



# UK Networked Quantum Information Technologies Hub: Opportunities for Business



NQIT Industry Day 2017  
Rhodes House, Oxford

# NQIT Industry Day

The NQIT Industry Day 2017 was a one-day event, held in July in the beautiful surroundings of Rhodes House, Oxford.

It was a unique forum bringing together the national and global investment and business community with key NQIT scientists and engineers from the UK-wide research consortium.

Together we explored the commercial opportunities of quantum computing and informed the community on important developments within the UK and elsewhere – such as the €1 billion Quantum EU Flagship.



**32** organisations attended, including multi-nationals, SMEs and start-ups from a variety of sectors including manufacturing, aerospace, Finance, hi-tech, digital, telecoms, oil and gas, IT.

## What is NQIT?

NQIT stands for the Networked Quantum Information Technologies Hub

**£38m**

over 5 years to build a quantum computing technology demonstrator based on a networked architecture which is scalable by design.

A consortium of

**10**



UK universities and more than

**25**

industry partners

### Directors

- Professor Ian Walmsley
- Professor Dominic O'Brien,  
*Systems Engineering*
- Evert Geurtsen, *User Engagement*



**£3.4m**

partnership fund to co-fund partnership projects related to our mission and grow the quantum economy

**14**

currently funded partnership projects between industry and academia

NQIT is spinning out new technologies and companies!



# NQIT Industry Day Agenda

## Networked Quantum Information Technologies:

- Quantum in the UK & Europe,  
*Professor Ian Walmsley*
- Introduction to Quantum Computing,  
*Professor Simon Benjamin*
- NQIT Update,  
*Professor Dominic O'Brien*



## NQIT Partnership Projects:

- Diamonds for your Heart,  
*Gavin Morley,*  
*University of Warwick*
- Photonics components for quantum technology,  
*Mark Farries, Gooch & Housego*



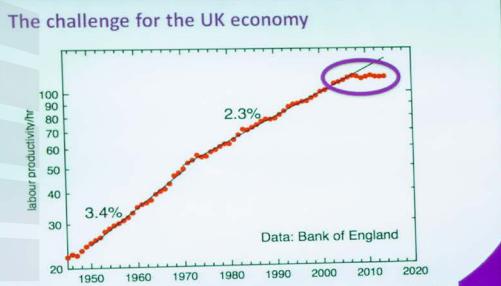
**Gavin Morley spoke about his collaboration with Bruker GmbH to develop a new, high precision magnetometer, based on diamond colour centres, to detect the tiny magnetic fields emitted by the heart.**



