

JOB TITLE	DC POSITION IN SCARPA DOCTORAL NETWORK - JOINT DOCTORATE
INDIVIDUAL PROJECT TITLE	DC3 - Product design for recycling
HOME INSTITUTION	Alma Mater Studiorum - Università di Bologna (UNIBO)
DEPARTMENT	Department of Civil, Chemical, Environmental, and Materials Engineering (DICAM), Bologna, Italy
POSTAL OFFICE HOME	Via Terracini 28, 40131 Bologna, Italy
MAIN SUPERVISOR AND SCIENTIST IN CHARGE AT UNIBO FOR SCARPA	Prof. Martino Colonna, Department DICAM, UNIBO
CO-SUPERVISOR HOST INSTITUTION	Dr. A. Tischberger-Aldrian MONTANUNIVERSITÄT LEOBEN (MUL), Leoben, Austria
START DATE	November 1st, 2026
DURATION	36 months
REQUIRED DEGREE	A Master's degree (or equivalent) in Chemistry, Industrial Chemistry, Industrial Design, Environmental Engineering, Materials Engineering, Sport Engineering, Chemical Engineering, or related fields. There are strict eligibility rules for the recruitment of Doctoral Candidates in Horizon Europe Marie Skłodowska-Curie Doctoral Network funded projects.
ELIGIBILITY REQUIREMENTS	<u>Career</u> : applicants must be doctoral candidates at the date of recruitment. They must have obtained a degree which formally entitle them to access a doctorate and they must not have already been awarded a doctoral degree. A PhD degree in any fields is not compatible with this DC position. Candidates who have successfully defended their doctoral thesis but who have not yet formally been awarded the doctoral degree will not be considered eligible. <u>Mobility</u> (transnational): transnational mobility is an essential requirement of Marie Skłodowska-Curie Doctoral Networks. Applicants may be of any nationality and any age, but they must not have resided or carried out their main activity (work/study) in Italy for more than 12 months in the 36 months immediately before the recruitment date. <u>Secondments</u> : applicants must be prepared to undertake transnational mobility during the project of up to 11 months.
REQUIRED SKILLS/QUALIFICATIONS	Background in recycling methods across various waste streams, including plastics, foams, rubber, and other materials. Knowledge of shoes design, construction and testing is a significant advantage. Knowledge of design tools and FEM analysis is also an advantage. Interest in collaborating with industry partners to develop eco-sustainable products. Knowledge of LCA analysis is a significant advantage. Excellent communication skills for both research and industrial contexts and creative, open-minded, and able to work independently. Good communication skills in English and ability to understand and express in both written and spoken English are compulsory.
DESCRIPTION	DC3 will initiate design-for-recycle footwear guidelines. This will begin by identifying successful approaches in technical and fashion clothing, sport and safety equipment. A material inventory will be made for different shoe types in collaboration with DC6 and DC3 will develop

	<p>criteria for design testing based on life cycle impact, material recovery rates, and ease of disassembly. This will be combined with an initial workshop with stakeholders (e.g. R&D directors, product managers and designers) to define goals, challenges, and potential design solutions. Design guidelines will be drawn up, based on research findings and stakeholder input, focusing on materials, functionality, recyclability and disassembly potential. With the industrial partners Frasson and Dainese, iterative prototyping will be turned into real product designs.</p>
OBJECTIVES	<p>To develop shoe types with less-complicated structures in terms of the number of materials and their ease of separation by defining design principles for increased circularity in footwear, by analysing the environmental impact of footwear manufacturing and define circular solutions that can be implemented and accepted by stakeholders including customers and by creating awareness on how footwear waste can be turned into new footwear.</p>
PLANNED SECONDMENTS	<p>FRASSON SPA (Italy) for comparing different material design options for footwear materials such as soles (2 months). MONTANUNIVERSITAET LEOBEN (MUL), Austria for interaction of sortability of new footwear prototypes (as sorting is a crucial step in circularity it should be included in design for recycling guidelines) (6 months). RE-SPORT SRL (Italy) for interaction with stakeholders/clients on the new prototypes (3 months).</p>
EMPLOYMENT CONTRACT AND REMUNERATION	<p>The selected candidate will be appointed under a 36-months full-time employment contract with full social security and fiscal coverage, as foreseen by the Italian national legislation.</p> <p>The remuneration will be compliant with the rules of the DN-MSCA, as by the Horizon Europe Marie Skłodowska-Curie Actions Work Programme 2024 “Applicable unit contributions”. The gross amount per year of the salary includes the living allowance (45.858,36€ comprising the country-specific correction coefficient for Italy), the mobility allowance (8.520€) and the family allowance if eligible (7.920€). These gross amounts include all compulsory deductions under national applicable legislation (taxes depend on the country of the host entity).</p>
SPECIFIC DUTIES AND RESPONSIBILITIES OF THE POST	<p>Doctoral candidates do research while being guided by supervisors and at the same time fulfill a PhD training program. The goal is to complete the doctoral education and to obtain a doctoral degree from both UNIBO and MUL University.</p> <p>They will be required to:</p> <ul style="list-style-type: none"> • Attend the project-wide training program with the other DCs candidates and all other project events. • Perform the secondments. • Attend the PhD courses, successfully complete and submit a PhD thesis before the project ends.
EXPECTED PHD DEGREE	<p>PhD degree from both Alma Mater Studiorum - Università di Bologna (Italy) and MONTANUNIVERSITAET LEOBEN (Austria)</p>
HOW TO APPLY - DOCUMENTATION	<p>The applicant should provide the following documentation (please see and complete the ‘Application Form’):</p> <ul style="list-style-type: none"> - The Application Form duly completed;

	<ul style="list-style-type: none"> - Curriculum Vitae including education, work experience, a complete list of publications (if any), relevant other activities and previous scientific experiences; - Letter of motivation, including research interests, reasons for applying for this programme etc., in English; - Copy of university diplomas and study certificates (including the Transcripts of academic records, grades and university courses); - At least one recommendation letter (academic reference), with name and contact details of at least 1 academic referee (employer, supervisor, etc.) in English; - A research proposal (maximum 1000 words articulated as follows: state of the art; goals; methodology; expected results; implementation times; references) outlining the innovative ways in which they will design the research project DC3; - English Language Certificates (if available).
HOW TO APPLY - LINK INDIVIDUAL VACANCY	https://dicam.unibo.it/it/notizie/scarpa-doctoral-network-joint-doctorate-dc3-on-product-design-for-recycling