



# IMSAS & Horizon Europe

*IMMM, your new R&I partner in Horizon Europe and beyond.*

## About us

Institute of Materials and Machine Mechanics of Slovak Academy of Sciences (IMSAS) was founded by the [Slovak Academy of Sciences](#) in 1953. **The vision of the Institute** is to complete and strengthen its position as an excellent national non-university public research institution, carrying out cutting-edge research in the field of non-ferrous metal materials, opened to new scientific problems and civilizational challenges. The Institute sees its future in an institution that flexibly gains and creatively applies gained knowledge in innovative solutions that bring benefits to society. The mission of the Institute involves three key dimensions:

- **Excellent research** – basic research transferred to the industry needs.
- **Social dimension** – research bringing recognizable benefits to society.
- **Environmental dimension** – research contributing to the world challenges in climate actions.
- **PhD study** – provide cutting edge PhD study supervised by experienced researchers.

## Research areas

- Powder metallurgy of light metals, structural and biomaterials.
- Intermetallic, Ni super-alloys and alloys, complex metallic alloys.
- Materials for hydrogen storage.
- Aluminium foam development.
- Metal matrix composites for high temperature application prepared by gas pressure infiltration.
- Analysis of vibration in the road-vehicle-operator interaction system.

## References

- **Track in EU funded programmes** and national programmes, R&D and other
  - 9 projects implemented across FP5 – Horizon 2020
  - over 15 in other EU programmes – INTERREG, ESA, COST, EAC
  - over 90 research projects implemented on national level – ERDF and other
- **Open to international collaboration**
  - Over 15 international academic research projects implemented with international partners of SAS
- **Providing excellent research**
  - Owner of 20 patents
  - Over 45 publications published worldwide in 2020
  - *Over 750 of highly impacted CC publications and more than 5400 citations since the beginning of IMSAS.*
  - Publisher of scientific journal *Kovové Materiály* – Metallic Materials
- **Providing innovation for industry**
  - Applications developed (Ferrari, Audi, BMW, Hyundai, ...)
  - Material structure characterisation (Auerhammer metallwerk, RHP technologies, ...)
  - Destructive and non-destructive materials testing
  - Casting and heat treatment
  - Simulations and modelling
  - Physical properties measurement



## IMSAS team

Our team consists of 36 researchers, 12 researcher assistants, 12 members of administration support, and 10 technicians and other employees.

## We seek

- New **collaboration opportunities in Horizon Europe** and other international and national programmes
- *New consortia seeking WP leaders or partners in the field of advanced materials, advanced technologies, advanced studies, and others*
- New partners from both the public and private sectors, academia, and industry

## Contact us

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## UMMS Horizon Europe Topic priorities

### Cluster 4

Call title	Description	Action type	Participation
<b>Destination 2 – Increased autonomy in key strategic value chains for resilient industry</b>			
<a href="#">HORIZON-CL4-2022-RESILIENCE-01-11</a>	Advanced lightweight materials for energy efficient structures	RIA	Partner
<a href="#">HORIZON-CL4-2022-RESILIENCE-01-13</a>	Smart and multifunctional biomaterials for health innovations	RIA	Partner
<a href="#">HORIZON-CL4-2022-TWIN-TRANSITION-01-02</a>	Products with complex functional surfaces	RIA	Partner
<a href="#">HORIZON-CL4-2022-RESILIENCE-01-12</a>	Functional multi-material components and structures	RIA	Partner
<a href="#">HORIZON-CL4-2022-RESILIENCE-01-10</a>	Innovative materials for advanced nanoelectronic components and systems	RIA	Partner
<a href="#">HORIZON-CL4-2022-RESILIENCE-01-24</a>	Novel materials for supercapacitor energy storage	RIA	Partner
<a href="#">HORIZON-CL4-2022-RESILIENCE-01-23</a>	Safe- and sustainable-by-design organic and hybrid coatings	RIA	Partner
<a href="#">HORIZON-CL4-2022-DIGITAL-EMERGING-01-20</a>	2D-material-based composites, coatings and foams	IA	Partner
<a href="#">HORIZON-CL4-2022-TWIN-TRANSITION-01-17</a>	Integration of hydrogen for replacing fossil fuels in industrial applications	IA	Partner
<a href="#">HORIZON-CL4-2022-TWIN-TRANSITION-01-10</a>	Circular flows for solid waste in urban environment	IA	Partner
<b>IMSAS Thematic Priorities:</b>	Hydrogen storage		
	Renewable energy		
	New materials		
	Coatings		

In Bratislava, Slovakia, 16/11/2021