



UNIVERSITY OF
LEICESTER

Space Park Leicester

Research, innovation, skills
and engagement for the
space and space-enabled
sector



llep
Leicester & Leicestershire
Enterprise Partnership



Leicester
City Council

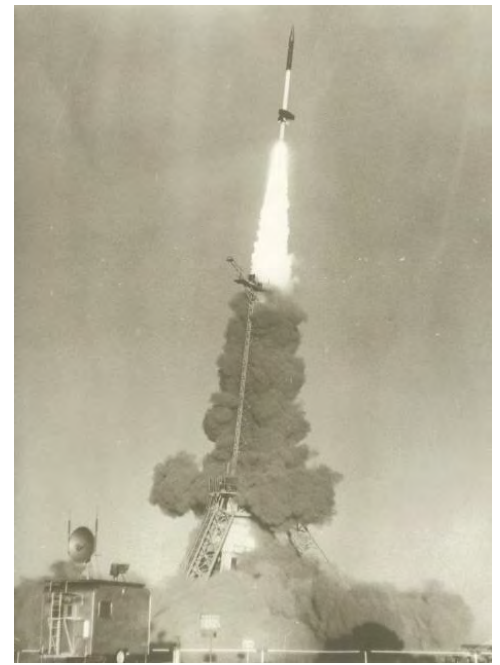
The University of Leicester

- Founded as a University College 1921
- Granted Royal Charter in 1957
- Famous for:
 - Space research - started in 1960
 - Genetic fingerprinting
 - Discovery of the remains of Richard III
- Founded National Space Center in 2001



Almost 60 years!

- 1960: first space research in Leicester
- 1990s: development of Earth Observation & planetary science (Mars exploration) - Queen's Award 1994
- Space Research Centre – 1998 (later extensions)
- National Space Centre – 2001, originator & founding partner

