Vinko, D. Bilandžija, L. Filipović (Faculty of Electrical Engineering, Computer Science and Information Technology, Osijek, Croatia)
Drawbacks of Step Response Method for Detection of Foreign Metal Objects in

Wireless Power Transfer System

7. D. Arbet, M. Kovač, D. Maljar, L. Nagy, V. Stopjakova (Institute of Electronics and Photonics, Bratislava, Slovakia)
High Power Supply Rejection LDO Regulator for Switching Applications
8. J. Mikulić, G. Schatzberger (ams-OSRAM AG, Premstaetten, Austria), A. Barić (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Delay and Offset Compensated Relaxation Oscillator Core with Replica Integrator
9. A. Žamboki, L. Gočan (Faculty of Electrical Engineering and Computing, Zagreb, Croatia), N. Bako, J. Mikulić, G. Schatzberger (ams-OSRAM AG, Premstaetten, Austria), A. Barić (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Low-Power Frequency-Locked Loop Circuit with Short Settling Time
10. A. Traživuk, A. Barić (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
1-MHz Voltage-Controlled Ring Oscillator Designed in 180-nm CMOS Technology for Implementation in Phase-Locked Loop
11. J. Kandrata, I. Skeledžija, A. Barić (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Voltage Regulation in an Integrated Controller of a Spread-Spectrum-Clocked Buck Converter
12. D. Tokić, D. Jurišić (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
High-Precision Fractional-Order Integrator for Generating Pink Noise from White Noise
13. M. Golubić, J. Kandrata, I. Skeledžija (Faculty of Electrical Engineering and Computing, Zagreb, Croatia), D. Ciaglia, N. Pages, J. Fellner (ams-OSRAM AG, Premstaetten, Austria), A. Barić (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Automated Testing of Arm Cortex Based SoC with I3C Interface and Temperature Sensor
14. I. Đurek, S. Grubeša, M. Suhanek, I. Leniček (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Comparison of New and Fast-Aged MEMS Microphones
15. R. Jõemaa, M. Grosberg, T. Rang, T. Pardy (Tallinn University of Technology, Estonia)
Low-Cost, Portable Dual-Channel Pressure Pump for Droplet Microfluidics
16. T. Đuran, S. Tvorčić, V. Šimović (Zagreb University of Applied Sciences, Croatia)
Comparison of Efficiency Level for Induction Motor with Dahlander Winding in Direct on Line and via Frequency Converter Drive Connection
17. R. Babojelić, B. Vilić Belina, Š. Ileš, J. Matuško (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
FPGA Implementation of Set-based Model Predictive Control
18. K. Raič Raguž, M. Miletić, V. Zeleničić, D. Sumina, I. Erceg (Faculty of Electrical Engineering and Computing, Zagreb, Croatia), Ž. Nastasić (Databox Ltd., Zagreb, Croatia)
Analysis of Current Harmonics in Data Center Power System

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INVITED LECTURES · POZVANA PREDAVANJA

Vedran Kojić, Mario Bohač, Luka Pavić, Krešimir Salamon, Krunoslav Juračić, Andreja Gajović (Ruđer Bošković Institute, Zagreb, Croatia)

Perovskite Solar Cells; Perovskite Material Stabilization by Additives and Influence on Photovoltaic Performance

Giovanni Cantatore (University of Trieste, INFN Sezione di Trieste, Italy)

Exploring Short Range Interactions at Micron Scale with Advanced-KWISP

PAPERS · RADOVI

1. A. Aiello (Max Planck Institute for the Science of Light, Erlangen, Germany)
The Electric Field of a Single Photon
2. N. Kralj, S.A. Saarinen, E. Langman, Y. Tsaturyan, A. Schliesser (Center for Hybrid and Quantum Networks, Niels Bohr Institute, University of Copenhagen, Denmark)
Optically Cooling a Room-Temperature Nanomechanical Membrane Resonator Close to Its Quantum Ground State
3. M. Peranić, M. Lončarić, A. Radman, M. Stipčević (Center of Excellence for Advanced Materials and Sensing Devices, Ruđer Bošković Institute, Zagreb, Croatia)
Quantum Communication Experiments with Entangled Photon Pairs
4. D. Čakara (University of Rijeka, Centre for Micro-and Nanosciences and Technologies, and Department of Biotechnology, Croatia), P. Ritzert, D. Boyaciyan, R. von Klitzing (Technical University Darmstadt, Department of Physics, Condensed Matter Physics, Soft Matter at Interfaces, Darmstadt, Germany)
Dielectric Function of a Polymer Brush Functionalized with Gold Nanoparticles Determined from Spectroscopic Ellipsometry
5. S.S. Kohne Poushi, H. Mahmoudi, M. Hofbauer A. Dervić, H. Zimmermann (Institute of Electrodynamics, Microwave and Circuit Engineering, Vienna University of Technology, Austria)
Photodetection Characterization of SPADs Fabricated in 0.35µm PIN Photodiode and High Voltage CMOS Technologies
6. A. Arena (Faculty of Physics, Rijeka, Croatia, and University of Trieste, INFN Sezione di Trieste, Italy), G. Cantatore (University of Trieste, INFN Sezione di Trieste, Italy), M. Karuza (Faculty of Physics, Rijeka, Croatia, and University of Trieste, INFN Sezione di Trieste, Italy)
Digital Holographic Interferometry for Particle Detector Diagnostic
7. V. Vujnović, D. Jardas, Marin Karuza (Faculty of Physics, Centre for Micro-and Nanosciences and Technologies, Rijeka, Croatia)
Optical Sensing with Dichroic Resonator

