

# [Dstl forecasts future quantum landscape for UK defence and security](#)

The UK's emerging Artificial Intelligence (AI) capabilities could achieve a decisive step-change by adopting current and near-term quantum technologies.

According to a research paper published by the Defence Science and Technology Laboratory (Dstl), on behalf of the Ministry of Defence (MOD) and in collaboration with UK Strategic Command ["Quantum Information Processing Landscape 2020: Prospects for UK Defence and Security", DSTL/TR121783](#) (PDF, 3.02MB, 144 pages), embracing quantum technology now could lead to the enhanced pace, precision and pre-emption of decision making by military commanders.

Dstl's report identified commercially available quantum computers – 'annealers' – as having the potential to run an important and versatile class of AI software at speeds vastly in excess of normal digital computers. This software is based on an algorithm called a 'neural net'; a mature and proven method of pattern-matching, which imposes extremely high loads on a classical digital computer architecture. However, the unique properties of a quantum annealer means that it can execute a neural net in one machine cycle instead of thousands or millions.

The report describes how, in the short-term, quantum neural nets could be used to perform Quantum Information Processing (QIP) to search archive, near real and real-time data feeds, automatically looking for features of interest, detecting anomalies and instances of change. This would significantly improve the time, cost and quantity of military data processing, while simultaneously releasing intellectual capacity among operators.

Over the subsequent 5 to 10 years, within MOD and more widely, QIP technologies could also be applied to: Financial trading; Control systems in aircraft, missiles, fire control and defensive systems; Sensor data processing such as data fusion, navigation, resolving signals in noise, interference and jamming; Machine Learning; Artificial Intelligence situational understanding; Warning marker identification; Pattern analysis undiscernible to the human eye.

Dstl's report is being released for input and comment from the defence community including industry and academia. After review, key findings and recommendations will be added and the document will be finalised to create an authoritative evidence base to support future investment decisions. Subject to funding, a benchmark exercise could commence during 2020. If benchmarking confirms the review's findings, an in service initial operating capability could be realised as soon as 2025. This would help build quantum expertise in MOD and ensure an organisation 'quantum-ready' for the future.

Although currently maintaining a watching brief on quantum computing, Dstl,

supported by funding from MOD, also has a keen interest in quantum sensing technologies. This is realised through a close collaboration with the National Quantum Technologies Programme, a partnership supporting national expertise in this cutting edge technology.

Gary Aitkenhead, Dstl Chief Executive, commented: “Quantum technology is a game-changer for defence and society, and one that both maintains the security of the UK as well as offering clear economic benefits. The UK is a world leader in many aspects of QIP and this report outlines a clear path for future development.”

For further information on the report contact: [quantum@dstl.gov.uk](mailto:quantum@dstl.gov.uk)

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## [Supporting LDCs through short and long-term pandemic recovery](#)

The COVID-19 crisis has led to an unprecedented shutdown of large parts of the global economy, with severe consequences for all countries. As we have heard today, African countries, LDCs and LLDCs are likely to be among the hardest hit.

The UK recognises this immense challenge. It will be critical for the international community provide support to overcome the immediate health and humanitarian impacts of the pandemic, and to stop regression of hard-won development gains. We are grateful to the Government of Qatar for hosting the fifth LDC Conference in 2022, and the UK is committed to working with all colleagues to agree an ambitious plan of action for the next decade that delivers the necessary international support to LDCs.

COVID-19 has also exacerbated SDG financing challenges. For our part, the UK will strive to leverage private finance and investment in LDC economies to overcome the expected shortfalls. In January, the UK-Africa Investment Summit facilitated more than £6.5 billion of business deals in infrastructure, energy, retail and tech sectors. The UK also announced £1.5 billion worth of government initiatives designed to promote UK investment in Africa, which aims to create employment and mobilise over £2.4 billion of additional private investment.

We are also clear that the threat posed by climate change to African countries, LDCs and LLDCs will not go away. Disaster preparedness, mitigation and resilience will be key to long-term recoveries. This thinking will be at the centre of the UK's COP26 ambition.

Finally, alongside our partners the EU, Fiji and Rwanda, we will also lead the UN Financing for Development workstream on recovering better for sustainability.

