

EXPRESSION OF INTEREST FORM

This Expression of Interest (EOI) document has been prepared to enable researchers of Istanbul Technical University (ITU) to be rapidly and effectively included in existing and potential consortia, primarily within the scope of Horizon Europe and other International Programmes.

The information collected through this form will be used by the ITU International Projects Office for the following purposes:

- Matching researchers with ongoing consortium searches,
- Communication with international project partners,
- Targeted invitations and information dissemination for relevant calls.

Contact Person/Scientist in charge <i>(data of the principal investigator of the research group/lab or scientific supervisor)</i>	Name	Rasid Ahmed
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Laboratory /Department /Institute /Centre /	Name	Materials and Manufacturing / Department of Mechanical Engineering
Brief description of the Centre/Research Group <i>(Please provide a brief description of your research group or organisational unit, including research infrastructure, laboratory facilities, team size and industry collaborations.)</i>		<p>The group is located within the Department of Mechanical Engineering at Istanbul Technical University (ITU), specializes in the advanced and conventional manufacturing, mechanical characterization, and damage modeling of different materials. Operating with a dynamic team of ten researchers—comprising professors, senior researchers, PhD and Master students—the group has extensive expertise in predicting damage evolution. Bridging the gap between fundamental academic research and industrial application, the team leverages extensive prior experience with industry.</p> <p>The facilities offer a comprehensive infrastructure covering the entire lifecycle from manufacturing to microstructural characterization. The mechanical testing capabilities are robust, featuring a 50kN Shimadzu universal testing machine with a non-contact video extensometer, a 600kN high-capacity backup system, a dedicated 100kN press for fatigue testing, custom fixtures for different loading types, and comprehensive hardness testing units including Vickers, Rockwell, and micro-Vickers. High-resolution microstructural and fracture surface analyses are supported by an in-house Scanning Electron Microscope (SEM), and optical and stereo microscopes with up to x1000 magnification. Furthermore, the laboratory houses all necessary sample preparation equipment, such as precision cutters, mounting presses, automated grinding and polishing machines, and high-precision scales with density kits for accurate void volume fraction determinations. In addition to these, we have the ability to model the manufacturing processes and mechanical behaviour of the materials using finite element analyses.</p>
	Address	İTÜ Makina Fakültesi, İnönü Caddesi, No. 65, Gümüşsuyu, 34437, Beyoğlu / İstanbul - TÜRKİYE
Research Area <i>(Please provide 5–10 keywords that best describe your research areas and expertise.)</i>		Additive Manufacturing; Damage Modeling; Ductile Fracture; Mechanical Characterization; Finite Element Analysis (FEA); Selective Laser Melting (SLM); Fatigue Behavior; Microstructural Analysis; Metal Forming.
Please list your relevant previous projects, indicating the programme, project name, year and role.		Our team members have numerous projects both national and international funding agencies. We have partners around world including Denmark, France, Lithuania, Spain, UK and Japan. Our team have expertise in NATO, Eurostars and H2020 projects.

<p>Proposed Project Idea or Area of Interest: (If applicable, please briefly outline a concept idea, the problem you aim to address, or your specific area of interest.)</p>	<p>The proposed idea could be on the following: -Damage modelling of additively or conventionally manufactured metallic part. -Manufacturing process simulation -Determination of the mechanical behaviour -Microstructure and mechanical behaviour relation</p>
<p>Potential Contributions to Projects</p>	<p><input checked="" type="checkbox"/> Scientific / technical research <input checked="" type="checkbox"/> Methodology development <input checked="" type="checkbox"/> Modelling / simulation <input checked="" type="checkbox"/> Data analysis / artificial intelligence <input checked="" type="checkbox"/> Experimental studies / testing <input type="checkbox"/> Pilot / demonstration activities <input type="checkbox"/> Socio-economic analysis / policy contribution <input type="checkbox"/> Education, dissemination and impact activities <input type="checkbox"/> Other (please specify):</p>
<p>Preferred Role in Consortia</p>	<p><input checked="" type="checkbox"/> Coordinator <input checked="" type="checkbox"/> Partner</p>
<p>Programmes and Calls of Interest (Please indicate the programme(s) you are interested in and, if possible, specify the call identifier and/or title.)</p>	<p><input checked="" type="checkbox"/> Horizon Europe Clusters <input checked="" type="checkbox"/> Erasmus+ <input checked="" type="checkbox"/> Digital Europe <input type="checkbox"/> EIT (HEI / KIC, etc.) <input checked="" type="checkbox"/> MSCA <input checked="" type="checkbox"/> ERC <input type="checkbox"/> Other (please specify): Specific call identifier and/or title:</p>
<p>Additional Notes (Please provide any additional information or specific remarks you would like to share with the International Projects Office.)</p>	