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INVITED LECTURE · POZVANO PREDAVANJE

Veljko Milutinovic (Indiana University in Bloomington, United States)
Supercomputing on a Chip for Machine Learning

PAPERS · RADOVI

DATA SCIENCE

1. M. Rot, A. Rashkovska (Jožef Stefan Institute, Ljubljana, Slovenia)
Meshless Method Stencil Evaluation with Machine Learning
2. F. Strniša, M. Jančič, G. Kosec (Jožef Stefan Institute, Ljubljana, Slovenia)
A Meshless Solution of a Small-Strain Plasticity Problem
3. G. Kosec, V. Cvrtila (Jožef Stefan Institute, Ljubljana, Slovenia)
Reconstruction of Surfaces Given by Point Clouds
4. B. Rojc, M. Depolli (Jožef Stefan Institute, Ljubljana, Slovenia)
Polyp: A Parallel Spatial Indexing for Domain Discretization
5. M. Jančič, G. Kosec (Jožef Stefan Institute, Ljubljana, Slovenia)
Stability Analysis of RBF-FD and WLS Based Local Strong Form Meshless Methods on Scattered Nodes

6. A. Bavec, M. Depolli (Jožef Stefan Institute, Ljubljana, Slovenia)
Alpine Glacier Simulation with Linear Climate Models
7. M. Riedel, M. Book (Jülich Supercomputing Centre, Forschungszentrum Jülich, Germany), H. Neukirchen (School of Engineering and Natural Sciences, Reykjavik, Iceland), G. Cavallaro, A. Lintermann (Jülich Supercomputing Centre, Forschungszentrum Jülich, Germany)
Practice and Experience Using High Performance Computing and Quantum Computing to Speed-up Data Science Methods in Scientific Applications
8. A. Naumoski, G. Mirceva, K. Mitreski (Faculty of Computers Science and Engineering, Skopje, North Macedonia)
Implication of Hamcher T-norm on Two FuzzyRough Rule Induction Algorithms
9. N. Mijić, D. Davidović (Ruđer Bošković Institute, Zagreb, Croatia)
Batched Matrix Operations on Distributed GPUs with Application in Theoretical Physics
10. M. Turalija, M. Petrović, B. Kovačić (Faculty of Informatics and Digital Technologies, Rijeka, Croatia)
Towards General-Purpose Long-Timescale Molecular Dynamics Simulation on Exascale Supercomputers with Data Processing Units
11. M. Petrović, A. Hrelja, A. Meštrović (Faculty of Informatics and Digital Technologies, Rijeka, Croatia)
Prediction of COVID-19 Tweeting: Classification Based on Graph Neural Networks
12. T. Pavlov, G. Mirceva (Faculty of Computer Science and Engineering, Skopje, North Macedonia)
COVID-19 Fake News Detection
13. A. Trpin, B.M. Boshkoska (Faculty of Information studies, Novo mesto, Slovenia)
Face Recognition with a Hyperbolic Metric Classification Model
14. K. Ljubičić (Privredna banka Zagreb, Croatia), A. Merćep, Z. Kostanjčar (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Analysis of Complex Customer Networks: A Real-World Banking Example

