**Horizon 2020 Marie Skłodowska-Curie Actions  
Partner Search Form - Ireland**

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| **Organisation Details** | *SEAM South Eastern applied Materials Research Centre*  *Waterford, Ireland*  *www.seam.ie* | |
| **Organisation Type** | Academic  Large Enterprise  SME (<250 employees)  Public Research Organisation  Public Body  NGO  Non-Profit  Other *(please specify)* | |
| **Organisation Contact Person** | *Dr. Ramesh Raghavendra*  *rraghavendra@wit.ie* | |
| **Research Field(s)** | Chemistry CHE  Social and Human Sciences SOC  Economic Sciences ECO  Information Science and Engineering ENG  Environment and Geosciences ENV  Life Sciences LIF  Mathematics MAT  Physics PHY | **Keywords:**  Non Destructive Evaluation,  Failure Analysis, Metrology Analysis, Material Characterisation, Containment Identification/Analysis and Mechanical Property Analysis. |
| **Short Description of the Organisation** | SEAM is a research and development facility which provides innovative materials engineering solutions for research and industrial partners from wide ranging sectors such as Biomedical, Pharma, Precision Engineering and Energy. SEAM has a number of niche technologies including *X-ray microtomography*, *White light interferometry*, *Microwave processing* and *Failure analysis* as well as a suite of analytical equipment for traditional analysis techniques. | |
| **Previous Related Research Experience (esp. EU projects)** | Research for the Benefit SMEs (FP7-SME-2012). **Real**-Time ***I****n* ***S****itu* **M**onitoring of Tool Wear in Precision Engineering Applications. <http://realism-fp7.eu>. Finish date; December 2015  Over the past 5 years, SEAM has acquired over **€6.4m** in total funding from wide ranging sources viz., through successful execution of direct funded industry projects, seven EI Innovation Partnerships projects, several EI Innovation Vouchers and through the coordination of an EU FP7-SME (REALISM) project. | |
| **Marie Skłodowska-Curie Action(s) of interest?** | European Training Networks (ITN-ETN)  European Industrial Doctorates (ITN-EID)  European Joint Doctorates (ITN-EJD)  Research and Innovation Staff Exchange (RISE)  Individual Fellowships (IF) | |
| **Particular expertise/experience which could be brought to an MSCA** | SEAM capabilities include; Failure Analysis, Metrology Analysis, Material Characterisation, Containment Identification/Analysis and Mechanical Property Analysis.  Abilities/Expertise: • X-ray Microtomography (XMT) is a non-destructive technique that uses x-rays to create cross-sections of a physical object that can be used to recreate a virtual model (3D model).  • Microwave processing allows for the specific volumetric heating of a product up to 400°C. • Whitelight Interferometry (WLI) is a non-contact method for surface height measurement of 3-D structures with surface profiles varying from tens of nanometers to centimeters. • Failure Analysis techniques including Finite Element Modelling, cross-section analysis and wide ranging characterisation of materials. • Formulation development of nano-drug delivery systems using lipids and polymers as carrier for sustained and controlled drug delivery. • Characterisation of nanopharmaceuticals - amount of drug present, drug release and surface morphology utilizing HPLC, SEM, DSC, TGA, FTIR, GCMS, NMR etc.  • 3-D metal sintering (proposed mid-2015)  Capabilities SEAM has a number of niche technologies for materials and failure analysis as well as a suite of equipment for traditional analysis techniques. SEAM has access to a number of additional techniques through collaborative centres. SEAM capabilities are listed below.   Metrology Analysis Non-destructive 3D measurement Measurement of angle/curvature/radius Morphology  Topography  Failure Analysis Cracking Discolouration Fracture Fragmentation pattern Inclusions and voids Non-destructive 3D visual analysis Delamination Poor fit of assembly components Catastrophic component failure In service failures Voiding Electronic device failure Unexplained change in device behavior Sample preparation for failure analysis  Material Characterisation Analysis of Aged components Coating analysis Elemental analysis Glass transition temperature measurement Analysis of composite structures Microstructure analysis Particle characterisation Pore size analysis Powder metrology Surface characterisation Thermo-mechanical behaviour analysis  Wettability measurement  Mechanical Property Analysis Mechanical testing from -100° C to 350° C  Compression strength Hardness Polymer melting point  Modulus determination Peel strength measurement Stress/strain analysis Tensile strength Viscosity Viscoelasticity Yield stress UTS measurement  Contamination Identification/Analysis Material identification  Impurity analysis Foreign particle/staining analysis  Expertise categories  Industrial manufacture, Electronics, Microelectronics, Aerospace technology, Construction technology, Materials technology, Nanotechnology and Nanosciences, Space and satellite research, Meteorology, Biotechnology, Medical biotechnology, Measurement methods, Reference materials, Standards, Project management methodologies, Education, Training, Information, Media, Regional development, Security, Policies, Legislation, Regulations, Forecasting, Evaluation, Innovation, Technology transfer, Coordination, Cooperation, Scientific research, Business aspects, Research ethics, Intellectual property rights | |