As we recover, the decisions we make today have the potential to pave the way forward for sustainable growth, and to create just and inclusive societies. There can be no return to the 'old normal'. We look forward to working with you all to identify the best way to recover better, support the most vulnerable, and to place enhanced climate action at the heart of recovery.

Thank you very much.

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## Addressing underlying factors of instability in the Sahel

Thank you, Mr President, and we're grateful, as ever, to Mr Chambas for his report on the situation and for UNOWAS activity during the first six months of its new three year mandate.

It's clear from his report that COVID-19 has added a further layer of complexity to an already difficult situation. And the UK appreciates, Mr Chambas, that you are having to adjust in the face of this new dynamic.

I am also very grateful to Ms Ibrahim for transposing the analysis we read in the reports into a real human story. She brought into stark relief the challenges of climate change for societies in the region and the need for good governance with development and security. And as she put it, for a green deal – issues that we the UK care about as the forthcoming hosts of COP26 and the 'rebuilding better' strand of our FFD work.

Now, we know, Mr President, that the confluence of negative factors in the Sahel presents a unique and complex challenge. Chronic underdevelopment, extreme poverty, marginalisation, insecurity and governance vacuums easily filled by malevolent actors and competition over resources exacerbated by climate change, again, as Ms Ibrahim said.

The COVID-19 pandemic risks exacerbating these issues, but it did not create them. And it remains critical that we sustain efforts to address the underlying drivers of poverty and instability in the region.

Mr President, the UK is deeply troubled by the deteriorating humanitarian situation outlined by SRSB Chambas. With over 15 million people in need of humanitarian assistance and over 3 million people displaced in the Sahel alone, it is critical that our response is able to reach those most in need. In this context, we urge all parties to ensure unhindered humanitarian access and movement to allow the delivery of essential goods and services. Without this, food insecurity and protection needs will continue to rise. This is particularly the case for women and girls who are facing increased exposure to gender-based violence and other human rights abuses.

The UK shares others' concerns about the deteriorating security situation, particularly in Mali and in Burkina Faso. We call on all parties to respect human rights and international humanitarian law. In this respect we should be mindful of the tragic consequences of violations, both on a human level and as a driver of further violence. And we call on all the G5 Sahel governments to undertake fair and transparent investigations of alleged violations by state security forces and to hold those responsible to account.

The rise in extremist and terrorist violence in the Lake Chad basin is also deeply troubling, including the recent targeting of a UN humanitarian facility. Such attacks threaten to increase displacement and the number of people in IDP camps still further.

With presidential elections fast approaching in a number of countries, it has never been more important to prioritise prevention and preserve stability. The UK is particularly alarmed by violence in Guinea in recent months and the prospect of seeing more as we approach those elections. Preventing backsliding on governance, accountability, access to justice and human rights is critical to ensure environments conducive to free, fair, timely and credible elections.

So it's our sincere hope, Mr President, that 2020 will be, as Mr Chambas said, defined by democratic consolidation, by credible, inclusive and peaceful elections, and where those who are required by those elections to leave power ensure a smooth transition of power.

Returning to the global coronavirus pandemic, the UK is clear-eyed about the challenges faced by vulnerable countries across West Africa and the Sahel, and it's working hard to support those most in need. We're committed to a global response. And last month, the UK hosted the Global Vaccine Summit, raising \$8.8 billion to support immunisation of 300 million children. We've announced a total of almost \$1 billion for the COVID-19 response, including \$20 million for the African Union's Response Fund. Of course, the international response to COVID-19 should not divert vital resources from other critical work that seeks to tackle the underlying drivers of poverty and instability. And we were grateful to hear that UN-wide coordination with regard to implementation of the UN Integrated Strategy for the Sahel has improved. It is essential that the entire UN system, including critical development entities such as UNDP mobilise in support of peacebuilding efforts in the region.

Mr Chambas, you and the UN system across your area of responsibility have an incredibly difficult job in a region with a complex nexus of challenges. Thank you for all you and the UN operations across the region are doing to tackle these challenges. It's critical for the people of this region that we succeed.

Thank you, Mr President.