BIOMEDICAL ENGINEERING

1. E. Carmegren (Mälardalen University, Dependable Aerospace Systems, Västerås, Sweden), E. Åstrand, I. Tomasic (Mälardalen University, Intelligent Future Technologies, Västerås, Sweden)
Dependability Evaluation of an Online Pupillometry-based Feedback System for Optimized Training
2. Z. Wang, Z. Nagy, Z. Juhasz (University of Pannonia, Veszprem, Hungary)
On the Benefits of Empirical Mode Decomposition in Spatio-Temporal EEG Analysis
3. L. Klaić, A. Stanešić, M. Cifrek (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Numerical Modelling of Multi-Layered Capacitive Electrodes for Biomedical Signals Measurement
4. S. Tudjarski, A. Stankovski, M. Gusev (Faculty of Computer Science and Engineering, Skopje, North Macedonia)
Detecting Ventricular Beats with Machine Learning Models
5. M. Gusev (Faculty of Computer Science and Engineering, Skopje, North Macedonia)
Detection of Premature Heartbeats
6. E. Merdjanovska, A. Rashkovska (Jožef Stefan Institute, Ljubljana, Slovenia)
Benchmarking Deep Learning Methods for Arrhythmia Detection
7. I. Kuzmanov, A. Madevska Bogdanova, M. Kostoska, N. Ackovska (Faculty of Computer Science and Engineering, Skopje, North Macedonia)
Fast Cuffless Blood Pressure Classification with ECG and PPG Signals Using CNN-LSTM Models in Emergency Medicine
8. C. Barakat, S. Fritsch (Jülich Supercomputing Centre, Forschungszentrum Jülich, Germany), K. Sharafutdinov (Joint Research Centre for Computational Biomedicine, RWTH Aachen, Germany), G. Ingólfsson (School of Engineering and Natural Sciences, Reykjavik, Iceland), A. Schuppert (Joint Research Centre for Computational Biomedicine, RWTH Aachen, Germany), S. Brynjólfsson, M. Riedel (School of Engineering and Natural Sciences, Reykjavik, Iceland)
Lessons Learned on Using High-Performance Computing and Data Science M2ethods towards Understanding the Acute Respiratory Distress Syndrome (ARDS)

9. R. Fonseca-Pinto, F. Ferreira, J. Alves (ciTechCare – Center for Innovative Care and Health Technology, Polytechnic of Leiria, Portugal), F. Januário, A. Antunes (CHL – Centro Hospitalar de Leiria, Portugal)
Impact of the COVID-19 Pandemic on Adherence to Exercise Prescription: The Case of Cardiac Rehabilitation Programs
10. B. Thaman, T. Cao, N. Caporusso (Northern Kentucky University, Department of Computer Science, Highland Heights, United States)
Efficient Face Mask Detection Using MediaPipe Facemesh
11. H. Zeb Khan, M. Munawar Iqbal (University of Engineering and Technology, Taxila, Pakistan)
Genomic Variant Analysis of COVID-19 Genomes by Variant Transforms
12. A. Jovanović (J.J. Strossmayer University of Osijek, Department of Mathematics, Croatia), I. Alqassem (Gene Center, Ludwig-Maximilians-University Munich, Germany), N. Chappell (Mono Ltd., Osijek, Croatia), S. Canzar (Gene Center, Ludwig-Maximilians-University Munich, Germany), D. Matijević (J.J. Strossmayer University of Osijek, Department of Mathematics, Croatia)
Predicting RNA Splicing Branchpoints
13. S.G. Pereira, J. Verdugo (ciTechCare - Center for Innovative Care and Health Technology, Polytechnic of Leiria, Portugal), R. Fonseca-Pinto (Institute of Telecommunications, Leiria, Portugal)
Rapid Antimicrobial Susceptibility Testing Using Laser Speckle Technology
14. M. Tislér (Óbuda University, BioTech Research Center, Budapest, Hungary), M. Kozlowszky (John von Neumann Faculty of Informatics, Budapest, Hungary)
Detection of Postural Abnormalities with IMU Based Sensor



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Mario Kušek (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
IoT Field: Networked Devices and Big Data Processing for the Digitalization of Agriculture in the Republic of Croatia

Andrej Grgurić (Ericsson Nikola Tesla, Zagreb, Croatia)
IoT for Active and Healthy Ageing

INTERNET OF EVERYTHING AND SMART SOCIETY CONCEPT

1. L. Fetahu, A. Maraj, A. Havolli (Telecom of Kosovo, Prishtina, Kosovo)
Internet of Things (IoT) Benefits, Future Perspective, and Implementation Challenges
2. N. Kasunić (Zagreb University of Applied Sciences, Croatia)
Overview of the Progress of IPv6 Adoption in Croatia
3. C.V. Phung, M. Bensalem, A. Jukan (Institute for Computer and Network Engineering, Braunschweig, Germany)
Benchmarking Buffer Size in IoT Devices Deploying REST HTTP
4. L. Vukonić, M. Tomić (Faculty of Engineering, Rijeka, Croatia)
Ultrasonic Sensors in IoT Applications
5. I. Heđi, E. Cirković (Virovitica University of Applied Sciences, Croatia), O. Jukić (Consultem Ltd., Slatina, Croatia)
Improving City Infrastructure Resilience Capacity: Resilience Management Guidelines in Mobile Network
6. D. Selimović, A. Salkanović, M. Tomić (Faculty of Engineering, Rijeka, Croatia)
Application of MQTT Based Message Brokers for IoT Devices within Smart City Solutions
7. S. Hadžović, L. Bećirspahić, H. Omeragić (Internet Society in Bosnia and Herzegovina, Sarajevo, Bosnia and Herzegovina)
ICT Accessibility for Persons with Disabilities

