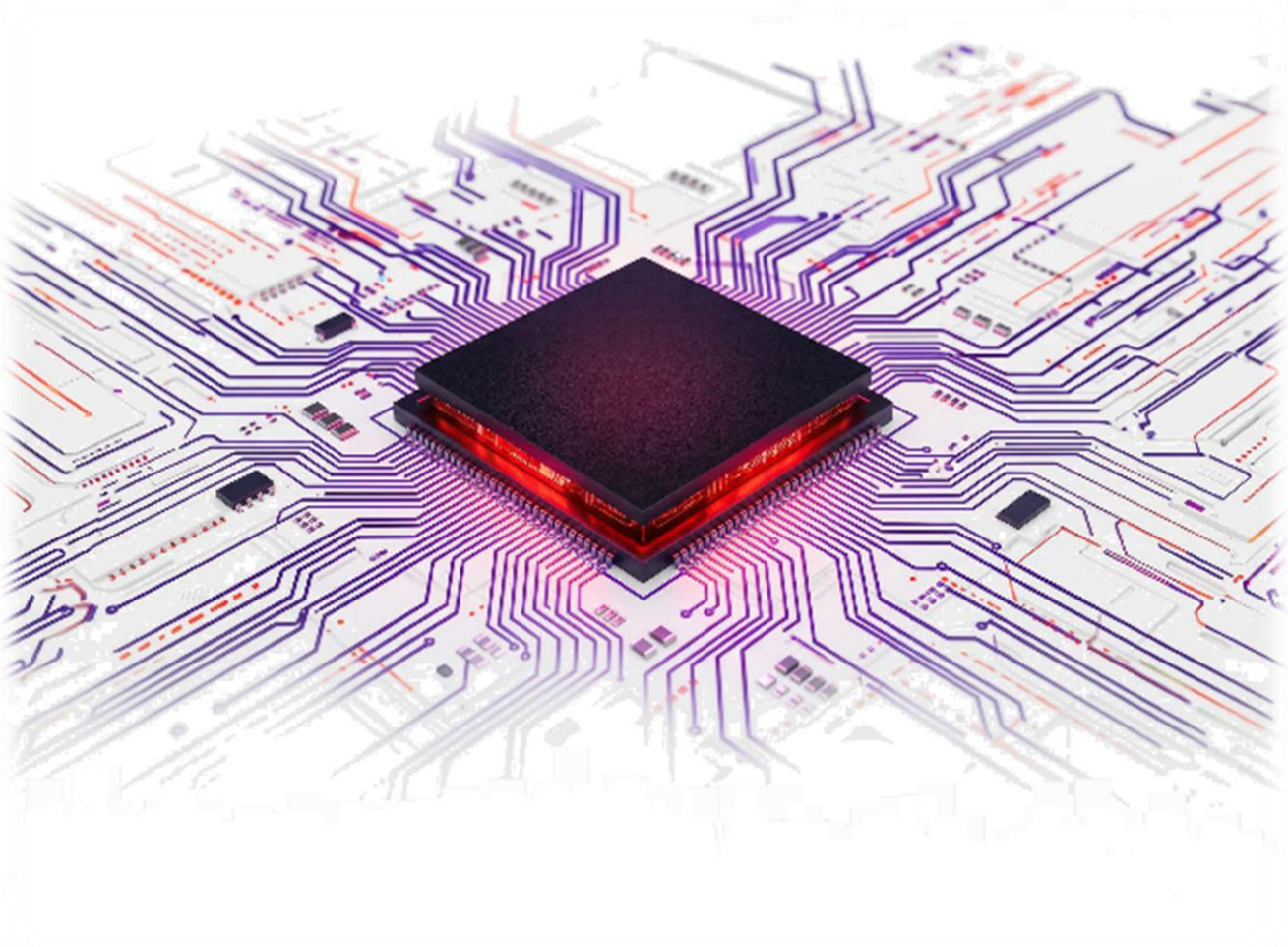
Croatian
Competence Centre
for Semiconductors



CROCCS katalog: Podrška u razvoju rješenja baziranih na poluvodičima v0.3

Co-funded by the European Union

REPUBLIC OF CROATIA
Ministry of Justice, Public Administration and Digital Transformation

The project is supported by the Chips Joint Undertaking and its members (including top-up funding by Ministry of Justice, Public Administration and Digital Transformation)

