Speech: What future for water? Three challenges for the industry

Speech by Sir James Bevan, Chief Executive of the Environment Agency, Water Industry Forum, Birmingham, 8 May 2019

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was delivered)

Introduction

It’s always risky when people invite you to give your views. I used to be a diplomat, and in the British Foreign Office there is a cautionary tale about this which is told to all new recruits.

Some years ago the British Ambassador to Mexico was contacted by the Mexican national radio station who asked what he would like for Christmas. He said this was very kind, that he’d consider this and get back to them.

He debated with his staff the ethics of taking a gift from his host nation. He felt he couldn’t ask for anything expensive: that would look greedy. On the other hand he didn’t want to offend the Mexicans by refusing anything. So he told his staff to tell the radio station that he would like a small box of fruit.

A few weeks later on Christmas day the Ambassador was listening to the radio when the newsreader announced: “and finally, we asked three ambassadors to our country what they would like for Christmas. The French ambassador said that he wished for world peace. The US Ambassador said that he wished for a cure for cancer. And the British Ambassador said that he wanted a small box of fruit”.

I’m not here tonight to ask for a small box of fruit: I learned that lesson early. I am here to suggest that there are three big challenges facing the water sector and to ask for your support in tackling them. Because by water sector I don’t just mean the water companies. I mean all of us – regulators, contractors, NGOs, researchers and the companies themselves – who work together to provide our country with the most basic of all needs: water. If we want to succeed, this needs to be a team effort.

The future for water: three challenges

So let me look into my crystal ball and tell you how I see the future for water. I think we have three big challenges: an operational challenge, a climate challenge, and a political challenge. They are interrelated; and we have to crack all three if the sector, and the country, is to thrive.

The operational challenge

Let’s start with the operational challenge. Put simply, this is about doing stuff; doing it well; doing it better every day and with ever-improving value for money; and responding well to the unexpected. Those are not challenges unique to the water industry: almost all organisations in the public and private sector face them too. The added challenge for the water companies, because they are businesses, is to do all this and keep customers happy and make a decent commercial return.

Doing all that is harder than it looks. Much of this country has either too

little water or too much. Moving that water about and treating it is complex. Population growth is putting ever greater pressure on supply. The water companies have three regulators breathing down their necks: Ofwat, the economic regulator; the Environment Agency, the environmental regulator; and the Drinking Water Inspectorate, who ensure public health.

No-one notices when everything goes right with our water supply, which is about 99.9% of the time. But the public are naturally quick to complain when something goes wrong and our friends in the media are always happy to pile in. And unless the water companies operate well, day in day out, they risk losing their political and social licence to operate.

I think that by and large – with one big exception which I'll get to in a minute – the water companies do a good job operationally. And I know that they know how important it is to keep on doing that.

The Environment Agency is playing its part in all this. As a regulator we see our role as to help the water companies deliver great operational performance while ensuring they don't damage the environment while they are doing it. We believe in regulation that is risk based and proportionate. We believe in giving earned recognition to the good performers while bearing down hard on the bad. We believe in identifying what needs to be achieved in terms of protecting or enhancing the environment and in leaving the how as far as possible to the companies. And we think that the carrots of advice, support and guidance are better ways to deliver good performance than the stick of prosecution – though we will reach for the stick if we need to.

We also see ourselves as a joint operator with the water companies in helping deliver the water that people need to where they need it. The EA itself operates water transfer infrastructure which we boot up when necessary. When drought threatens, as it may again this summer, we work with the industry, government, farmers and NGOs to manage down the risks of water shortages.

And we work with water companies and other local stakeholders to develop catchment-wide strategies for water that seek to balance everyone's needs and those of the environment.

There is one glaring exception to my praise for water companies' operational record, and it's this: pollution. The water sector has got a lot better over the last few decades in reducing the number and severity of pollution incidents. But one big pollution incident is one too many. And the industry is not yet showing the reduction in numbers of serious pollution incidents that we want to see.

A few years ago the Environment Agency set a target that the numbers of serious pollution incidents caused by the water companies should trend down to zero by 2020. But over the last five years performance has plateaued in the 50 to 60 range. In 2017 the water companies caused 52 serious pollution incidents. Last year it was even worse: 56.

