Project Title	Project Description	Sponsor	Total Budget
SUPER-HYDROPHILIC MEMBRANES FOR TREATMENT OF INDUSTRIAL WASTE WATER CONTAINING CHLOROCARBONS	To investigate environmental clean-up of waste chemicals from ground water.	LOCKHEED MARTIN CORPORATION	97,631.00
SUPER-HYDROPHILIC MEMBRANES FOR TREATMENT OF INDUSTRIAL WASTE WATER CONTAINING CHLOROCARBONS	To investigate environmental clean-up of waste chemicals from ground water.	LOCKHEED MARTIN CORPORATION	27,442.80
POWDER JOINING OF DISSIMILAR ALLOYS	See note below	ROLLS ROYCE PLC	27,010.00
STRATEGIC PARTNERSHIP IN STRUCTURAL METALLIC SYSTEMS FOR ADVANCED GAS TURBINE APPLICATIONS (SWANSEA	See note below	ROLLS ROYCE PLC	50,000.00
STRATEGIC PARTNERSHIP IN STRUCTURAL METALLIC SYSTEMS FOR ADVANCED GAS TURBINE APPLICATIONS (EPSRC PROJECT	See note below	ROLLS ROYCE PLC	40,000.00
STRATEGIC PARTNERSHIP IN STRUCTURAL METALLIC SYSTEMS FOR ADVANCED GAS TURBINE APPLICATIONS (EPSRC PROJECT	See note below	ROLLS ROYCE PLC	5,000.00
STRATEGIC PARTNERSHIP IN STRUCTURAL METALLIC SYSTEMS FOR ADVANCED GAS TURBINE APPLICATIONS (EPSRC PROJECT	See note below	ROLLS ROYCE PLC	40,000.00
SILOET II LAUNCH ACTIVITIES	See note below	ROLLS ROYCE PLC	103,047.00
MOISTURE ABSORPTION AND DESCRIPTION CHARACTERISATION OF COMPOSITE MATERIALS, COATINGS	See note below	ROLLS ROYCE PLC	16,336.00
ENGD: UNDERSTANDING THE EFFECT OF NON STANDARD NEAR NET SHAPE MANUFACTURED TEST PIECE GEOMETRY ON MECHANICAL PROPERTY DATA GENERATION AND ANALYSIS	See note below	ROLLS ROYCE PLC	40,000.00
REPAIR METHODS FOR AEROSPACE STRUCTURES USING NOVEL PROCESSES	See note below	ROLLS-ROYCE CORPORATION (US)	299,838.48
Rolls-Royce UTC Core Project	See note below	ROLLS ROYCE PLC	60,000.00
Rolls-Royce UTC Core Project	See note below	ROLLS ROYCE PLC	5,000.00
Rolls-Royce UTC Core Project	See note below	ROLLS ROYCE PLC	3,250.00
Rolls-Royce UTC Core Project	See note below	ROLLS ROYCE PLC	31,536.00
Rolls-Royce UTC Core Project	See note below	ROLLS ROYCE PLC	4,350.00