O katalogu

Hrvatski centar kompetentnosti za poluvodiče – CROCCS – osnovan je u okviru inicijative Chips for Europe, kao dio provedbe Europskog akta o čipovima (Chips Act). Financira se kroz Program Digitalna Europa putem Zajedničkog poduzeća za čipove (Chips JU), u sklopu projekta 101218046 – CROCCS (DIGITAL-Chips-2024-SG-CCC-1), uz nacionalno sufinanciranje. CROCCS je dio Europske mreže centara kompetentnosti za čipove (ENCCC). Njegova je zadaća poduprijeti hrvatski poluvodički ekosustav kroz tri glavne aktivnosti: osposobljavanje i razvoj vještina, podrška u razvoju poluvodičkih rješenja i pristup Europskom poluvodičkom ekosustavu.

Razvoj proizvoda temeljenih na poluvodičima zahtijeva skupu infrastrukturu za projektiranje, procesiranje, ispitivanje i karakterizaciju. Zahtijeva i specijalizirano znanje koje mala i srednja poduzeća rijetko imaju u vlastitim timovima. Zbog visokih početnih ulaganja i neizvjesnog ishoda mnoga poduzeća odgađaju razvoj vlastitih rješenja ili od njega odustaju. CROCCS im omogućuje da laboratorije, opremu i stručnjake svojih članova koriste kao produžetak vlastitog razvojnog tima, od procjene izvedivosti ideje do ispitivanja gotovog proizvoda. Usluge iz ove kategorije imaju nekoliko ciljeva:

- Informiranje i podrška pri pristupu europskoj platformi za projektiranje i pilot-linijama;
- smanjiti rizik i trošak inovacija procjenom spremnosti poduzeća za primjenu poluvodičkih tehnologija i ranim ispitivanjem koncepta prije većih ulaganja (pristup „testiraj prije ulaganja”);
- podržati sveobuhvatno ispitivanje integriranih sklopova i elektroničkih sustava, kako bi proizvodi zadovoljili sve zahtjeve za performanse i pouzdanost;
- osigurati pristup laboratorijskoj infrastrukturi članova CROCCS konzorcija potrebnima za razvoj naprednih poluvodičkih rješenja;
- pružiti podršku u prijenosu znanja i tehnologije, zaštiti intelektualnog vlasništva i komercijalizaciji rezultata, uključujući pripremu za pristup rizičnom kapitalu.

Korisnik može koristiti pojedinačnu uslugu ili kombinaciju usluga više članova konzorcija, a CROCCS koordinira njihovo izvođenje. CROCCS kontinuirano prati potrebe gospodarstva te prema njima prilagođava postojeće usluge i uvodi nove. Za usluge koje nisu pokrivene vlastitom ponudom korisnicima posreduje u pristupu uslugama drugih centara kompetentnosti unutar mreže ENCCC.

Pružatelji usluga razvoja vještina i osposobljavanja su svi članovi konzorcija CROCCS:

- Sveučilište u Zagrebu Fakultet elektrotehnike i računarstva (UNIZG-FER) – koordinator
- Sveučilište Josipa Jurja Strossmayera u Osijeku, Fakultet elektrotehnike, računarstva i informacijskih tehnologija Osijek (FERIT)
- Sveučilište u Splitu, Prirodoslovno-matematički fakultet (PMFST)
- Institut Ruđer Bošković (IRB)
- Institut za fiziku (IF)
- KONČAR – Institut za elektrotehniku d.o.o. (KONČAR)

Ciljane skupine korisnika su mala i srednja poduzeća, startup poduzeća, veća poduzeća, sveučilišta i javne istraživačke organizacije. Uvjeti korištenja i troškovi za pojedine skupine korisnika, sukladno pravilima o državnim potporama, navedeni su u nastavku kataloga.

Usluge iz ovog kataloga MSP-ovima se dodjeljuju kao državne potpore prema Programu dodjele državnih potpora za provedbu aktivnosti Hrvatskog centra kompetentnosti za poluvodiče namijenjenih pružanju usluga poduzetnicima.