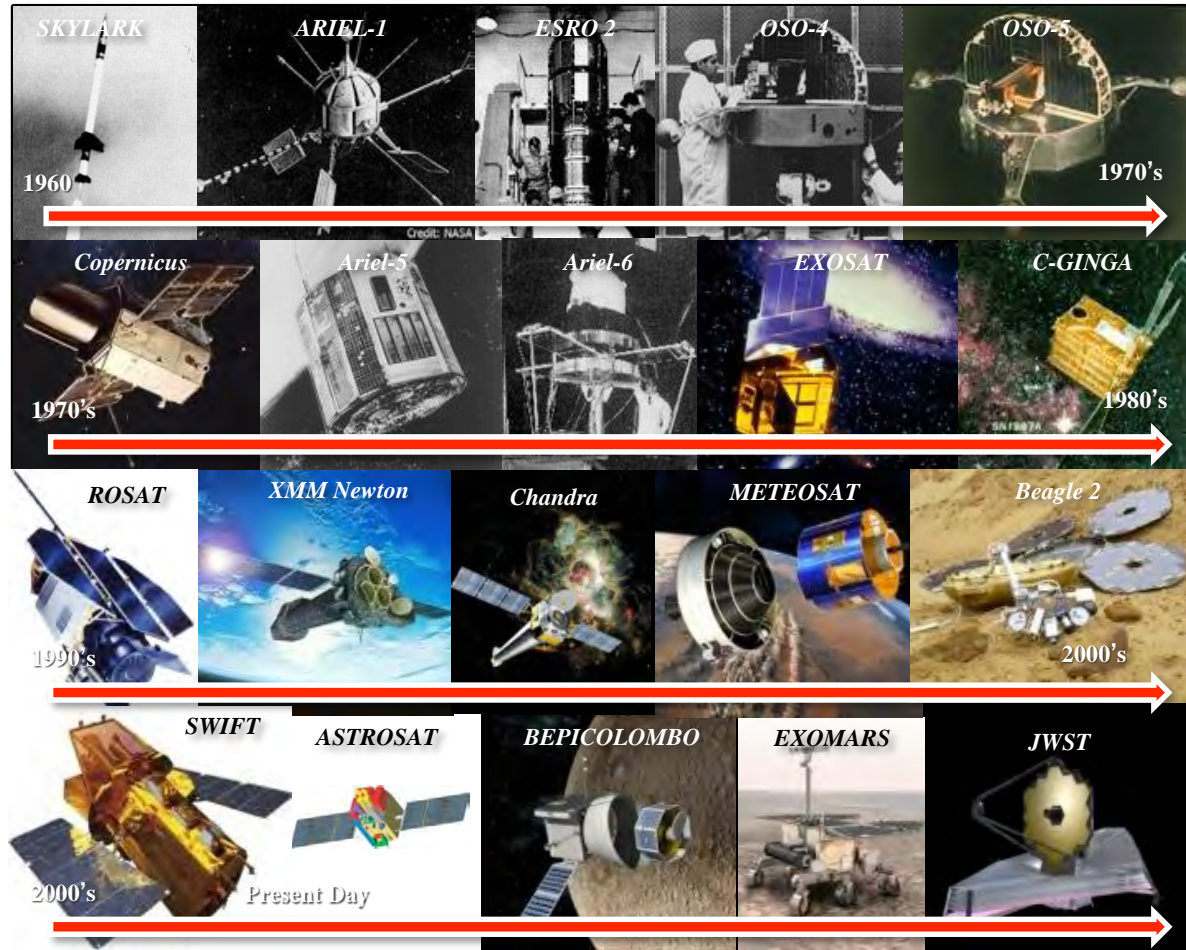


Space@Leicester



- Broad programme:
 - γ -ray to IR & particle astrophysics, planetary science, Earth observation, space engineering, data science, control & programming
 - 200+ academics and researchers
 - £25M grants in last 3 years
- Host to National Centres for Earth Observation (NCEO) & EO Instrumentation (CEOI)