5G MOBILE NETWORKS AND BEYOND

1. T.B. Iliev (University of Ruse "Angel Kanchev", Department of Telecommunication, Bulgaria), G.Y. Mihaylov (University of Telecommunications and Post, Department of Telecommunications, Sofia, Bulgaria), I.S. Stoyanov (University of Ruse "Angel Kanchev", Department of Electrical and Power Engineering, Bulgaria), I.R. Penkov (University of Ruse "Angel Kanchev", Department of Telecommunication, Bulgaria), I.H. Beloev (University of Ruse "Angel Kanchev", Department of Transport, Ruse, Bulgaria)
Planning and Deployment of 5G Radio-Relay Line
2. J. Balen (Faculty of Electrical Engineering, Computer Science and Information Technology Osijek, Croatia), B. Tomašić (Mbanq, Osijek, Croatia), K. Semialjac (Faculty of Electrical Engineering, Computer Science and Information Technology Osijek, Croatia), H. Varga (Roxoft, Osijek, Croatia)
Survey on Using 5G Technology in VANETs
3. A. Havolli (South East European University, Tetovo, North Macedonia), A. Maraj (Telecom of Kosovo, Prishtina, Kosovo), L. Fetahu (South East European University, Tetovo, North Macedonia)
Cloud Radio Access Network for Next Generation Mobile Networks; Practical Implementation Benefits
4. T.B. Iliev (University of Ruse "Angel Kanchev", Department of Telecommunication, Bulgaria), G.Y. Mihaylov (University of Telecommunications and Post, Department of Telecommunications, Sofia, Bulgaria), I.S. Stoyanov (University of Ruse "Angel Kanchev", Department of Electrical and Power Engineering, Bulgaria), I.H. Beloev (University of Ruse "Angel Kanchev", Department of Transport, Ruse, Bulgaria)
Performance Analysis of 5G Radio-Relay Network with Different Nodes
5. M. Bensalem, A. Jukan (Institute for Computer and Network Engineering, Braunschweig, Germany)
Benchmarking Machine Learning Techniques for THz Channel Estimation Problems

REMOTE CONTROL OF UNMANNED AERIAL VEHICLES

1. K. Kainrath, M. Gruber, A. Hinze, H. Fluehr (Institute of Aviation, Graz, Austria), E. Leitgeb (Institute of Microwave and Photonic Engineering, Graz, Austria)
Towards Unmanned Aerial Vehicle UTM-integration Using Mobile Radio Networks
2. J. Benjak, D. Hofman (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
4K Video Coding Efficiency in UAV Systems

NETWORKS MANAGEMENT AND QUALITY OF SERVICE

1. M. Bensalem, J. Dizdarević, A. Jukan (Institute of Computer and Network Engineering, Braunschweig, Germany)
Benchmarking Various ML Solutions in Complex Intent-Based Network Management Systems
2. C.V. Phung (Institute for Computer and Network Engineering, Braunschweig, Germany), C. Herold (Institute Communications Technology, Braunschweig, Germany), D. Humphreys (National Physical Laboratory, Teddington, United Kingdom), T. Kürner (Institute Communications Technology, Braunschweig, Germany), A. Jukan (Institute for Computer and Network Engineering, Braunschweig, Germany)
Performance Analysis of MDPC and RS Codes in Two-Channel THz Communication Systems
3. Z. Ennaceur, A. Engelmann, A. Jukan (Institute for Computer and Network Engineering, Braunschweig, Germany)
Engineering Edge-Cloud Offloading of Big Data for Channel Modelling in THz-Range Communications
4. A. Višković (Energy Platform Living Lab, Zagreb, Croatia), V. Franki (Faculty of Engineering, Rijeka, Croatia), D. Jevtić (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Artificial Intelligence as a Facilitator of the Energy Transition
5. M. Filipašić, M. Dadić (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Analysis and Design of a PCB Probe for Near Field Measurements
6. T. Žitnik, Z. Bosić (Ericsson Nikola Tesla, Zagreb, Croatia)
Operations Wisdom Logging