When a water company causes a serious pollution incident – typically by allowing raw sewage to escape into a watercourse – the result is always bad

for the environment: it can and does kill thousands of fish, animals and plants, damage ecosystems and ruin water quality for a long time. A serious pollution incident is also bad for the company concerned, because we will normally prosecute. We usually win those prosecutions, and the courts are now issuing record fines which will hit the companies' bottom line.

There's more. Serious pollution incidents are bad for the industry as a whole because they tarnish the reputation of the industry as a whole. And when that happens people ask legitimate questions about whether the current economic model for water drives the right behaviour by the companies, or whether there should be another model. The bottom line is this. There is only one acceptable level for pollution incidents: zero. The water companies, I suggest, have just as much interest as the Environment Agency and the public in getting to that target sooner rather than later.

The climate challenge

Let me turn to the second challenge I see for the future, climate resilience. Put crudely, this is about avoiding what I called in a recent speech The Jaws of Death.

For those who didn't read the speech, The Jaws of Death is what you find in all the water companies' business plans. It's a chart in the form of a graph, which draws two lines across the X/Y axis. The first line shows predicted water demand over the next several decades in the region the company serves: and in all the company plans this line goes up, as more people, homes, and businesses appear over time. The second line shows the water that will be available to supply those needs: and in all the water company plans this line goes down, as the effects of climate change kick in.

Somewhere out along the timeline, usually around 20 years from now, those lines cross. And that, ladies and gentlemen, is the jaws of death – the point at which, unless we take action to change things, we will not have enough water to supply our needs.

This risk is being driven by climate change. In the UK we will have hotter and drier summers. That will mean more water shortages and a higher risk of more frequent and more extreme droughts.

We know how to avoid the Jaws of Death. We need to tackle both sides of the equation: reduce demand and increase supply. We can reduce demand by reducing leakage, more water metering, sustainable drainage systems, new building regulations that drive greater water efficiency, encouraging innovative products that use water less, and by cutting down the amount of water we each use as individuals.

And we increase supply by a mix of methods: more water transfers between regions from areas of water surplus to areas of deficit, more desalination plants, and most controversially of all, more new reservoirs. Some of that infrastructure will be contested. What can't seriously be contested is the economics: the investment needed to increase our resilience is modest compared with the cost of not doing it.

Using less water and using it more efficiently is only partly about investment in infrastructure or technological innovation. Most of it is about changing human behaviour. At present the average person in the UK uses 140 litres of water a day: if we want long term water security, we need get that down to 100 litres or less. Part of that is about making it easy, by offering people products that help use less water, as most of the water companies now do.

But a big part of success is going to be waking people up about what will happen if we don't change our behaviour: which is why I used the Jaws of Death phrase. I do think that public advocacy for change is an important part of what the Environment Agency should be doing to help all of us deliver greater climate resilience. The EA is also doing some extremely practical things. We are leading a major programme of abstraction reform to ensure that the EA's system of licenses for abstracting water is fit for the modern world, and balances properly the needs of the public, water companies, industry, farmers and the environment itself.

We are enhancing the nation's resilience to another of the effects of climate change, more and more severe flooding, through our leadership of the government's £2.6bn programme to build flood defences that will better protect 300,000 homes and businesses by 2021. And here too we want to lead the debate about the future – and will seek to do so tomorrow when our Chair, Emma Howard Boyd, launches a major new consultation on how to manage the risk of flooding and coastal erosion between now and 2100.

We are heavily engaged in mitigating the extent and effect of climate change through our regulatory work: our regulation of industry helps take millions of tonnes of CO2 out of the atmosphere every year that would otherwise drive climate change.

And we are trying to walk the walk ourselves as an organisation. We are cutting our own carbon emissions year on year, and using our pension fund to invest in companies which are supporting the transition to a low carbon economy and to challenge those who are not.

The political challenge

We've been living with climate change for many years now. But in the last few years a new challenge has crept up on the industry, a political one.