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# UN Human Rights Council 44: Interactive Dialogue with the Working Group on Human Rights and Transnational Corporations and Other Business Enterprises

World news story

This UK statement was delivered during the Interactive Dialogue with the Working Group on the Issue of Human Rights and Transnational Corporations and Other Business Enterprises



The Human Rights Council takes place in Geneva.

Thank you, Madame President

The UK welcomes efforts by the Working Group to draw greater attention to links between anti-corruption and human rights agendas. We urge Governments and businesses to continue working together to share best practice and drive up standards.

The UK remains a strong advocate for the UN Guiding Principles on Business and Human Rights. As referenced in our National Action Plan, we have created a number of instruments to motivate good corporate behaviour and respect for human rights, including the Bribery Act, which ensures companies can be held accountable for acts of bribery committed anywhere in the world.

Our Business Integrity Initiative helps businesses guard against both corruption and human rights abuses when trading with emerging markets in developing countries.

The Working Group's report discusses public procurement, where Governments have the opportunity to harness their spending power to tackle both corruption and human rights abuses. The UK Government has taken significant

steps to tackle modern slavery in our commercial activities and this year published our first Government Modern Slavery Statement. The UK government has an established anti-corruption strategy tackling all types of corruption and fraud including through procurement.

Madame Chair,

Which international forums and processes does the Working Group believe we should look to in driving forward greater policy coherence across human rights and anti-corruption agendas?

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## **Beauty salons set to reopen for some services next week under new government guidelines**

- Practical guidelines to allow more beauty businesses, including tattoo studios, nail bars and spas, to reopen for some services from 13 July
- businesses must be able to meet the COVID-19 secure guidelines developed in consultation with the beauty industry to reopen, protecting customers and workers
- only services that do not involve work in the highest risk zone – directly in front of the face – should be made available to clients

Beauty salons, nail bars, tattoo and massage studios, physical therapy businesses and spas across England will be able to reopen safely from Monday 13 July under new government plans, announced today (9 July).

Updated COVID-19 secure guidance sets out the measures that those providing close contact services should follow to protect staff and customers. Only services that do not involve work in the highest risk zone – directly in front of the face – should be made available to clients. This means that treatments such as face waxing, eyelash treatments, make-up application and facial treatments, should not be provided until government advice changes, due to the much greater risk of transmission.

Where 2 metre social distancing cannot be maintained, for example when providing a treatment, the person providing the service should wear further protection in addition to any that they may usually wear. This should be a clear visor that covers the face, or the use of a screen or other barrier that protects the practitioner and the customer from respiratory droplets caused by sneezing, coughing or speaking.

The government has worked with a range of stakeholders in the beauty industry to develop the measures close contact services will need to consider to become COVID-19 secure, including:

- using screens or barriers to separate clients from each other, and to separate practitioners from clients, such as in nail salons
- operating an appointment-only booking system to minimise the number of people on the premises at any one time
- keeping the activity time involved to a minimum
- increasing the frequency of hand washing and surface cleaning, as well as regularly cleaning equipment or using disposable equipment where possible
- avoiding skin to skin contact and wearing gloves where it is not crucial to the service, such as in nail bars and tanning salons
- maintaining sufficient spacing between customer chairs
- not allowing food or drink, other than water, to be consumed in the salon by customers
- making sure a limited and fixed number of workers work together, if they have to be in close proximity to do their jobs

Business Secretary, Alok Sharma said:

We have been clear throughout this crisis that we want as many businesses as possible to reopen, but we must be confident it is safe for them to do so.

From Monday 13 July thousands more businesses which offer close contact services like nail and beauty salons will be able to welcome customers back in a way that is safe for both workers and the public.

Enabling these often small, independent businesses to reopen is yet another step in our plan to kickstart the economy to support jobs and incomes across the country.

The guidance also applies to businesses that operate in different locations, such as massage therapists working in people's homes, and those learning in vocational training environments.

Businesses will need to keep records of staff and customers and share these with NHS Test and Trace where requested, to help identify people who may have been exposed to the virus.

Businesses will only be able to open from these dates once they have completed a risk assessment and are confident they are managing the risks. They must have taken the necessary steps to become COVID-19 secure in line with the current Health and Safety legislation.

Employers should display a downloadable notice in their workplaces to show their employees, customers and other visitors to their workplace, that they have followed this guidance.