



# Leading the future of aviation



| National Flying  
Laboratory Centre

Aviation has been a part of Cranfield from its earliest days when it was founded as the College of Aeronautics on a former RAF base in 1946. We are proud heirs to that history of being at the forefront of aviation and aerospace research and education, and we are continuing that tradition by developing new capabilities in aircraft electrification, unmanned aerial vehicle technology and urban mobility.



Cranfield is the only university in Europe to have its own airport, pilots, air navigation service provider, and its own aircraft. However, it is the combination of teaching and research, close working relationships with industry partners, and the virtually unique National Flying Laboratory Centre (NFLC) Flying Classroom that underpins the outstanding education and student experience that we offer and is key to our vision of the future.

NFLC also supports the development and testing of new airborne technologies and procedures for future flight, and it is through the NFLC that Cranfield has played a significant role in the education of thousands of aerospace engineers. As a result, we were honoured to be awarded the Queen's Anniversary Prize, the highest award for a higher education institution in the UK, for the work of the NFLC in both research and education.

Join your fellow alumni and friends in finding out more about how you can support the NFLC Flying Classroom campaign. Together we can continue to create the aviation and aerospace leaders of the future. Thank you.

**Professor Helen Atkinson CBE, FREng**  
Pro-Vice-Chancellor, School of Aerospace,  
Transport and Manufacturing



**"I wanted to give back to an institution and programme that had so much influence on my aerospace career. It was important to me to perpetuate the continued excellence exemplified by Cranfield."**

**Dwayne Lucas** (MSc Aircraft Design 1980), Vice President, Special Projects,  
Aerospace Industries Association of Canada

# Realising our ambition

Cranfield is the only university in Europe with its own airport, aircraft, pilots and air navigation service provider.

Our flying capability, combined with our research airport, digital tower and new facilities such as the Digital Aviation Research and Technology Centre (DARTeC), position Cranfield as a global leader in aviation and aerospace. Our work embraces the entire spectrum of aviation, helping to define and deliver the aircraft of the future, the airport of the future, the airline of the future and airspace management of the future.

Alongside this we've also had tangible recognition of our success after the University was awarded its sixth Queen's Anniversary Prize - the highest award in the UK for higher education institutions - for the work the NFLC has done to support the nation's aero-engineering students. This award is a fitting tribute to the work of Cranfield in ensuring that the UK aerospace industry is one that is envied across the world.

Philanthropy plays a vital role in realising our ambition. The current Flying Classroom is ageing and needs to be replaced, so Cranfield has launched an ambitious project to replace the current Jetstream 31 with a Saab 340B.

"Cranfield has a long history in the development of future leaders in aerospace and aviation across the globe and has unique facilities to support research and teaching in these sectors. We are building opportunities to foster innovation and helping to develop the next generation of leaders in the aviation sector"

**Professor Iain Gray CBE, FEng FRAeS,**  
Director of Aerospace



THE QUEEN'S  
ANNIVERSARY PRIZES  
FOR HIGHER AND FURTHER EDUCATION  
2019

Together we can unlock the potential of digital aviation

Together we can drive new innovations forward

# About the campaign

The NFLC Flying Classroom aircraft is a vital national asset which supports thousands of students in realising their ambitions of becoming aerospace engineers and aviation leaders, as well as carrying out transformational research. However, the time has come for a new aircraft that will enable us to continue to deliver world-class aerospace education and research.

**We have already achieved over two-thirds of our £3 million fundraising target, but we still need your support to achieve the target. Together we can...**

- Help prepare students to lead in an **increasingly complex world**.
- Create an environment that **supports insight and innovation**.
- **Attract new talent** to the aviation industry.
- Improve work **processes and technologies**.
- **Tackle challenges** such as aircraft emissions and climate change.

The remaining funding is needed in order to complete the modifications of the aircraft to support the next generation of aero-engineers and aviation leaders. Being larger than the Jetstream 31, the Saab 340B will allow the NFLC to accommodate more students on each flight, and create new research capabilities and collaboration opportunities as it will be fitted with the technical equipment necessary to test the boundaries of aviation.

It is our responsibility - as alumni and friends of Cranfield - to ensure that the NFLC remains at the forefront of aerospace technology, discovery and education. Please help tomorrow's aerospace leaders benefit from a unique education, foster research partnerships and enhance the reputation of Cranfield, and our students.

**"The most enjoyable part of the course was, in my opinion, the seven flights we did on board the Jetstream 31, analysing different aircraft test methods and behaviour. This was to show students the discrepancies that can occur between real aircraft and wind tunnel data and I found it quite inspiring that a University provides such an exciting experience to its students for teaching purposes."**

**Cem Gulcen** (MSc Autonomous Vehicle Dynamics and Control 2017),  
Simulation, Test and Integration, Airbus Defence and Space

Together we can attract new talent to the aviation industry

Together we can improve work processes and technologies

# How you can help

“For aerospace students at Cranfield and over 20 UK Universities, the flying classroom provides an inspiring educational experience that is never forgotten. It makes a tremendous difference to their understanding of the theory of flight and is an important part of their accreditation as aerospace engineers.

We highly appreciate the generosity of our alumni and friends in providing financial support for this iconic Cranfield activity. Each gift, regardless of size, helps to ensure we can provide that experience to future generations of students. Together, the difference we can make for them is huge.”