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Erasmus+ CodelInnova - a New Approach to Teaching Programming in Primary Schools

Marija Brkić Bakarić (Faculty of Informatics and Digital Technologies, Rijeka, Croatia)

MULTIPLIER EVENT - Preparation of Digital Technology and Mobile App and Language Guidance Tool for Other Languages - Croatian

PAPERS · RADOVI

1. D. Kučak, M. Kučak (Algebra University College, Zagreb, Croatia)
Gamification in Computer Programming Education – Systematic Literature Review
2. R. Vrana (Faculty of Humanities and Social Sciences, Zagreb, Croatia)
Discovery and Use of Electronic Information Resources by Higher Education Students during the COVID19 Pandemic
3. A. Papić (Faculty of Humanities and Social Sciences, Osijek, Croatia), J. Jukić (Elementary School Matija Antun Reljković, Cerna, Croatia), T. Škojo (Academy of Arts and Culture in Osijek, Croatia)
Digital Competences of Music Culture Teachers during COVID-19 Pandemic
4. M. Duić (University of Zadar, Department of Information Sciences, Croatia)
Undergraduate and Master's Theses in Open Access at University of Rijeka
5. I. Kaštelan, S. Pijetlović, M. Subotić, N. Pjevalica (Faculty of Technical Sciences, Novi Sad, Serbia)
Online Teaching of Digital Systems during the COVID-19 Pandemic
6. S. Čelosmanović, V. Ljubović (Faculty of Electrical Engineering, Sarajevo, Bosnia and Herzegovina)
JMetricGrader: A Software for Evaluating Student Projects Using Design Object-Oriented Metrics and Neural Networks
7. M. Brkić Bakarić, L. Naćinović Prskalo, V. Slavuj (Faculty of Informatics and Digital Technologies, Rijeka, Croatia)
The LanGoo Project - Strengths and Threats

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What Can Be Learned from the Last Two Years of Pandemic and What Will Be Done when the Pandemic Stops
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Perceived Digital Competence of Primary and Secondary School Teachers - a Pilot Study
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Application of Information Technology in the Teaching of Mathematics when Study of 2D Geometric Shapes

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Od micro:bit-a do humanoidnog robota Pepper-a
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Primjena najnovije IKT u nastavi: mogućnosti i izazovi za upravljanje obrazovnim institucijama
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Projekt u Jupyter Notebooku

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Pravljenje bilježaka tijekom učenja uz pomoć digitalnih obrazovnih sadržaja u visokoškolskom okruženju
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Računalno razmišljanje i tablica množenja



CTS

COMPUTERS IN TECHNICAL SYSTEMS
 RAČUNALA U TEHNIČKIM SUSTAVIMA

EN

26.05.22. 09⁰⁰-13³⁰

Hall · Dvorana Leut II, Hotel Admiral



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Serverless FaaS Scalability Evaluation: An ECG Signal Processing Use Case
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Network Traffic Impact on Cloud Usage at Different Providers
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Serverless Sorting of Large Files: An ECG Use Case
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Monitoring of Plant Growth Using Soil Moisture and Temperature Sensor and Camera
8. J. Zidar, I. Aleksi, T. Matić, D. Žagar (Faculty of Electrical Engineering, Computer Science and Information Technology Osijek, Croatia)
Comparison of Different Acceleration Sensors for Low Power Vibrations and Shock Detection in Supply Chain
9. N. Šare, B. Vuletić Komljen (Zagreb University of Applied Sciences, Croatia), J. Matuško (Faculty of Electrical Engineering and Computing, Zagreb, Croatia), K. Osman (Zagreb University of Applied Sciences, Croatia)

Modelling and Experimental Verification of Device with a Submerged Evaporator for Beer Cooling

10. M. Saari, M. Nurminen, P. Rantanen (Faculty of Information Technology and Communication Sciences, Pori, Finland)

Survey of Component-Based Software Engineering within IoT Development

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Control of Flooded Evaporator in a Beer Dispenser Unit

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Electronic Unit for Controlling the Operation of the Device with a Flooded Evaporator



CIS-AIS

ARTIFICIAL INTELLIGENCE SYSTEMS
SUSTAVI UMJETNE INTELIGENCIJE



26.05.22. 09⁰⁰-13⁰⁰, 15⁰⁰-19⁰⁰
27.05.22. 09⁰⁰-13⁰⁰

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National Language Technology Platform

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Explainable Artificial Intelligence: An Updated Perspective

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Exact Solving Scheduling Problems Accelerated by Graph Neural Networks

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Implicit Boolean Network for Planning Actions

