Networks to solve missions

8th September 2021

Andy Bennett, Space Lead





KTN exists to connect innovators with new partners and new opportunities beyond their existing thinking – accelerating ambitious ideas into real-world solutions.



Our Purpose

We create diverse connections to drive positive change

Our Vision

To establish a network of innovators so powerful its ideas will change the world

Positive Change

We create diverse connections to drive positive change

Deep Expertise

We have wide-ranging expertise and convene the expertise of others

Powerful Connections

We drive powerful connections with business at the heart of what we do

Future Shaping

We shape the innovation communities of the future

Our People

We provide an exceptional place of work for our exceptional people



Our Network



46,229
Unique
Organisations



72%

Small

15%

Medium

13%

Large



234,478

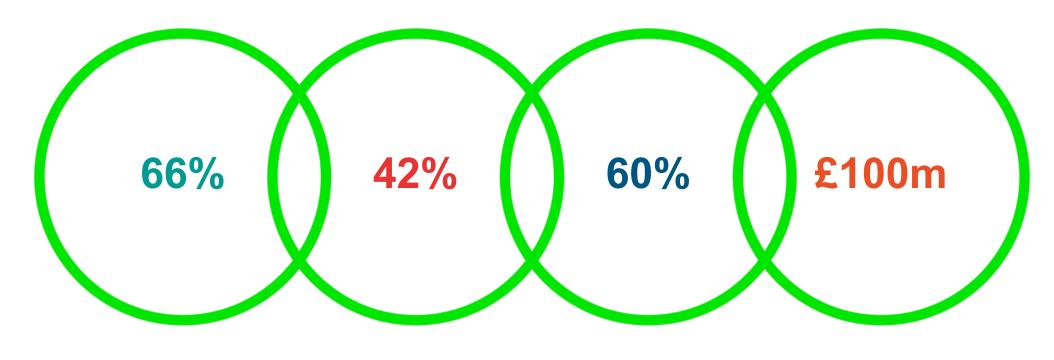
innovators



Every university in the UK



KTN Outputs



introduced by KTN go on to collaborate

reach outcomes faster (1-2 years) increased
investment in
R&D direct result
from KTN
engagement

per year increased investment in R&D





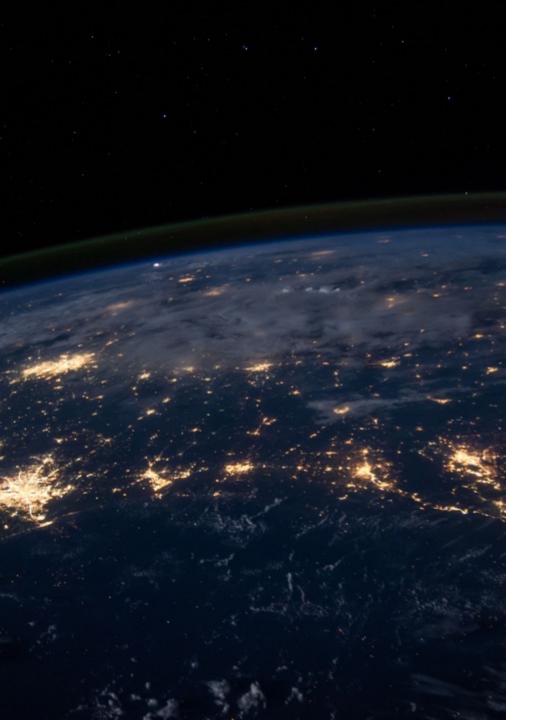
Geospatial Insights

KTN has built a strong community around the insight available from geospatial data through our **Innovation Network** programme.

We have connected across diverse sectors including AI, XR, Maritime, Finance and Infrastructure.

We have produced a report "The Power of Place" with our partners Ordnance Survey





We connect regional, national and global innovation

Our **Global Alliance** programme drives international collaborations with governments, societies, enterprises, institutions and people from every corner of the globe.

Global Expert Missions (GEMs), funded by Innovate UK and delivered by KTN, drive the sharing of expertise across borders and foster global collaboration. They help to build international strategic partnerships and provide insight into innovation opportunities for the UK.





We connect UK research and business

Knowledge Transfer Partnerships build longlasting connections and collaborations between the working and learning worlds. Graduates, businesses and academic institutions come together to solve challenges through innovation.





The Best KTP 2020

Aquacheck Engineering, Manchester Metropolitan University and Dario Chiantello revolutionised the traditional standpipe by using IoT to turn it into a smart, connected device, which delivers invaluable insight into water usage.





We connect **innovators**, **funders** and **collaborators** to transform ideas into solutions

KTN's **Innovation Exchange** programme connects companies with specific challenges to innovators who are already working on the solutions. Our unique cross-sector approach connects businesses with opportunities beyond their existing thinking.