This political challenge is not just that one of the two major parties wants to renationalise the water industry, though Labour does, and has set out clear plans to do so. The challenge is deeper than that: it is that the water companies appear at risk of losing support more broadly in the country as a whole.

You can see that risk in the fact that some Conservative ministers have been as critical of the water companies as Labour have. You can see it in the fact that the Financial Times, not normally a friend of nationalisation, has been critical of the industry in terms similar to those spelt out by Labour. And when politicians and the media are all saying the same thing, this is usually

what the public are saying too.

So let’s be clear: the water industry is under a level of scrutiny it has not experienced before, much of that scrutiny is hostile, and it’s coming from a wide range of sources.

In many ways this is deeply unfair. The story of water in this country over the last several decades is not one of failure. On the contrary, it is mostly a story of stunning success.

The quality of the water in our rivers, streams and lakes is better now than at any time since the start of the Industrial Revolution. Salmon, otters and other wildlife have returned to rivers that only a couple of decades ago were biologically dead. That is in large part due to the hard work and investment of the water companies – as well as the activities of the regulators like the EA and the NGOs.

Today the water companies deliver safe, clean water, day in day out to millions of homes. They do it reliably and at a price almost everyone can afford. Service interruptions are rare. The last hosepipe ban in England was seven years ago.

The water companies put more money into improving the environment than anyone else, including the Environment Agency itself. In the last five years they have spent some £3.5b directly on environmental protection and improvement as part of their commitments to Ofwat and the EA, and much of the rest of their spending indirectly benefits the environment too.

The water companies take their regulatory responsibilities seriously. They work professionally and well with the Environment Agency, Ofwat and the DWI.

Nor have I seen much evidence that the water companies are evil. In my experience the people who work for them love their children too, and have just as much of a commitment to public service as those who work in the public sector.

So let’s be clear: there are many things about our present water industry that we should be proud of. But if the industry wants to meet the political challenge I have outlined, or indeed survive in its present form, then it needs to up its game.

What does it need to do?

In my view, it needs to tackle the issues that concern the public the most, and which are feeding the criticisms of the politicians and the media:

- Pollution. If companies cannot operate without damaging the environment they will rightly lose their social licence to operate. Getting their company to zero pollution incidents should be as important to CEOs as any other performance measure.
- Leaks. Nothing annoys water customers more than leaks, especially when we all know water is scarce. Companies all have leakage reduction targets, some more ambitious than others. All the leakage targets should

be ambitious.

- Drought. Failure to provide the water the public want would be the ultimate indictment of the sector. So the water companies need to work actively with the EA over the next few months to manage down the risks of hosepipe bans or other water restrictions this summer. I'm inviting all the main water companies' CEOs to join me next month at the National Drought Group which I chair to ensure we are all in the best possible place as we go into the summer.
- Long term climate resilience: as I've said, long term water security requires reducing demand, enhancing supply, and significant investment in infrastructure. Some of the companies are doing this. But not all are, or not to sufficient degree or with sufficient pace. The companies all need to own and lead this process. Last but not least, if the water industry wants to retain the current economic model, then it needs to show that private companies can act in the public interest. The commitment to do just that which the water sector announced last month deserves recognition. Among other things, it commits the water industry to make bills affordable for all poor households, to triple the rate of leakage reduction by 2030, and to achieve net zero carbon emissions by 2030. More of that please.

It's good to have a debate about water and how we provide it. But I don't think the fundamental issue is whether water companies remain privatised or are taken back into public ownership: the fundamental issue is what will deliver best for the public and the environment. That is where the debate should start and finish. The Environment Agency will contribute to that debate; praise the water industry when we think praise is due; and challenge it to up your game when we think it should.

Conclusion

Let me draw these remarks to a close with three of my favourite American quotations. The first comes from Tom Friedman's great book on globalisation The World Is Flat, in which he says this: "In the future, whatever can be done, will be done. The only question is whether it will be done by you or to you." I commend this thought to the water industry.

The second is my favourite saying from Silicon Valley, which is that the best way to predict the future is to invent it. All of us in this room have an interest in inventing the future of water together: let us agree to do so.