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Optimization Techniques for Image Representation in Visual Place Recognition
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Using Disjunctive Diagrams for Preprocessing of Conjunctive Normal Forms
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Maximizing Accuracy of 2D Gaussian Profile Estimation Using Differential Entropy
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A Machine Learning Approach to Modelling and Simulating the Behaviour of Systems with Deformable Particles
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Towards Intelligent Compiler Optimization
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An Overview of Machine Learning Algorithms for Detecting Phishing Attacks on Electronic Messaging Services
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Spatial Relationship between Schools Population and Book Related Services in Skopje
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To Share or Not to Share? Perceptions of University's Faculty Members Regarding the Sharing of Their Teaching-Related Knowledge
25. A.P. Ivanov, D.A. Orozova (Burgas Free University, Department of Computer Science and Informatics, Bulgaria)
Intelligent Personnel Assistant for Field Researchers
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The Proposed Method of Measuring How Mixed Reality Can Affect the Enhancement of the User Experience
27. M. Horvat (Faculty of Electrical Engineering and Computing, Zagreb, Croatia), A. Stojanović, Ž. Kovačević (Zagreb University of Applied Sciences, Croatia)
An Overview of Common Emotion Models in Computer Systems

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How to Do a Forensic Analysis of Android 11 Artifacts
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Creating Own NFT Token Using erc721 Standard and Solidity Programming Language
4. I. Fosić (HEP-Telekomunikacije, Osijek, Croatia), D. Žagar, K. Grgić (Faculty of Electrical Engineering, Computer Science and Information Technologies Osijek, Croatia)
Network Traffic Verification Based on a Public Dataset for IDS Systems and Machine Learning Classification Algorithms
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A Systematic Literature Review on Using Blockchain Technology in Public Administration
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Analysis of DMARC Implementation in Republic of Croatia
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Detecting Network Applications Using Firewall Logs
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Network Forensics
9. I. Kovačević, B. Štengl, S. Groš (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Systematic Review of Automatic Translation of High-Level Security Policy into Firewall Rules
10. D. Gernhardt (Croatian Military Academy "Dr. Franjo Tuđman", Zagreb, Croatia), S. Groš (Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
Use of a Non-Peer Reviewed Sources in Cyber-Security Scientific Research
11. J.S. Valacich (University of Arizona, Management Information Systems Department, Tucson, United States), J.L. Jenkins (Brigham Young University, Information Systems Department, Provo, United States), D. Čišić (Faculty of Informatics and Digital Technologies, Rijeka, Croatia)
Digital Behavioral Biometrics and Privacy: Methods for Improving Business Processes without Compromising Customer Privacy

24.05.22. 15⁰⁰-18⁰⁰

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Preliminary Analysis of Data Mining Adoption in Italian SMEs Using PLS-SEM Method
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26.05.22. 09⁰⁰-13⁰⁰

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Artificial Intelligence Regulation in Western Balkan Economies
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26.05.22. 14⁰⁰-19⁰⁰

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Characteristics of Learning Outcomes for Integrating Work-Based Learning into the Business Information Technology Study Program
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Internet Driven Dynamic Question Analysis and Response for Engineering
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Embedded Systems Engineering Education Using Cost Effective Pocket Labs Platform
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Using Project-Based Learning in the Course "Databases" on the Topic "Relational Algebra"
17. O. Jukić (Consultem Ltd., Slatina, Croatia), I. Heđi (Virovitica University of Applied Sciences, Croatia)
Održivi ekosustav razvoja IT industrije u Virovitičko-podravskoj županiji

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Context Aware Cloud Based Collaborative Software Development Lifecycle

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A Proposal for Generator for Translations between Franca Interface Definition Language and Android Interface Definition Language
3. M. Velickovska, M. Gusev (Faculty of Computer Science and Engineering, Skopje, North Macedonia)
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One Solution of a Communication Manager for Connecting Advanced Driver Assistance Systems with In-Vehicle Infotainment Systems

MODELLING SYSTEM COMMUNICATION INTERFACES

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Tool-Supported Teaching of UML Diagrams in Software Engineering Education - A Systematic Literature Review
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"Food Computer" – A Demo Platform for Internet of Things Education
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Upravljanje rasvjetom putem detekcije snage WiFi signala mobilnih uređaja

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- P. Mage, K. Krajiček Nikolić (Faculty of Transport and Traffic Sciences, Zagreb, Croatia)
Modeling the Effect of One Engine Inoperative for Bada Flight Performance Model

