Knowledge Transfer Partnerships

Omnidrome
Research and Innovation Centre

The Omnidrome Research and Innovation Centre is a hub for world-leading research, innovation, education and knowledge exchange for air, land, and water-based drones, robotics and autonomous vehicles.

Omnidrome applies Royal Holloway's expertise in research, education and application of drone and sensor technology, and acts as a springboard for engagement with industry partners, local government, non-governmental organisations, and commercial partners. We seek to grow a diverse and multidisciplinary community of researchers, educators and technical experts with interests in R&D and application of drone technology in the areas of:

- Robotics, artificial intelligence (AI), and information security of autonomous vehicles

- Drone and sensor technology

- Scientific monitoring of environmental, ecological, geographical, geological systems and human environments

- Culture, arts and humanities

royalholloway.ac.uk/research/omnidrome

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Our expertise

Our team of researchers have extensive experience and expertise in a wide range of science and engineering subjects including:

- Sensors, AI communication, Network Security, Digital Forensics, Trustworthy Autonomous Systems, Integration of AV's into urban transport networks, Drone communication, control and security centres, swarm control, UAV Technology and Robotics

- Faunal population and animal behaviour studies, habitat surveys, pollution monitoring, 3D photogrammetry for geological and geomorphological mapping, subsurface and soil analysis through GPR surveys, monitoring of agricultural and agroforestry systems, interaction of humans and technology

We have additional expertise in the arts/humanities including:

- International law of autonomous systems, global social justice, media arts and drone cinematography, virtual reality.
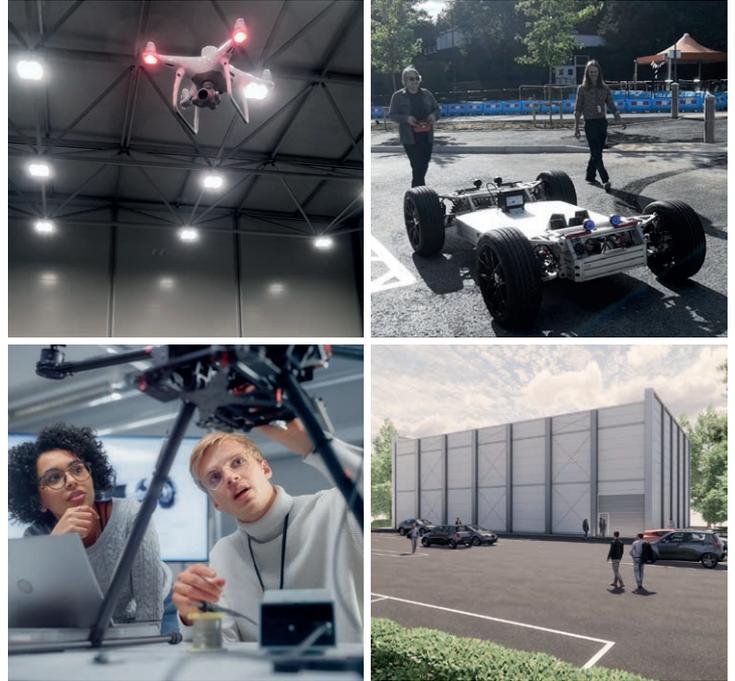
Technical equipment

Omnidrome has a versatile inventory of aerial drones, tracked and wheeled robots, floating and submersible robots, plus a wide range of sensors, robotic elements, and supporting equipment. This includes a Pixkit autonomous vehicle development platform, unique in the UK.

Testing and Training Facility

The Omnidrome Testing and Training Facility is a purpose-built hangar measuring 25 meters wide by 35 meters long and 10 meters high. The facility enables critical commercial and academic research potential and momentum for drone and software testing in real time locations and environments. It allows operators to develop and test specialist and experimental drones and software in a controlled, safe space, without disruption to the local environment or residents. As next stage of our research infrastructure development, we incorporate a camera tracking system for flight analytics and indoor GPS signal repeaters.

Partnerships

We believe that industry partnerships and academic research relating to the Omnidrome programme can directly address specific sector challenges, deliver innovative solutions, workflow efficiencies, and economic benefits.

We welcome opportunities to explore partnerships with academic collaborators, government partners, businesses, and industry partnerships, joint research bids, Knowledge Transfer Partnerships and student project opportunities addressing real-world challenges and applications.

Our location

Omnidrome is based at Royal Holloway, University of London on the main campus in Egham, Surrey - 40 minutes by train from central London and just seven miles from Heathrow Airport, with excellent road and transport links.

Find out more

royalholloway.ac.uk/knowledge-transfer
or contact the KTP Office: ktp@rhul.ac.uk

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Royal Holloway, University of London
Egham, Surrey, TW20 0EX
royalholloway.ac.uk

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