Professor Graham Braithwaite, FRAeS,  
Director of Transport Systems



## UK No. 1

Cranfield is the largest provider of accredited aerospace postgraduate degree courses, helping graduates to qualify as Chartered Engineers.

(Royal Aeronautical Society)

## 1,200+ aeronautical students

from over 20 universities globally fly in the flying classroom and engineering laboratory each year as part of their degree courses.



Together we can adopt new and advanced technologies to stay competitive

Together we can collaborate and diversify

We are grateful for all donations to the NFLC Campaign. These are the ways you can help...

### Make a gift

If you would like to support the NFLC you can do this by making a single or regular gift, be it monthly, quarterly or annually.

- Donate safely and securely online at <https://givenow.cranfield.ac.uk/donate/?promo=NFLC>
- Donate by post by downloading the giving form at [www.cranfield.ac.uk/NFLCcampaign](http://www.cranfield.ac.uk/NFLCcampaign)
- Telephone our friendly giving team on T: +44 (0)1234 754377

### Sponsor a part

There are a range of sponsorship opportunities available.

- For £60 you could sponsor transmitters.
- For £150 you could sponsor the cabin emergency lights power supply.
- For £500 you could sponsor an altimeter.

View the full range of opportunities at [www.cranfield.ac.uk/NLFCsponsorAPart](http://www.cranfield.ac.uk/NLFCsponsorAPart)

### Join the 340 Club

The 340 Club recognises those supporters who are able to commit a minimum of £340 per year for a three year period. Your gift may be given as a one-off contribution of £1,020, an annual contribution of £340, or if you would prefer to make your gift through regular instalments, this works out at £28 per month.

For more information on the 340 Club visit [www.cranfield.ac.uk/NFLC340](http://www.cranfield.ac.uk/NFLC340)



“Your support for the NFLC, this year and every year, enables Cranfield to harness the full power of our community to make the world a better place through our people and research.”

**Benedicta Morrow,**  
Director of Alumni Relations and Development



# Aviation is in our DNA

College of Aeronautics opened on 15 October and received its first students. It had four departments: Aerodynamics, Aircraft Design, Aircraft Propulsion and Flight. The NFLC is created as part of the Department of Flight.

Sir Fredrick Handley-Page becomes Chairman of the Board of Governors.

Department of Aircraft Materials created.

Cranfield Institute of Technology adopts the name Cranfield University.

NFLC supports major flight trials for ASTRAEA (Autonomous Systems Technology Related Airborne Evaluation and Assessment) with BAE Systems.

Presented the Queen's Anniversary Prize for Cranfield's work supporting the nation's aero-engineering students.

1937

1952

1955

1969

2006

2019

2021

1946

1953

1958

1993

2008-2014

2020

RAF Cranfield established.

HRH The Duke of Edinburgh visits the College of Aeronautics.

New departments of Aircraft Electrical Engineering and Maths created.

College awarded Royal Charter and becomes Cranfield Institute of Technology.

Cranfield replaces Jetstream Mark 1 flying classroom and laboratory with Jetstream 31.

£3 million fundraising campaign to purchase and modify a Saab 340B is launched.

Aerospace alumni reunion for those who studied at Cranfield between 1946 and 1979.

Cranfield University replaces Jetstream 31 with Saab 340B flying classroom.

# Supporting the nation's aero-engineering students

The Flying Classroom is unique in providing aerospace engineering students from Cranfield and over 20 UK universities with invaluable flight test experience.

Students learn about aerodynamics and flight dynamics by collecting data while on board the specially-instrumented aircraft. The seat-back screens broadcast real-time information about the flight such as airspeed, bank angle, fuel burn or progress via aeronautical charts so that students can collect real flight data for analysis. Our ability to deliver this experience represents the best possible combination of technology and educational practice.

Students are encouraged to have flight test experience by the Royal Aeronautical Society (RAeS) for their accreditation, this means that over 80% of all UK aerospace engineering students, use the Flying Classroom. By attending our courses, it completes the RAeS accreditation requirement.

“Many students have very limited experience of being ‘up-close’ to aircraft and often only limited experience even of commercial flights. This makes the experience offered by the NFLC both academically essential and genuinely inspiring for students.”

**Dr Hugo Williams,**  
Director of Learning and Teaching, Department of Engineering,  
University of Leicester

“Our national ability to continue to develop design and development engineers, as well as flight-test engineers, remains paramount: the NFLC represents a key capability in doing so.”

**Rear Adm Simon Henley CEng RAeS,**  
Past President, Royal Aeronautical Society

# Your donation



“No matter how you connect with us, every time you connect with Cranfield you help us drive forward aerospace education and research. Your continued support and engagement are vital to sustaining Cranfield’s reputation and impact on the world. Whether you make a philanthropic gift or share our story, we are grateful for your support. Thank you.”

**Professor Helen Atkinson CBE, FEng,**  
Pro-Vice-Chancellor, School of Aerospace,  
Transport and Manufacturing

## Further information

If you would like to support the NFLC campaign, or find out more about ways to give, please contact the Alumni Relations and Development team on:

T: +44 (0)1234 7543096

E: [giving@cranfield.ac.uk](mailto:giving@cranfield.ac.uk)

[www.cranfield.ac.uk/NFLCcampaign](http://www.cranfield.ac.uk/NFLCcampaign)