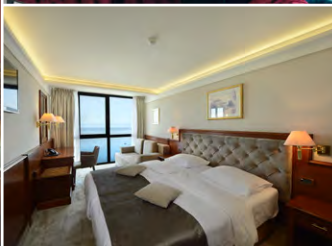
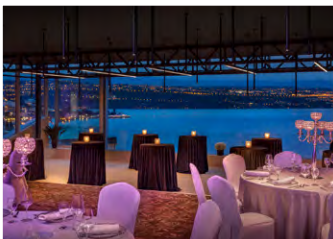
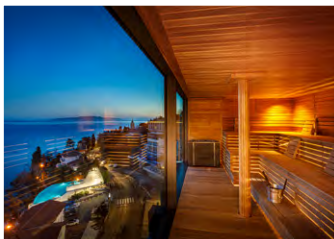
07. EXHIBITION

IZLOŽBA



Exhibition of equipment, services, technical and technological solutions
izložba opreme, usluga i tehničko-tehnoloških rješenja

- 1 HRVATSKA ELEKTROPRIVREDA, Zagreb**
 - Smart city model
 - HEP s iskustvenim kapitalom u energetici i infrastrukturi danas spremno ulaže i razvija ključne komponente budućnosti. Aktivnim pristupom, osim vlastitog ulaganja u ELEN mrežu javnih punionica HEP sudjeluje i u EU sufinanciranim projektima iz istog područja.*
 - U izložbenom prostoru želimo prikazati naš doprinos u području elektrifikacije prometne infrastrukture u kreiranju učinkovitih i održivih gradova. Stvarnost u kojoj se nalazimo ubrzo će tempo promjena u našim gradovima koji se međusobno povezuju, kapitalizirajući nove tehnologije i obilje podataka s ciljem provođenja smart industry modela.*
- 2 HRVATSKA ZAJEDNICA INOVATORA, Zagreb**
 - Predstavljanje Hrvatske zajednice inovatora
- 3 PRACE - Partnership for Advanced Computing Europe**
 - High-Performance Computing (HPC) in Europe: Cooperation Possibilities and Access to Europe's HPC Research Infrastructure,
 - User Support for Science and Industry, SHAPE programme for SMEs,
 - Training & Education Opportunities (Training Centres, International HPC Summer School, Summer of HPC, Online Learning/MOOCs), PRACE Ada Lovelace Award for HPC, PRACE HPC Excellence Award
- 4 MJERNE TEHNOLOGIJE, Zagreb**
 - Mjerni instrumenti i rješenja renomiranih proizvođača:
Keysight Technologies, EXFO, TEMS, ETS-Lindgren, Ixia, VeEX, CUBRO, Sumitomo, Softing, ELEKTRONIKA, TraceSpan, albedo
- 5 IEEE**
 - Promotivni materijal
- 6 BABEG Carinthian Agency for Investment Promotion and Public Shareholding Klagenfurt**
 - Carinthia combines superior expertise, advanced technologies, and an attractive mix of industries with a highly innovative environment. Its R&D rate has been on the rise since 2009. ICT, Electronic Based Systems, Robotics, Sensors, Power electronics & Drone technologies are fields where Carinthia offers a top-notch experience. Leading global companies, such as Infineon Technologies Austria, Intel, Cisc, Lam Research, KapschTrafficCom, or Flextronics International, are vital factors in Carinthia's exceptional technical expertise. Get in touch with us to get more information on business opportunities this southernmost Austrian province has to offer!
- 7 UMKI, Rijeka**
 - HYPEFY Influencer Platform for Businesses - Kompletno influencer marketing rješenje za tvrtke
Potpuno automatizirano obavljamo cijeli proces influencer marketinga:
Nalazimo idealne influencerce, kreiramo psihološki profil kupca, izrađujemo video i grafičke materijale, planiramo i zasebno lansiramo objave svih influencera u optimalno vrijeme za maksimalni doseg i interakciju, kontroliramo kvalitetu i izrađujemo izvještaje.
Akceleriramo znatno veći doseg i angažman po \$ potrošnje u odnosu na tradicionalni plaćeni marketing.



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Prodaja mjerne opreme, najam, izvođenje mjerenja,
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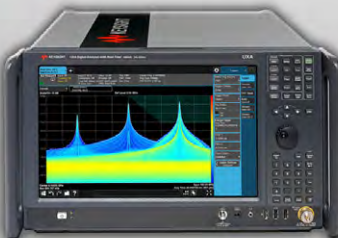
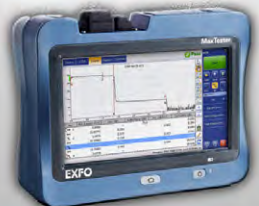
Djelatnici tvrtke su inženjeri s dugogodišnjim
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INFODOM

Napredak pokretan inovacijama

Iskustvo temeljeno na znanju

InfoDom je vodeći ponuđač fleksibilnih digitalnih platformi za javni i privatni sektor koji osigurava postizanje poslovne izvrsnosti i ekonomske održivosti temeljenih na najboljim svjetskim i domaćim standardima. S više od dva desetljeća iskustva, mrežom renomiranih ICT partnera, s odjelom razvoja vlastitih proizvoda i rješenja osigurava ključne kompetencije za buduća tržišna kretanja kojima postižu poslovnu agilnost u okvirima digitalne transformacije.