Project Title	Project Description	Sponsor	Total Budget
MECH PROPS CMCS	See note below	Rolls Royce Plc	224,592.99
MECH PROPS CMCS	See note below	Rolls Royce Plc	32,150.00
ISOTHERMAL COMPRESSION TESTING OF CANDIDATE ALLOYS FOR UHTNA ALLOY DEVELOPMENT PROGRAMME	See note below	Rolls Royce Plc	99,141.10
MESH AS A SERVICE (MAAS)	Aims: Devise a user-friendly cloud-based environment in which the pre-processing tasks leading up to running any numerical simulation (i.e. CAD model interrogation and mesh generation) could be performed within a modern web browser without requiring the installation of any software or requiring the purchase and maintenance of any high-end computers. Research the possibility of modifying the Delaunay kernel used in the mesh generation capability, developed over many years in Swansea, to enable the generation of anisotropic meshes with a high degree of stretching. Enabling such stretching reduces the size of the mesh improving efficiency, whilst enabling the same accuracy of the results.	Airbus Endeavr Wales Group Ltd	204,861.00
NEW DISC ALLOY LIFING	See note below	Rolls Royce Plc	320,869.12
CLEAN SKY WP5.5.1-AEROFOIL TEST RIG DESIGN & MANUFACTURE	See note below	Rolls Royce Plc	150,000.00
CLEAN SKY WP5.5.1-AEROFOIL TEST RIG DESIGN & MANUFACTURE	See note below	Rolls Royce Plc	120,000.00
CLEAN SKY WP5.5.1-AEROFOIL TEST RIG DESIGN & MANUFACTURE	See note below	Rolls Royce Plc	90,000.00
PEROVSKITE SOLAR CELLS FOR AEROSPACE APPLICATIONS	The aim of this project to study the feasibility of perovskite solar cells for High Altitude Pseudo Satellite (HAPS) applications. The project studied the performance of the solar cells under mimic HAPS environment. It was fully funded by Airbus Endeavour Wales.	Airbus Endeavr Wales Group Ltd	169,989.00
PEROVSKITE SOLAR CELLS FOR AEROSPACE APPLICATIONS	As above	Airbus Endeavr Wales Group Ltd	156,409.00

ADAPTIVE 5G SPACE ANTENNA ARRAY	Swansea University has developed a low cost 5G antenna array solution that allows for wide beam scanning with high gain and circular polarisation. Current GEO satellite communication provides near global coverage with a very low number of satellites, circumventing some of the challenges faced by LEO constellations that require 1000s of satellites, constant handoff and have a greater risk of collision.	Airbus Endeavr Wales Group Ltd	120,000.00
AIRTBUS ENDEAVOUR WALES STUDENTSHIP	The aim of this project to study the feasibility of perovskite solar cells for Space applications (e.g. Satellite applications). The project studies the performance of the solar cells under mimic Satellite environment. It is fully funded by Airbus Endeavour Wales.	Airbus Endeavr Wales Group Ltd	145,841.46
MATERIALS AND LIFING FOR TURBINES	See note below	Rolls Royce Plc	150,000.00
Q/V BAND ANTENNAS	The Q/V band antenna project uses novel antenna sub-arrays for beam steering operation up to 58GHz. This system can provide reconfigurable polarisation, shared aperture and 40° elevation steering in a low cost and easily fabricated design. The technology developed in this study will have applications for next generation LEO satellite communication and 5/6G. Such systems will need to make use of higher frequency bands than those currently licenced (<30GHz) to provide even higher speeds and reduce the demand on the existing bands.	Airbus Endeavr Wales Group Ltd	120,000.00
MALIT CRACK THRESHOLD TESTING OF SINGLE CRYSTAL AND NICKEL BASED SUPERALLOY	See note below	Rolls Royce Plc	120,000.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	10,000.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	11,250.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	4,000.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	5,000.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	62,975.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	3,000.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	40,000.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	4,500.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	40,000.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	120,000.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	40,000.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	96,000.00

ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	75,000.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	85,000.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	85,000.00
ROLLS ROYCE UTC CORE PROJECT (LINKED TO IDV514)	See note below	Rolls Royce Plc	75,000.00
REPAIR METHODS FOR AEROSPACE STRUCTURES USING NOVEL PRCOESSES	See note below	Rolls-Royce Corporation (USA)	31,665.00
REPAIR METHODS FOR AEROSPACE STRUCTURES USING NOVEL PRCOESSES	See note below	Rolls-Royce Corporation (USA)	93,376.00
REPAIR METHODS FOR AEROSPACE STRUCTURES USING NOVEL PRCOESSES	See note below	Rolls-Royce Corporation (USA)	25,000.00

Notes:

Rolls Royce Project Description

The portfolio of research projects supervised by a small team of academic staff based at the Swansea University Technology Centre in Materials provides expertise in the mechanical characterisation of advanced materials. The research is conducted by a team of postgraduate students and post doctoral research staff. In particular, we assess the relationships between material processing and manufacturing technology on microstructure evolution and the control of mechanical properties under static and cyclic loading regimes. The data and fundamental understanding are applied to a range of civil aerospace and power generation systems by our sponsor.