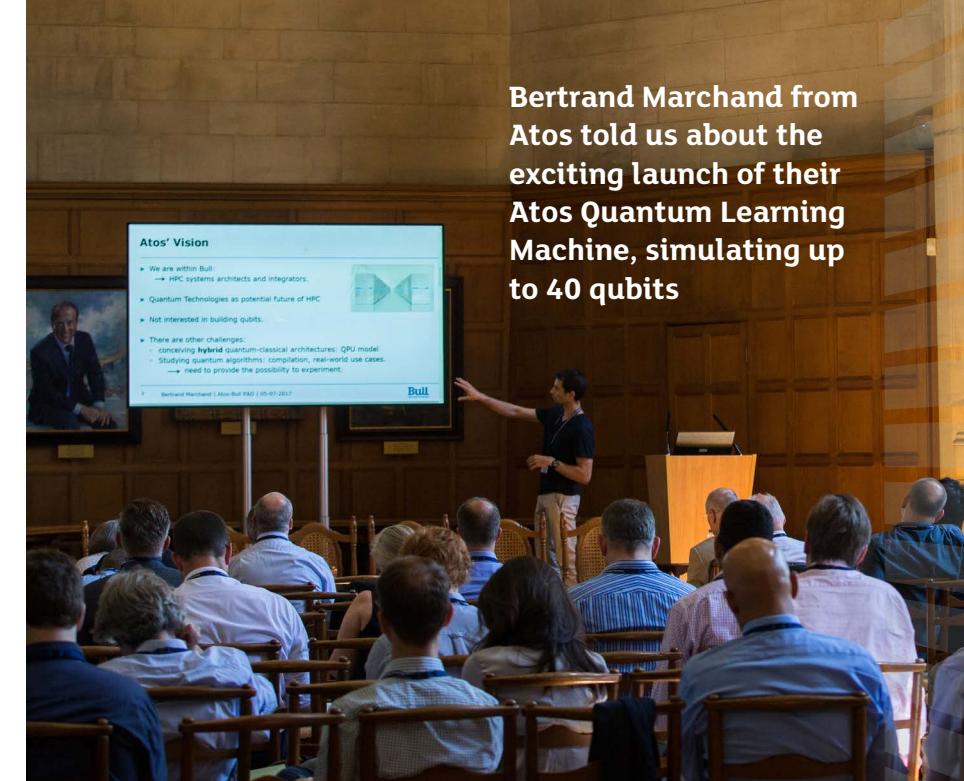
# NQIT Industry Day Agenda

Quantum computing and the innovation arena:

- Science and Innovation Audit Oxfordshire, *Dr Phil Clare, University of Oxford*
- Innovate UK and Quantum Technologies, *Dr Chris Jones, Head of Emerging Technologies*



Attendees heard about the latest funding opportunities from the UK Government via Innovate UK



Bertrand Marchand from Atos told us about the exciting launch of their Atos Quantum Learning Machine, simulating up to 40 qubits

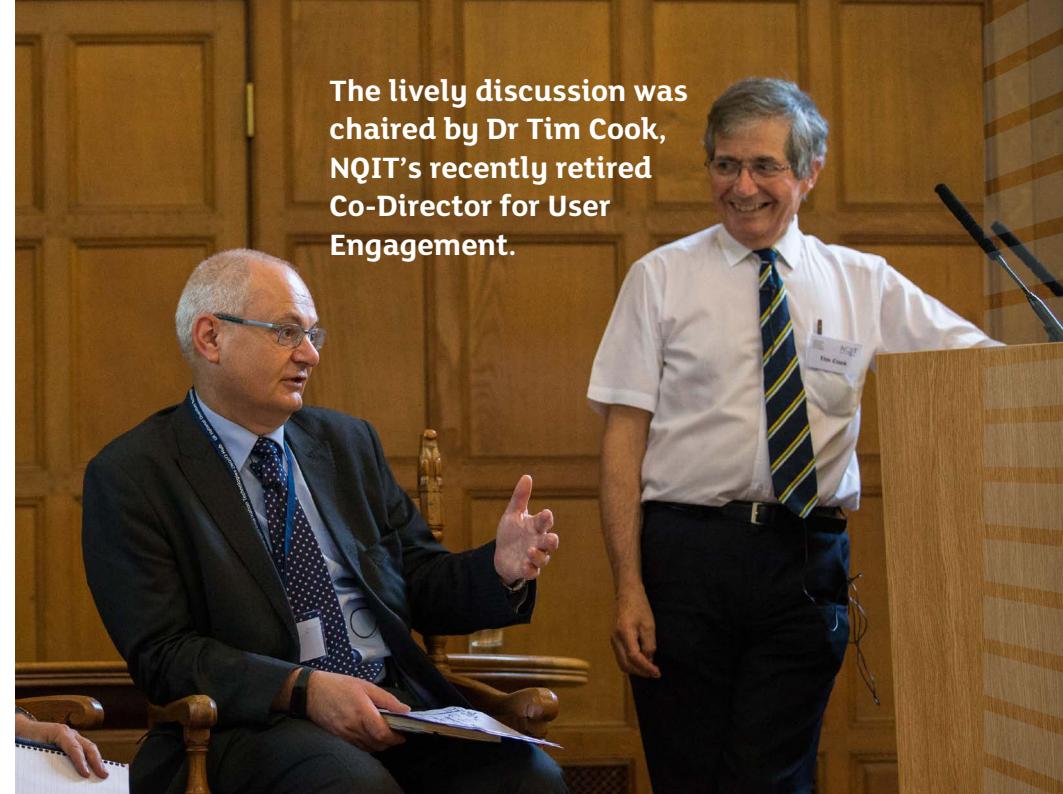
Exciting opportunities for quantum computing:

- Atos Quantum: Vision and R&D Program, *Bertrand Marchand*
- Cambridge Quantum Computing Ltd, *Ilyas Khan*
- Towards a Quantum Industry, *Laure Le Bars, SAP*

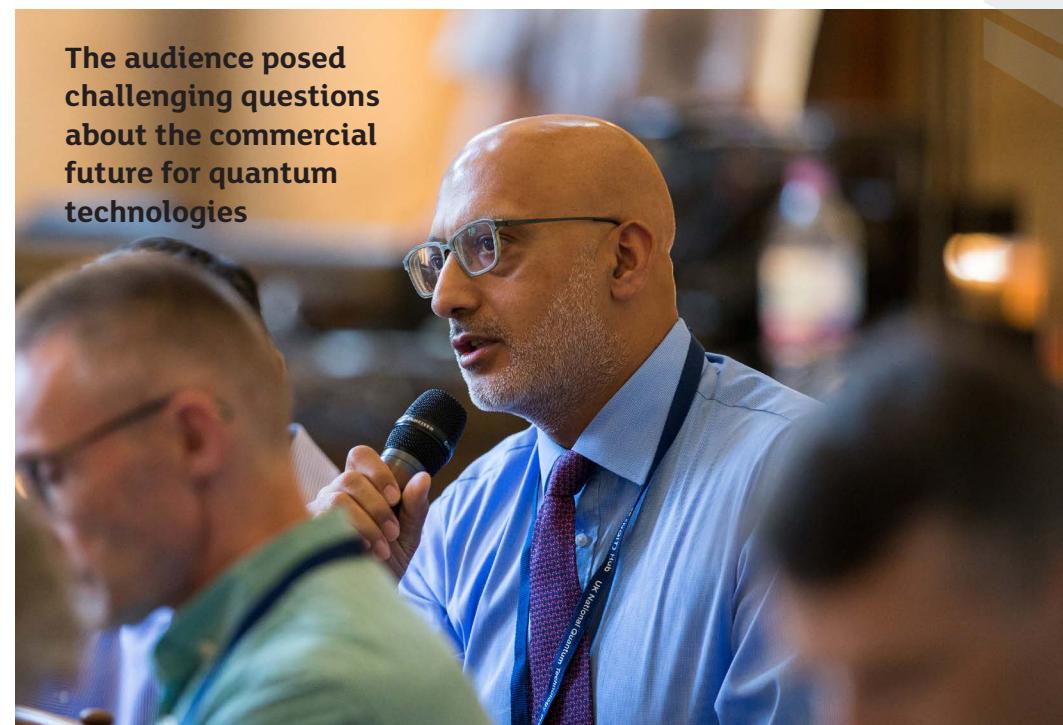


# NQIT Industry Day Agenda

An industrial panel Q&A session on the topic: **“What is the commercial future for quantum technologies?”**  
with *Jeremy Ward from Qinetiq, Paolo Bianco from Airbus, Chris Doran from ARM and Charles Radclyffe from Deutsche Bank.*



The lively discussion was chaired by Dr Tim Cook, NQIT's recently retired Co-Director for User Engagement.



The audience posed challenging questions about the commercial future for quantum technologies

# NQIT Annual Report 2017

We were very pleased to launch our second Annual Report, marking the halfway point through NQIT's five-year programme, and covering the progress made in our second year of the project, up to the beginning of 2017.