Co-funded by the European Union
Chips JU
REPUBLIC OF CROATIA Ministry of Justice, Public Administration and Digital Transformation
The project is supported by the Chips Joint Undertaking and its members (including top-up funding by Ministry of Justice, Public Administration and Digital Transformation)

Procesiranje/Processing

PROCESIRANJE	**Naziv/Name:** Electron beam lithography (EBL) / Micro structuring by optical lithography	**Pružatelj/Provider:**
	Opis/Description: Maskless lithography using an electron beam for drawing custom patterns on devices and designing contacts for measurements / Definition of masks for optical lithography for single- or multi-layer processes; with the use of mask-aligner and supporting equipment (spinner, heater, fume hood) and chemicals, single- or multi-stage micro structuring of thin films.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 1.260 – 2.800 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

PROCESIRANJE	**Naziv/Name:** Deposition of thin films by magnetron sputtering	**Pružatelj/Provider:**
	Opis/Description: Deposition of thin films using magnetron sputtering technology on wafers. Enables preparation of various thin-film materials and coatings including the nanostructured ones (quantum dots, wires, multilayers etc).	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 865 – 1.840 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

PROCESIRANJE	**Naziv/Name:** Ion beam implantation	**Pružatelj/Provider:**
	Opis/Description: Broad or microbeam implantation of elements 1<Z<92 in the different substrates at RT or elevated temperature (up to 800°C). Implantation areas from few um^2 up to cm^2, with fluences up to 10^16 ions/cm^2.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 3.600 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

Co-funded by the European Union
Chips JU
REPUBLIC OF CROATIA Ministry of Justice, Public Administration and Digital Transformation
The project is supported by the Chips Joint Undertaking and its members (including top-up funding by Ministry of Justice, Public Administration and Digital Transformation)

PROCESIRANJE	**Naziv/Name:** Clean room access	**Pružatelj/Provider:**
	Opis/Description: Access to clean room equipment (LPCVD/PECVD deposition of amorphous/crystalline silicon: p/n-doping, MOCVD deposition of ZnO thin films: p/n-doping, DC magnetron sputtering of metals; using mask aligner, photolithography, RCA cleaning, RIE etching, laser wafer cutting, time resolved PL characterization (up to 100 ps)).	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 8.750 EUR (10 h) **Vrsta potpore:** Potpora za inovacije za MSP-ove	

Karakterizacija materijala/Material Characterization

KARAKTERIZACIJA MATERIJALA	**Naziv/Name:** Scanning electron microscopy (SEM) characterizations	**Pružatelj/Provider:**
	Opis/Description: Micro- and nano-imaging of surfaces and chemical characterization by energy dispersion spectroscopy (EDS). Cross-sectional SEM imaging and EDS characterization are also available for the investigation of hybrid structures. SEM imaging and EDS analysis of the deposited semiconductor films and structures including cross section of the prepared devices.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 1.540 – 2.800 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA MATERIJALA	**Naziv/Name:** Atomic force microscopy (AFM)	**Pružatelj/Provider:**
	Opis/Description: Surface characterization of materials and devices on micro/nanoscale with the possibility of determining hardness on the nanoscale.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 1.600 – 1.840 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

Co-funded by the European Union
Chips JU
REPUBLIC OF CROATIA Ministry of Justice, Public Administration and Digital Transformation
The project is supported by the Chips Joint Undertaking and its members (including top-up funding by Ministry of Justice, Public Administration and Digital Transformation)