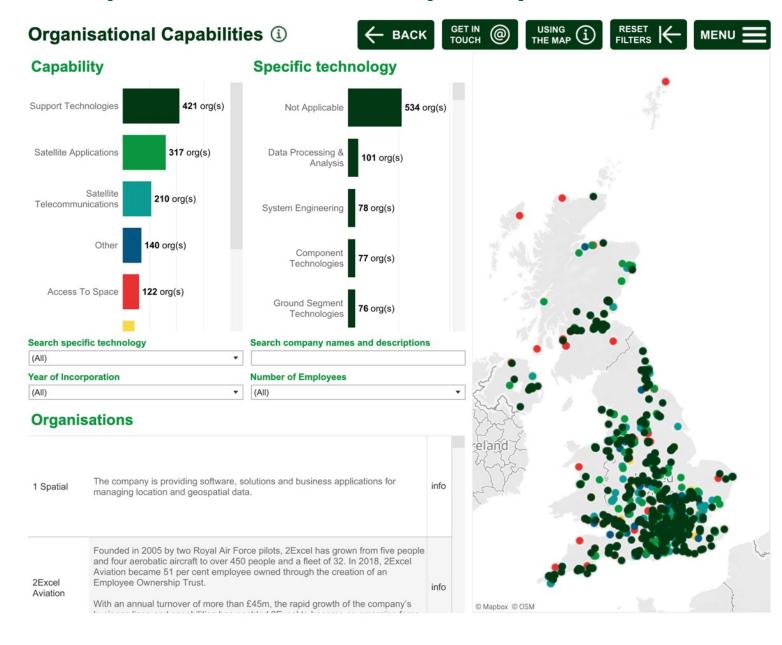


Andy Cooney, Technical Manager at Sellafield

"Posting our challenges on KTN's **Innovation Exchange** has allowed us to have a cross-sectoral approach and added an element of reach that has proved invaluable. The responses have allowed us to explore applying solutions from other sectors like medical X-Ray technology to some really tricky problems."



UK Space Sector Landscape Map

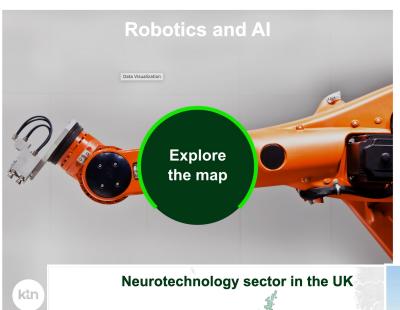


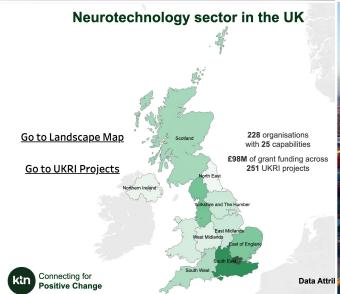
- Providing evidence
- Supporting collaboration
- Deep sector knowledge
- Identifying regional clusters
- Identifying UK capabilities
- Informing market intelligence strategies
- Signposting funding
- Raising profiles of UK space organisations
- >1000 organisations





The UK innovation landscape















Networks to solve missions

GNOISIS mission:

• to understand and solve problems related to the ever growing problem of space debris and the challenges of safeguarding spacecraft set to launch into this environment.

Challenges:

- + CHALLENGE #1: A SPACE-BASED IR INSTRUMENT FOR SSA
- + CHALLENGE #2: A SPACE-BASED UV INSTRUMENT FOR SSA
- + CHALLENGE #3: HIGH-SPEED BLIND IMAGE STACKING: ALGORITHMS AND BENCHMARKING FOR A GPU CLUSTER ENVIRONMENT
- + CHALLENGE #4: DAYTIME IMAGING IN THE IR

Solutions:

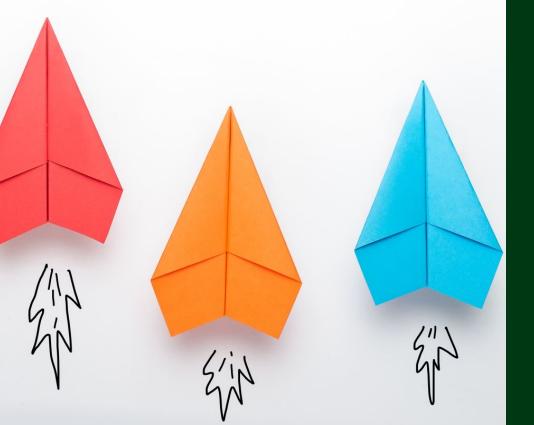
Robotics, sensors, electronics, photonics, AI, data, defense, quantum?







What is Mission-Led Innovation?



'big science deployed to meet big problems'

'Marianna Mazzucato'





Mission

Missions provide a solution, an opportunity and an approach to address the numerous challenges that people face in their daily lives, whether that be to have clean air to breathe in congested cities or to live a healthy and independent life at all ages.

In the context of innovation strategies, missions are bold, inspirational, with wide societal relevance. They indicate a clear direction, ideally targeted and measurable, with ambitious innovation actions.

They are delivered through multiple top-down and bottom-up solutions, and rely on cross-disciplinary, cross-sectoral and multi-level relationships and activities.



