

Press release: Stargazing technology used to spot cancer

Cancers are often missed on traditional 2D X-rays so are sometimes only discovered later when the disease is more advanced and difficult to treat.

Now experts have been granted £1 million of UK Space Agency funding, following a competition to celebrate the NHS' 70th birthday, to develop a pioneering portable 3D medical X-ray machine, based on technology used to study stars in distant galaxies.

The equipment will allow doctors to get a more comprehensive view of areas where they suspect tumours are growing, aiding more effective treatment and earlier diagnosis.

Miniaturised, portable and connected through satellites, the kit could also allow patients to be scanned in doctors' surgeries, reducing the need for trips to hospital for busy X-ray and CT scanners.

Science Minister Chris Skidmore said:

The challenge of working in space focuses some of the UK's most brilliant minds. These experts can also help transform our lives for the better here on Earth.

The huge potential of space technology isn't just about reaching out into the universe: it's here on earth that its greatest impact can be seen, from 5G to tackling climate change or ensuring we can all benefit through space-inspired healthcare technologies such as these.

We have committed to spending 2.4% of GDP on research and development by 2027, with space being at the forefront of our ambitions, and it's in the potential of medical advances such as these that we can see the potential massive benefits of spending more on the technology of the future, helping us to live healthier, happier lives, for longer. This is our modern Industrial Strategy in action.

The scanner relies on technology developed for space; including field emitters etched onto silicon wafers used previously in ion thrusters and X-ray optics deployed on star mapping spacecraft such as the European Space Agency's [XMM Newton mission](#), in which the UK played a major role.

The project will help to address the key NHS 70th Anniversary Challenges of managing long term conditions, including joined-up health and care services, earlier diagnosis of cancer and transforming GP services and other primary care.

Launched in June 2018, this joint initiative between the UK Space Agency, NHS England and the European Space Agency, asked innovators to bid for a share of £4 million to turn technology originally designed for space into medical applications that improve NHS treatment and care.

Professor Tony Young, NHS England's national clinical director for innovation, said:

Last year as we celebrated the NHS's 70th birthday we challenged industry to bring technology designed for outer space into the NHS, and using stargazing technology to spot cancer is exactly the type of advanced innovation that could improve care for patients by speeding up diagnosis and helping to deliver our Long Term Plan which will save half a million lives.

Nick Appleyard, Head of Business Applications at the European Space Agency (ESA) said:

This is a wonderful example of how ESA supports innovation. The company that developed the portable X-ray machine, Adaptix, started life in ESA's Business Incubation Centre at Harwell in Oxfordshire and has grown to become a successful and innovative enterprise.

Mark Evans, CEO of Adaptix Limited, said:

Being incubated at the world-renowned Rutherford Appleton Laboratory in Oxfordshire's Harwell Campus, a major centre for the UK Space industry, has given us access to fantastic facilities and leading minds to support the development of our space-heritage technology.

In addition, we have been fortunate to have received significant support from InnovateUK, the European Space Agency and the National Physical Laboratory – organisations that provide a significant capability to high-science based early-stage companies such as Adaptix.

Our vision is to create a business that will Transform Radiology through the export of high-science-content high-value products to achieve revenues of more than \$100m. X-ray is the primary diagnostic in healthcare – one day we hope that Adaptix technology will touch the lives of everyone that you know and being supported by the NHS through this grant will help our team realise this vision.

The Adaptix 3D X-ray machine is the first of four projects receiving a share of a £4 million innovation fund drawn from ESA's Business Applications and Space Solutions programme, to which the UK is the largest subscriber. The three other winning applications will be announced in the coming weeks.

Last month the UK Space Agency revealed that [every £1 of public spending generates up to £4 in value](#) for the recipients in the space industry, with additional benefits to the UK economy.

The demanding environment of space means that investments in the sector generate new knowledge and innovations that extend far beyond the space industry. For example, satellites provide services that enable a wide range of economic activities, supporting industries [worth £300 billion to the UK](#).

[Speech: Future of UK-Bangladesh Partnership](#)

I'm delighted to be back in Dhaka for the third time as Minister for Asia, and so soon after my colleague the Secretary of State for International Development.

It's a level of engagement that clearly demonstrates the UK's strong commitment to our relationship with Bangladesh.

This is a time of change for both our countries. For our part, the UK is leaving the EU and seeking new opportunities around the world, building on our strong historic, commercial, and cultural links.

There are few places in the world where those links are stronger than here in South Asia, thanks to the thousands of personal connections between us.

There are now some 600,000 British citizens of Bangladeshi heritage, many of them in my own constituency in London. We greatly value their contribution to all walks of British life.