Sredstvima EU osiguravaju provedbu digitalne transformacije

InfoDom kontinuirano ulaže u razvoj novih proizvoda i usluga te u istraživanja, u sklopu čega su realizirali nekoliko EU financiranih projekata (Razvoj inovativne platforme za digitalnu transformaciju poduzeća, Razvoj novog proizvoda za samoprocjenu regulatorne usklađenosti, procjenu zrelosti i kontroling za područje održive proizvodnje i prerade hrane te CEKOM – Centar kompetencija za digitalnu transformaciju prehrambene industrije na ruralnim područjima).

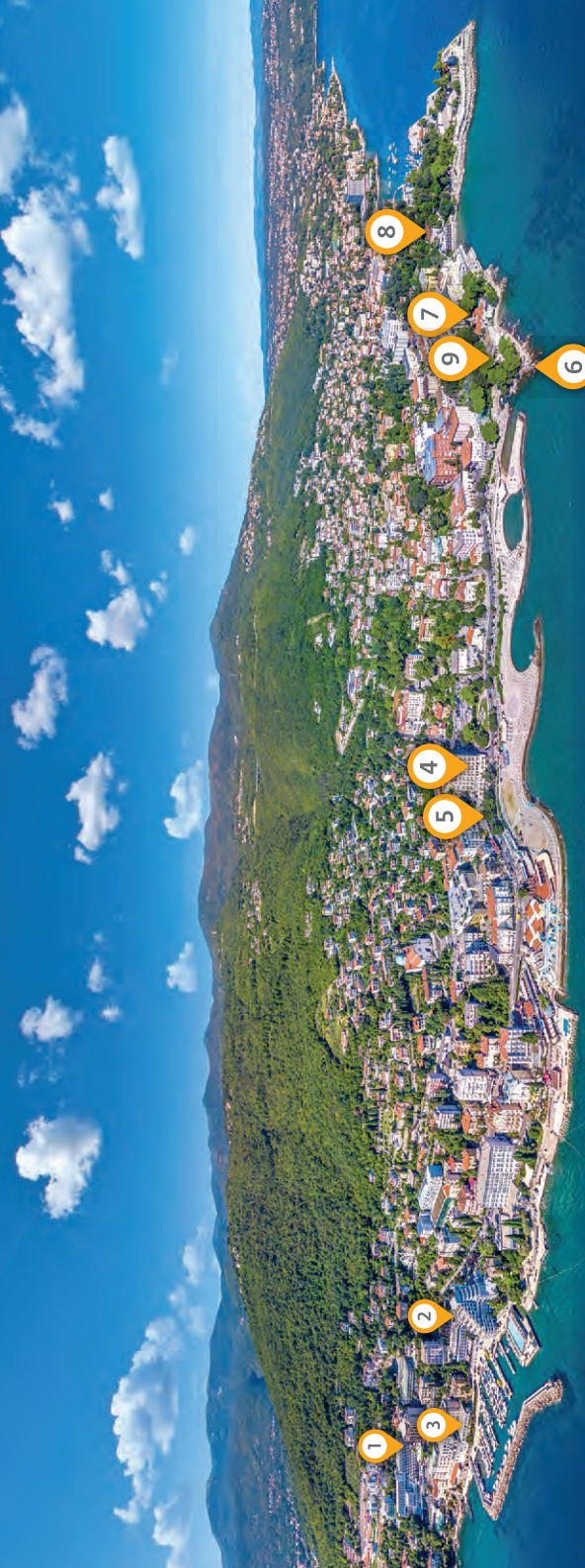
Pogled u budućnost

Strateški razvoj InfoDoma temelji se na iskustvima iz prethodnih razdoblja s jedne strane, i snažnom razumijevanju budućih tehnoloških i poslovnih trendova s druge strane, fokusirajući se na pet područja razvoja: komercijalizaciju proizvoda, usmjerenost na poslovnu izvrsnost, strateška partnerstva, održivost indeksa rasta te stvaranju inkubatora znanja.

Referenti projekti – 250 korisničkih iskustava

U dosadašnjoj praksi InfoDom se ističe referencama iz područja javnog sektora i državne uprave te realnog sektora.





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