KARAKTERIZACIJA MATERIJALA	**Naziv/Name:** TOF-ERDA	**Pružatelj/Provider:**
	Opis/Description: Quantitative analysis of thin film samples (~ 400 nm) with flat surfaces, and analysis of depth profiles of elements 1<Z<92, with isotope resolution up to mass 40	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 2.190 EUR (5 samples) **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA MATERIJALA	**Naziv/Name:** RBS and PIXE	**Pružatelj/Provider:**
	Opis/Description: Quantitative analysis of samples by PIXE (Particle Induced X-ray Emissions) and RBS (Rutherford Backscattering Spectroscopy) of basic elements and trace elements 3<z<92, with a beam of 2MeV protons and a beam diameter of 3 to 5 mm, or ~ 1 micrometre dimensions (scan up to 1x1mm^2 area)	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 563 EUR (3 samples) **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA MATERIJALA	**Naziv/Name:** Analysis of materials structure by SAXS and XRR	**Pružatelj/Provider:**
	Opis/Description: Enables determination materials crystalline structure, layer thicknesses, size, shape and arrangement properties of nanostructures within material and similar structural properties	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 516 EUR (2 samples) **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA MATERIJALA		
	Naziv/Name: Measurement of quantum efficiency of materials	**Pružatelj/Provider:**
	Opis/Description: Enables measurement of quantum efficiency of materials (number of generated excitons per single incident photon)	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 798 EUR (2 samples) **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA MATERIJALA		
	Naziv/Name: Micro-Raman spectroscopy characterisations and mapping	**Pružatelj/Provider:**
	Opis/Description: Characterisation of structural properties of semiconductor materials with spatial resolution of 0.5 micrometres including mapping of surface or cross-sections of deposited layers or devices.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 456 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA MATERIJALA		
	Naziv/Name: X-ray diffraction characterisations of very thin semiconductor films	**Pružatelj/Provider:**
	Opis/Description: Characterization of structural properties of semiconductor materials by X-ray diffraction.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 1.783 EUR (2 samples) **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA MATERIJALA		
	Naziv/Name: Low-temperature electroluminescence and photoluminescence	**Pružatelj/Provider:**
	Opis/Description: Measurement of the electroluminescence and photoluminescence of semiconductor materials and devices. Different sample holders are available. Moreover, several lasers for optical excitation covering the Group IV semiconductor devices and wide-bandgap semiconductors (SiC, GaN). The temperature range is from He (ca 10K) up to 500K.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 3.000 EUR (5 samples) **Vrsta potpore:** Potpora za inovacije za MSP-ove	

Co-funded by the European Union
Chips JU
REPUBLIC OF CROATIA Ministry of Justice, Public Administration and Digital Transformation
The project is supported by the Chips Joint Undertaking and its members (including top-up funding by Ministry of Justice, Public Administration and Digital Transformation)

KARAKTERIZACIJA MATERIJALA		
	Naziv/Name: QD PPMS	**Pružatelj/Provider:**
	Opis/Description: Measuring physical properties of materials and devices (electric transport, heat capacity, DC magnetization, torque magnetometer, multifunctional probe) in temperature range 1.9K-400K	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 21.600 EUR (5 samples) **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA MATERIJALA		
	Naziv/Name: Profilometer	**Pružatelj/Provider:**
	Opis/Description: Surface topography measurement system using non-contact, white light interferometry	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 450 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA MATERIJALA		
	Naziv/Name: Transport measurements in specific environment	**Pružatelj/Provider:**
	Opis/Description: Measurements of electron/ion transport in materials, batteries and devices in specific environment (oxygen-free, moisture-free, ionic liquid, etc.)	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 2.800 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

Co-funded by the European Union
Chips JU
REPUBLIC OF CROATIA Ministry of Justice, Public Administration and Digital Transformation
The project is supported by the Chips Joint Undertaking and its members (including top-up funding by Ministry of Justice, Public Administration and Digital Transformation)

KARAKTERIZACIJA MATERIJALA	**Naziv/Name:** Morphological and Neurophysiological Characterizations of In-Vitro Neural Cultures	**Pružatelj/Provider:**
	Opis/Description: Hands-on exercises involve preparing in-vitro neural cultures and performing both morphological assessments (using microscopy and other imaging techniques) and neurophysiological recordings (e.g., electrophysiology, multi-electrode arrays). Participants will analyze the structural and functional characteristics of the cultures and interpret data in the context of neural health, connectivity, and interface compatibility for neuroelectronic applications.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 11.200 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