Here in Bangladesh I know you are looking forward to your 50th anniversary in two years' time, and to celebrating your many achievements, from bringing over 50 million people out of extreme poverty since 1990, to increasing life expectancy and reducing infant mortality, to boosting your economy to one of the fastest growing in the world.

We will be celebrating with you, remembering the part our country played in your liberation struggle.

I myself remember the momentous days of the "Stop Genocide, Recognise Bangladesh" rally in Trafalgar Square; George Harrison's benefit concert in

New York; and reports in the British papers about Bangabandhu's return via London to a newly independent Bangladesh.

Today, Bangladesh can be proud of the huge progress it has made against the Sustainable Development Goals.

With the pioneering work of Grameen Bank and BRAC, Bangladesh has shown how development best practice can be applied effectively for the benefit of your citizens.

Your country has been able to make such huge strides thanks to a combination of good development policy, international partnership – including with DFID – and a resourceful private sector.

Your just reward – of reaching Middle Income Status – is within your grasp.

That is an exciting prospect, as are the growing opportunities for collaboration.

We are already working together on climate change – a defining challenge for our times.

As a challenge that particularly affects Bangladesh, you have valuable lessons on resilience to share with the rest of the world.

We are also working together as fellow members of the Commonwealth. Her Majesty the Queen was delighted to welcome Prime Minister Hasina at the Commonwealth Heads of Government Meeting last year in London.

Our nations are working together to tackle the evils of human trafficking, which is a particular priority for both our governments, and in which we are investing substantially.

On a practical level, we have been pleased to help improve aviation security standards in Bangladesh, to the point where air cargo can once more travel directly from here to the UK.

Something else we share is our diversity – in both Bangladesh and the UK, people of different backgrounds – Muslims and non-Muslims – live side by side.

In our increasingly divided world, we must continue to promote this model of co-existence and inclusion.

I should like to take this opportunity to offer my personal condolences, and those of the British Government, to the families of those Bangladeshis killed in the appalling attack in Christchurch.

Their deaths, and the narrow escape of your cricket team, were yet another tragic reminder of the dangers of hatred and extremism.

But the response to the attacks – both from the local Muslim community, and wider society – has also been a reminder that people overwhelmingly reject

this hatred, and instead want to bridge divides, heal divisions and promote understanding.

We shall be discussing all these issues and more during the third UK-Bangladesh Strategic Dialogue later this month, along with our shared ambitions for our future partnership.

I am confident that we can achieve those ambitions, if we stay true to our democratic values.

It is often said that democracy was the worst form of government – apart from all the others; and events continue to prove him right.

You will be well aware that the British Parliament is currently wrestling with the complexities of implementing the British people's decision to leave the EU.

Some have suggested that this lengthy process means democracy has somehow failed.

As an elected parliamentarian, I can confidently say that the opposite is true: it is democracy in action – with all its imperfections.

And as a friend of Bangladesh I profoundly hope that, as Bangladesh graduates to middle income status, it will remain true to its democratic values.

That means holding elections that are fair, and that present voters with a free choice.

Again, as a friend of Bangladesh it gives me no pleasure to say this, but I fear the Parliamentary elections which took place here in December did not meet this standard – as I said at the time.

I also pressed for a full, credible and transparent resolution of all complaints.

I think we all recognise that the notion of choice is crucial in any healthy democracy. Without it, there is a risk that voters might seek other ways of achieving the changes they want.

Ultimately, that could pose a much greater threat to stability than allowing them to express their views through democratic channels.

That is why it is so important to have a political opposition in place, one that is able and willing to hold the Government to account and offer an alternate view.

And it is also why it is so vital to allow space for a vibrant civil society, through which the people – and especially young people – can channel their energies, and indeed their frustrations, within the law.

That means upholding Bangladesh's fine tradition of allowing people to voice dissent and express themselves freely.

It also means allowing the media to do its job of holding the powerful to account, which as we all know is so crucial in upholding the transparency and credibility of our institutions, and bearing down on corruption.

This really matters, because the strength and accountability of our institutions, and the confidence that they inspire in investors, are also crucial to our democracies – and to our economies.

The UK stands ready to help invest in those young people I mentioned just now, as another crucial element in the future success of this country.

Every time I come here, I am struck by the energy and talent of the people. I would very much like more of them to have the opportunity to benefit from the UK's world class educational institutions.

That is why one of the things I shall be discussing with my counterparts on this visit is the possibility of opening the local education market to greater competition.

I am sure that this will be a win-win for Bangladesh – good for your talented young people, and good for the country.

To conclude ladies and gentlemen, the bonds of history and kinship between our countries make our relationship particularly strong and deep.