Astrophysics & Exploration

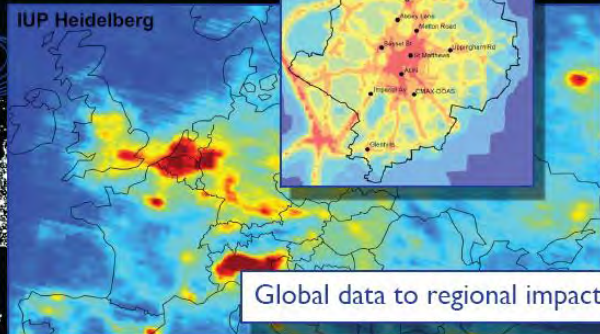


Earth Observation

Leading Science Everyday Impact

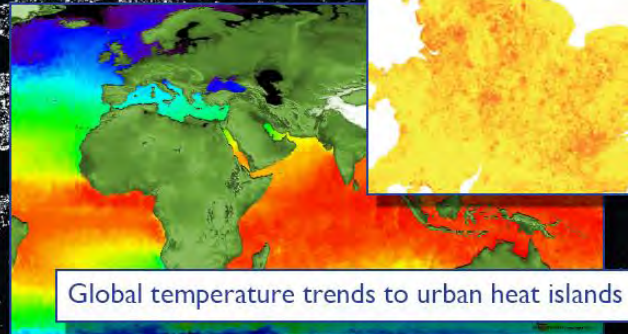
AIR QUALITY

IUP Heidelberg



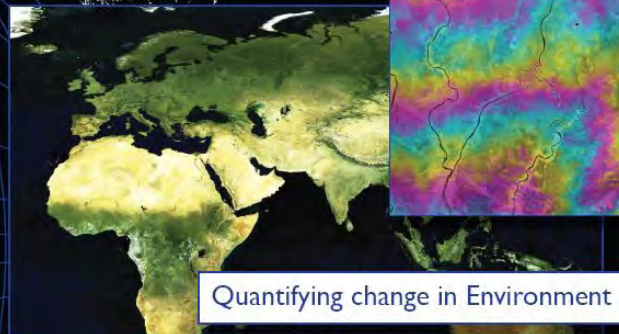
Global data to regional impacts

CLIMATE PROCESSES



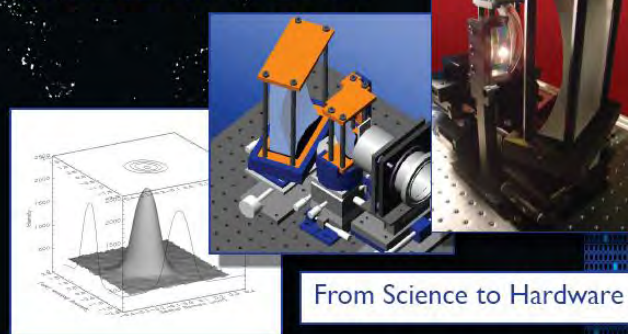
Global temperature trends to urban heat islands

LAND INFORMATION



Quantifying change in Environment

SPACE TECHNOLOGY



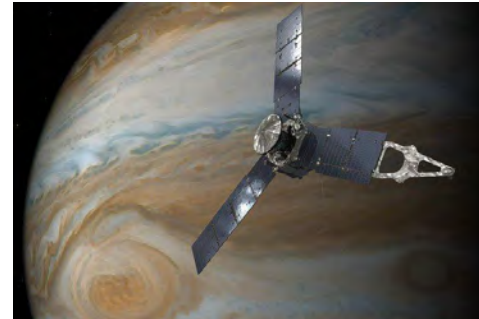
From Science to Hardware



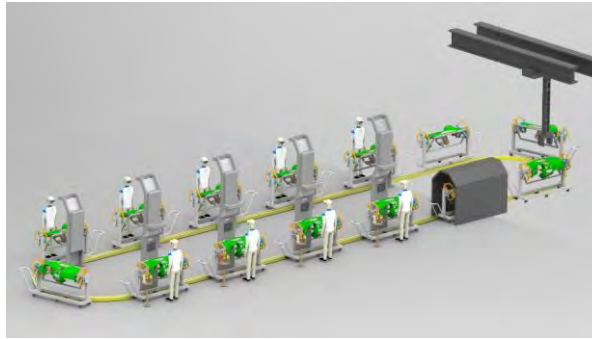
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Recent Highlights

- Detection of merging neutron stars
- Trappist - multiple potential Earth-like planets
- NASA Juno mission to Jupiter
- Deforestation and fire monitoring in Kenya



The market is changing to “New Space”



- Commercial
- Market-driven (i.e. data services)
- Speed
- Constellations
- Cost
- Build capacity

Image of large spacecraft assembly courtesy of ESA

Image of large robotic build assist automated approach courtesy of ATM Automation and Robotics

Image of the connected factory courtesy of Electronics Weekly, <https://www.electronicsworld.com/news/business/industry-4-0-not-reaching-factory-floor-2017-06/>

Space Park Leicester:

A high-tech industry-academic regional cluster



Building 1

Earth observation
data

Opens summer
2020

Building 2

Research into AI and
robot-assisted low cost
satellite production

Upstream solutions to
downstream challenges

Subject to funding bid

Building 3

Low Cost Access to
Space (LOCAS) high
throughput production
space factory 4.0

Addressing capacity
needs for growing sector

Funding being sought:
Midlands Engine Priority
Project

Space Park Leicester supports delivery of Space Sector Deal



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KPMG Green Book Analysis



- **GVA** - £850 million additional by year 5
- **Jobs** – 2700 FTE supported by year 5
- **BCR** – overall BCR of 9.9:1
- **Wider Impacts** - Inward investment; workforce upskilling; wider positive effects through clustering, including skills and knowledge transfer and productivity gains.

SPRINT – SPace Research & Innovation Network for Technology

- Intra-Institutional Innovation Offer to Space & Space Enabled SMEs
 - Led by Leicester, with OU, Southampton, Surrey & Edinburgh
- £4.8M over 3 years - Research England Connecting Capabilities Fund
- Two levels of access to programme will be provided:
 - Open access: IP, Data & Research Facilities open to the market through “light touch” interventions or the locally supported offer.
 - Competitive high growth support offer: An intensive programme of support reflecting the needs and life cycle stage of high growth space & space enabled business.