Karakterizacija elemenata i sklopova/Device Characterization

KARAKTERIZACIJA ELEMENATA I SKLOPOVA	**Naziv/Name:** Complete electrical characterization of wafers and semiconductor devices	**Pružatelj/Provider:**
	Opis/Description: Electrical characterization (current-voltage, voltage-capacitance, etc.) of semiconductor wafers and devices in vacuum (selected temperatures) and room temperature (RT) using the semiconductor parameter analyzer. The available temperature range is from 80 up to 450 K. A set of different cryostats (for semiconductor devices) and probe stations (for wafers) are available. On-wafer characterization of electronic devices or circuits in the frequency range up to 8,5 GHz. Characterization results in S-parameter measurements. Calibration is performed using calibration substrates. DC on-wafer characterization of electronic circuits and devices. DC characteristics are measured using precise source measure units (SMUs).	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 750 – 9.600 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA ELEMENATA I SKLOPOVA	**Naziv/Name:** Analog or digital characterization of ICs	**Pružatelj/Provider:**
	Opis/Description: Versatile characterization of analog integrated circuit using PXI system with high-precision A/D and D/A converters, high-speed pattern generators, SMU and signal generators. Preparation of automated test environment.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 8.000 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA ELEMENATA I SKLOPOVA		
	Naziv/Name: Temperature/heat investigation testing of electronic circuits	**Pružatelj/Provider:**
	Opis/Description: Temperature/heat investigation of integrated circuits, printed circuits boards and other electronics/device systems on a temperature setup using FLIR A6753 camera (from -10C to 350C) and 1x and 5x lenses.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 4.000 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA ELEMENATA I SKLOPOVA		
	Naziv/Name: Basic laboratory measurements in time or frequency domain	**Pružatelj/Provider:**
	Opis/Description: VNA measurements (2-port or 4-port measurement using vector networK analyzer up to 8,5 GHz), TDR/TDT measurements (Characterization is performed using high-speed digital sampling oscilloscope with min. pulse rise time equal to 17,5 ps), TLP measurements (ESD characterization of electronic devices and circuits using Transmission Line Pulse system with minimum pulse duration of 10 ns. Support for test bench design.), DC characterization (PCB-level or electronic equipment DC characterization (SMUs), AC characterization (PCB-level or electronic equipment characterization in the frequency range up to 300 MHz. Characterization results in amplitude and phase frequency characteristics of measured circuit using oscilloscope, AC source and spectrum analyzer)	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 720 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA ELEMENATA I SKLOPOVA		
	Naziv/Name: Power semiconductor commutation testing	**Pružatelj/Provider:**
	Opis/Description: Power semiconductor commutation testing using double-pulse method. Characterization of switching losses of power semiconductor modules or discrete transistors. Characterization of the temperature and gate resistance/voltage dependance of switching loss temperature. Characterization of switching delay time. Verification of gate driver protection functions (desaturation. soft turn-off, voltage clamping, Miller clamping etc.). Verification of switching cell performance in terms of over-voltages at the semiconductor level.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 6.000 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

Co-funded by the European Union
Chips JU
REPUBLIC OF CROATIA Ministry of Justice, Public Administration and Digital Transformation
The project is supported by the Chips Joint Undertaking and its members (including top-up funding by Ministry of Justice, Public Administration and Digital Transformation)

KARAKTERIZACIJA ELEMENATA I SKLOPOVA	**Naziv/Name:** Power converter efficiency measurement	**Pružatelj/Provider:**
	Opis/Description: Measurements of the efficiency of the power converters (<1000 V) up to power of 40 kW in load tests or more in back-to-back testing. Input and output power are measured using precise power analyzer that employs fluxgate current sensors up to 700 Arms. Temperatures of the critical components are measured using RTDs, TCs with thermography of the visible parts of the converter.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 19.200 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA ELEMENATAI SKLOPOVA	**Naziv/Name:** Power quality measurements on grid connected converters	**Pružatelj/Provider:**
	Opis/Description: Measurements of power quality of gird connected power converters for industrial and renewable energy applications. Characterization of harmonic content of voltage and current using high-speed precise power analyzers. Analysis of the impact of power converter switching and power converter control settings to the power quality.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 8.000 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA ELEMENATA I SKLOPOVA	**Naziv/Name:** Reliability testing of electronic circuits	**Pružatelj/Provider:**
	Opis/Description: Temperature characterization of integrated circuits in environmental test chamber. Characterization of temperature characteristic of basic AC or DC parameters of integrated circuits (can be combined with service using PXI system). EMC precompliance testing (TEM cell, IC-Stripline, conducted emission testing on electronic equipment or circuits connected to AC or DC power supplies, DPI method conducted immunity testing)	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 4.000 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

Co-funded by the European Union
Chips JU
REPUBLIC OF CROATIA Ministry of Justice, Public Administration and Digital Transformation
The project is supported by the Chips Joint Undertaking and its members (including top-up funding by Ministry of Justice, Public Administration and Digital Transformation)

KARAKTERIZACIJA ELEMENATA I SKLOPOVA	**Naziv/Name:** Electrical and thermal characterization under extreme conditions	**Pružatelj/Provider:**
	Opis/Description: Measurements of the electrical properties of semiconductor materials and components (voltage-current characteristics, magnetoresistance, Hall coefficient) in a wide temperature (2 K - 400 K) and uniaxial magnetic field range (up to 12.5 T). In addition, the electrical properties can be measured in the zero field up to 600 K, as well as the thermal conductivity of semiconductors and dielectrics.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 9.200 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