**"Overall, we are confident that the Hub is now well established, has made excellent progress towards its strategic objectives, achieved key early milestones and built an effective team focused on the critical technologies for the Q20:20 quantum computer demonstrator."**

Foreword by NQIT Director,  
Professor Ian Walmsley



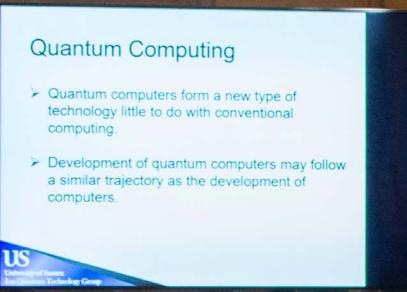
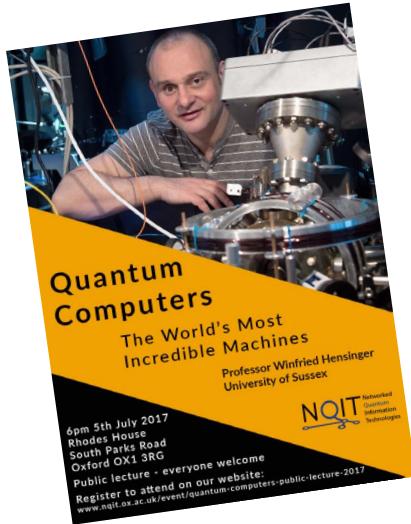
Evert Geurtsen presenting  
our new Annual Report  
during the Industry Day



To download the Annual Report,  
please use this QR code or download it from our  
website:  
<http://bit.do/NQIT2017>

# Quantum Computers: The World's Most Incredible Machines

After the Industry Day, Professor Winfried Hensinger gave a public lecture to a sold out audience of industry partners and members of the public.



Professor Hensinger told a packed-out room about his cutting-edge work to build a quantum computer prototype at Sussex University



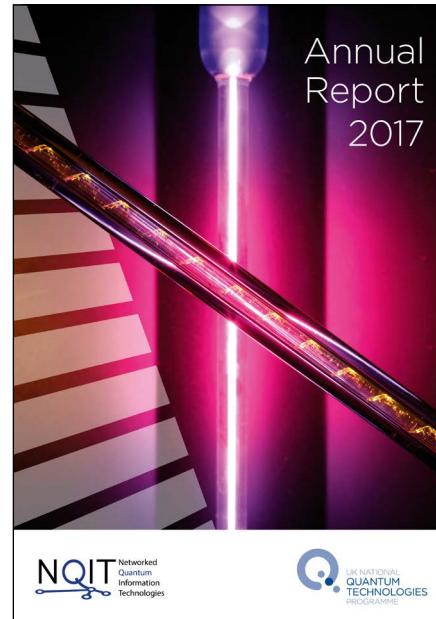
# NQIT Reports

NQIT has a portfolio of reports, available to download for free from our website.

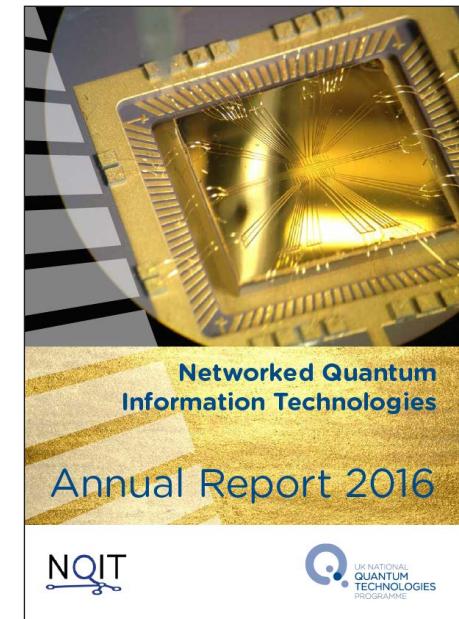
These cover not only about work to build a quantum computer demonstrator, but look at the wider landscape of quantum computing development and the potential market impact.