As a long standing friend, the UK welcomes the great strides that Bangladesh has made over the last half century, and recognises the great potential it has to achieve still more in the next.

And as a close friend I can speak frankly and say that what we want to see is a confident Bangladesh, with strong, transparent and accountable democratic institutions.

We want to see lively debate, a vibrant civil society, and competitive elections.

And we want to see this flourishing democratic landscape carefully scrutinised and held to account by a free and vibrant media.

That would be a wonderful vision for Bangladesh in its second half century, and it would also be the best way for it to realise its undoubted potential.

The UK stands ready to help Bangladesh achieve that potential, in whatever way we can.

[Press release: New laws give 300,000](#)

workers a payslip for the first time

Almost 300,000 workers who previously did not receive a payslip will now do so starting from this week, including those on casual and zero-hours contracts.

Press release: New teacher recruitment service set to save schools millions

Schools across the country urged to sign up to free service to save millions on recruiting teachers into the classroom

Press release: New laws give 300,000 workers a payslip for the first time

- From this week, payslips will now have to include the number of hours worked – making it easier for workers to check they are being paid the correct amount
- A further 120,000 agency workers will benefit from the scrapping of the Swedish Derogation
- Reforms form part of the Government's largest upgrade to worker's rights in a generation

This new right ensures that all workers receive a payslip, which forms part of the Government's Good Work Plan – the biggest package of workplace reforms for over 20 years.

It means payslips will now include the number of hours worked, making it simpler for workers to make sure they are being paid in full, and at the correct rate.

Ministers also brought into law a package of trailblazing reforms, which will give workers ground-breaking new rights. This includes the repeal of the Swedish Derogation – a legal loophole that enabled some companies to pay agency workers less than permanent staff – and a new entitlement to a day one statement of rights setting out details of a new employee's leave allowance.

Business Secretary Greg Clark said:

The UK has a labour market that it can be proud of and we are committed to continue leading the way in workers' rights. That is why we have introduced a new right for all workers to a payslip ensuring workers are paid fairly.

On top this, the legislation approved by Parliament is a significant milestone in our concerted effort to deliver the largest upgrade in workers' rights in over a generation.

This all forms part of the Good Work Plan, which is the cornerstone of our commitment to build a labour market which rewards people for hard work, celebrates good employers and boosts productivity and earning power of workers across the UK.

Last week, Parliament approved the first package of Good Work Plan legislation, which means:

- around 1.5 million people are to receive a day one statement of rights setting out leave entitlements and pay;
- all workers will be better protected from employers who have demonstrated malice, spite or gross oversight, with the maximum additional penalty that Employment Tribunals can use quadrupling from £5,000 to £20,000;
- up to 120,000 agency workers will benefit from the scrapping of the Swedish Derogation – an end to the legal loophole which enables some firms to pay agency workers less than permanent staff;
- new agency workers will also benefit from a key facts page before signing up with an agency, which will provide clarity, particularly around their pay;
- employees will have a stronger voice in the workplace. Employees already have a legal right to make a request to be informed and consulted about issues at work and the threshold for them to request these arrangements will be reduced from 10% to 2%

The [Good Work Plan](#), announced in December, formed the Government's response to the independent Taylor Review of impact modern working practices and includes ambitious reforms to ensure the UK leads the world in meeting the challenges of the changing world of work.

In addition, the Government has this month launched a new £1 million advertising campaign to raise awareness of the National Living and Minimum Wage rates to workers and employers. The adverts are part of the Government's ongoing 'A Fair Workplace' campaign, which is designed to highlight a range of workplace rights to help workers understand what they are entitled to and ensure businesses comply with the law.

This form a key part of the Government's modern [Industrial Strategy](#), a long-term plan to build a Britain fit for the future by helping businesses create better, higher-paying jobs in every part of the UK.

Notes for Editors

- The payslip legislation came into effect on 6 April 2019. Payslips will now include the number of hours worked when a worker is paid according to time-worked, for example hourly or by day.
- The Government commissioned Kantar Media to conduct a poll of over 2,000 people to find out peoples' understanding of payslips and the information they contain
- Workers who believe their payslip is inaccurate should contact ACAS on 0300 123 1100
- The Employment Tribunal increased maximum penalty came into force on 6 April 2019. All other elements will come into force from April 2020.
- The Good Work Plan came as the Government response to the independent [Taylor Review of impact modern working practices](#) (2017). The review found that the strength of the UK's labour market is built on flexibility but that a clearer focus was needed on quality of work as well as the quantity of jobs.
- For more information about National Minimum Wage and National Living Wage, please visit www.gov.uk/checkyourpay