KARAKTERIZACIJA ELEMENATA I SKLOPOVA	**Naziv/Name:** Optical characterization of photosensors by means of CW and picosecond pulsed light sources in VIS and NIR ranges.	**Pružatelj/Provider:**
	Opis/Description: The measurements of spectral sensitivity and/or time response of various discrete or integrated photo sensitive devices. Available sources include Xenon lamp, LED sources and various CW and pulsed lasers.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 1.750 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

Testiranje/Testing

TESTIRANJE	**Naziv/Name:** Developmental and type testing in KONCAR's laboratory center	**Pružatelj/Provider:**
	Opis/Description: Tests offered withing this service include developmental and type tests according to following directive: - EMC Directive, - R&TTE Directive, - Low Voltage Directive, - Environmental directives (vibro&shock, climatic); Services include developmental testing of power electronics devices using PHIL test beds	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 6.000 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

Co-funded by the European Union
Chips JU
REPUBLIC OF CROATIA Ministry of Justice, Public Administration and Digital Transformation
The project is supported by the Chips Joint Undertaking and its members (including top-up funding by Ministry of Justice, Public Administration and Digital Transformation)

TESTIRANJE	**Naziv/Name:** EMC analysis	**Pružatelj/Provider:** KONČAR ELECTRICAL ENGINEERING INSTITUTE
	Opis/Description: Activities offered withing this service include: a) system, schematic and layout design reviews, b) electromagnetic and circuit simulations of designs, c) analysis of existing test results and d) definition of test plans for EMC validation	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 1.560 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

TESTIRANJE	**Naziv/Name:** HIL semiconductor testing / power electronics circuits testing	**Pružatelj/Provider:** FERIT, KONČAR ELECTRICAL ENGINEERING INSTITUTE
	Opis/Description: Testing semiconductor components, modules and power electronics circuits using the hardware-in-a-loop approach, or testing that does not require hardware in the loop approach	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 1.230 – 8.000 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

TESTIRANJE	**Naziv/Name:** Semiconductor testing	**Pružatelj/Provider:** FERIT
	Opis/Description: Testing of semiconductor devices, modules and power electronics circuits that does not require a hardware-in-a-loop approach.	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 1.600 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

Co-funded by the European Union
Chips JU
REPUBLIC OF CROATIA Ministry of Justice, Public Administration and Digital Transformation
The project is supported by the Chips Joint Undertaking and its members (including top-up funding by Ministry of Justice, Public Administration and Digital Transformation)

Savjetovanje/Consulting

SAVJETOVANJE	**Naziv/Name:** Consulting	**Pružatelj/Provider:** FER, FERIT, KONČAR ELECTRICAL ENGINEERING INSTITUTE
	Opis/Description: SME consulting on possibilities of various semiconductor technologies, pilot lines, their suitability for design, feasibility assessment. Consulting SME-s on various topics related to the power converter design procedure through the extensive high-fidelity simulations performed by experts in the field. Conduction of power converter electro-thermal simulations. Power converter loss modelling for semiconductor devices and passive components. Cooling systems modelling and simulations. Design of gate drivers and semiconductor protection features. Consultations related to the testing and measuring techniques for various components of the power converter. Facilitating access to venture capital (support in pitch deck preparation, pitch deck review and feedback, fundraising planning and matchmaking). Technology and knowledge transfer support (IPR consulting including commercial potential assessment report)	
	Troškovi za MSP-ove: Intenzitet potpore 100% (besplatno) **Tržišna cijena/Market Price:** 320 – 640 EUR **Vrsta potpore:** Potpora za inovacije za MSP-ove	

Co-funded by the European Union
Chips JU
REPUBLIC OF CROATIA Ministry of Justice, Public Administration and Digital Transformation
The project is supported by the Chips Joint Undertaking and its members (including top-up funding by Ministry of Justice, Public Administration and Digital Transformation)

CROCCS Team

Contact

CROCCS main office:
University of Zagreb Faculty of Electrical Engineering and Computing
Unska 3
10000 Zagreb
croccs@fer.hr

Co-funded by the European Union
Chips JU
REPUBLIC OF CROATIA Ministry of Justice, Public Administration and Digital Transformation

The project is supported by the Chips Joint Undertaking and its members (including top-up funding by Ministry of Justice, Public Administration and Digital Transformation)