All these reports are available to download:

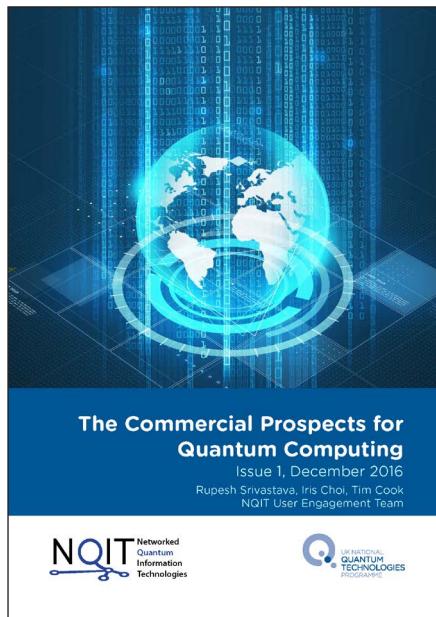
<http://www.nqit.ox.ac.uk/content/reports>



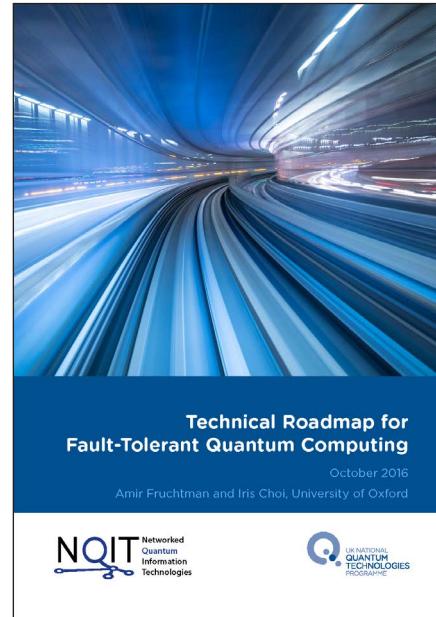
*NQIT Annual Report 2017*



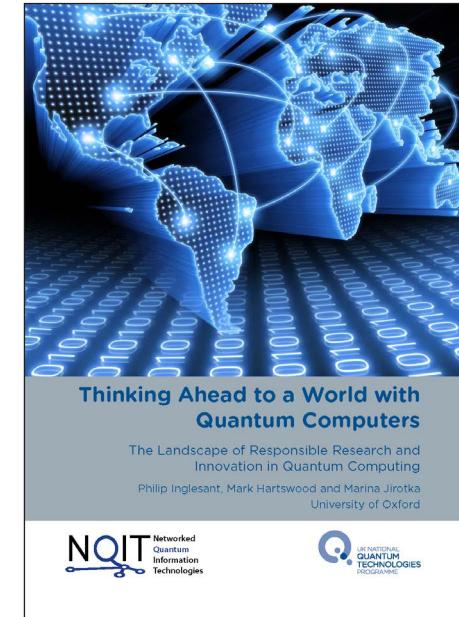
*NQIT Annual Report 2016*



*The Commercial Prospects for Quantum Computing*



*Technical Roadmap for Fault-Tolerant Quantum Computing*



*Thinking Ahead to a World with Quantum Computing*

# Save the Date!

## National Quantum Technologies Showcase

### London, 22 November 2017

We will be exhibiting NQIT's latest technology developments, with hands-on demonstrations, at the next **National Quantum Technologies Showcase** held at the Queen Elizabeth II Conference Centre, Westminster, London on November 22nd.

The 2017 event following, on from the two previous National Quantum Technologies Showcase events in 2015 and 2016, will highlight technological progress and its relevance to commercial sectors and the collaborative nature of the UK National Quantum Technologies Programme.

If you would like a free ticket to attend the foremost showcase event for Quantum Technologies in the UK, please send us an email:

[engage@nqit.ox.ac.uk](mailto:engage@nqit.ox.ac.uk)



# What Next?

We are looking for new partners to participate in research and development of what promises to be a technology of historic importance.

There are opportunities to invest in quantum spinouts or to licence available IP for new products and services.



Interested in the opportunities for quantum computing for your business? We'd be delighted to hear from you!

If you would like to come to the NQIT Industry day in 2018, or find out more about NQIT then get in touch:

[engage@nqit.ox.ac.uk](mailto:engage@nqit.ox.ac.uk)

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[www.nqit.ox.ac.uk](http://www.nqit.ox.ac.uk)