



9 prestigious PhD Positions with the Horizon Europe HARMONY MSCA project

Part of the European Commission's Horizon Europe Marie Skłodowska-Curie Actions (MSCA), the Industrial Doctorate programme *HARMONY: Innovating New Space Frontiers: Harmonised Federated And Fractionated Systems Unlocking Fresh Perspectives For Satellite Services* has opened an immediate opportunity for well-funded PhD positions in the area of space networks exploiting emerging constellations with focus on the underlying architectures, signal processing and antenna technologies.

Structured around a major European satellite manufacturer (Thales Alenia Space), HARMONY comes as a follow-up to the REVOLVE project (<https://revolve.eps.hw.ac.uk/>), where 7 MSCA graduates developed cutting edge antenna technologies that have led to new products and approaches that have been adopted by the industry. A further success indicator for REVOLVE is that all 7 researchers were absorbed into the European space sector at the end of the project (4 in large integrators and 3 in SMEs).

Addressing the emerging New Space landscape, which brings to fore constellations of co-operating satellites as means to improve service offerings whilst reducing costs, HARMONY brings together 3 leading European SMEs developing small satellites (Nanoavionics), deployable structures (LSS) and digital physical layer solutions (MBI) together with 3 academic laboratories in the UK (Heriot-Watt), France (CNRS) and Germany (UniBw). The research programme is highly interdisciplinary covering architectural and system aspects, advanced signal processing and passive & active antenna technologies. We are seeking for highly competitive candidates strongly motivated to contribute to this exciting project.

Selected candidates from this process will receive a generous employment contract for 36 months within the consortium. All selected candidates will be expected to enrol in a doctoral programme that is jointly supervised from academic and industrial advisors. During the course of the PhD training, each PhD student will spend as a minimum 50% of their time in the industry sector – including a minimum of 3 months with Thales Alenia Space. Mobility within the consortium should therefore be anticipated: Thales Alenia Space in Toulouse and Madrid, Nanoavionics in Vilnius, LSS in Munich, MBI in Pisa, Heriot-Watt in Edinburgh, CNRS in Rennes and UniBw in Munich. We intend to interview all shortlisted candidates across the skillset of relevance to the project. Specific offers will then be made to the selected candidates describing the exact locations where the research will be performed.

Applicants should have concluded or are about to complete their undergraduate or postgraduate studies in a relevant engineering or applied physics discipline. Selection is also based on the performance of the candidates in other works (e.g. thesis and advanced level courses), as well as through interviews and assignments. Besides good subject knowledge, emphasis will be on creative thinking, motivation, ability to cooperate, initiative to work independently and personal suitability for research training. Gender equality will be ensured in the recruitment process.

Examples of topics: satellite constellation architecture, system engineering models for small satellites, feeder link architectures, distributed processing, fractionated antennas, IoT air-interface development, active antenna integration, mm-wave quasi-optical antennas, deployable antennas

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