And the third remark is from Sylvia Earle, the distinguished US marine biologist, which sums up in twelve words everything that's really at stake here, not just for those of us in this room. It goes like this: "No water, no life. No blue, no green. No ocean, no us." Let us ensure that we never end up there.

I started with a diplomatic anecdote so let me finish with one too. One of the things the Water Industry Forum rightly aspires to do is help all of us in the sector come to a common understanding of the challenges we face. This story, which is also taught to young British diplomats as an Awful Warning, and which is said by those who were there to be true, shows the dangers of

misreading a situation.

Some of you may remember George Brown, who was the UK Foreign Secretary in the 1960s. He was in many ways an accomplished figure. But he had one big problem, which was that he was permanently drunk. As you can imagine, this led to diplomatic difficulties.

The most famous of these difficulties happened during an official visit which George Brown made to Peru. On the last night the Peruvians hosted a glittering reception in honour of their guest. Present were all the top military officers in full uniform, all the ambassadors in diplomatic court dress, and a group of very glamorous women in beautiful outfits.

George Brown arrived, knocked back several whiskies, and as the music struck up he staggered towards a gorgeous figure draped all in red and said: “Excuse me, but may I have the pleasure of this dance?” There was a terrible silence. Then the guest replied: “There are three reasons, Mr Brown, why I will not dance with you.

‘“The first is that you are drunk. The second is that this is the Peruvian national anthem. And the third reason that I will not dance with you, Mr Brown, is that I am the Archbishop of Lima.”

Thank you for listening, and be careful who you ask to dance.

Press release: UK employment rate at joint record high

Higher skilled roles drive joint record high employment rate of 76.1% and over 32 million people are in work in the UK, up over 3.6 million since 2010.

Press release: UK employment rate at joint record high

A booming higher-skill jobs market is driving continued record employment in the UK, new figures published today (14 May 2019) from the Office for National Statistics (ONS) show.

The UK unemployment rate fell again to 3.8%, its lowest level since 1974, with female unemployment falling even further to a record low of 3.7%.

14.8 million are now employed in higher skilled roles, from professional tradespeople to scientists, nurses and accountants – a boost of 2.6 million since 2010, making up over 75% of the growth in employment.

Unemployment also remains at its lowest rate since the 1970s at 3.8%, as the figures also showed a record proportion of people from ethnic minorities are now in work, at 66.5%.

Minister of State for Employment Alok Sharma said:

> Maintaining our record employment rate with unemployment falling again to just 3.8%, its lowest rate since 1974, once again shows the success of our balanced approach to managing the economy.
>
> Rising wages and booming higher-skilled employment means better prospects for thousands of families, and with youth unemployment halving since 2010, we are creating opportunities for all generations.
>
> We now need to shift some of our focus to upskilling people and supporting them into roles with real career progression to create a modern workforce fit for the challenges of the 21st century.

Wage growth also continued its upward trend this month, growing by 3.2%, a 1.3% rise in real terms.

Figures also show 3.9 million people from ethnic minority backgrounds are in work. Despite this encouraging trend, the department is already going further to support workers in these groups. Rolling out new jobcentre programmes such as mentoring circles and establishing closer working links with local community centres and mosques.

Media enquiries for this press release – 020 3267 5144

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Speech: EUREKA Global Innovation Summit 2019

Good morning. It is an honour to stand before you to speak as the UK's Science Minister at this EUREKA Global Innovation Summit.

It has been an honour too, for the UK to host the Chairmanship of EUREKA this year, for the first time in 22 years. The UK has been a proud member of

EUREKA since its establishment, and we will continue to be so.

For it is at summits like this today, that we can reflect upon our common endeavour.

In this room, we have over 2000 delegates, from over 65 countries.

Now, we may come from different cities, different countries, even different continents, but what unites us to be here in this same hall is one single passion.

It was that same passion that brought about the establishment of EUREKA at the Paris Declaration, some 34 years ago.

It is a passion embodied in EUREKA's own motto, those 3 simple words: 'Innovation Across Borders'.

For we are all testament to the fact that science, research and innovation knows no boundaries– by its very essence, it seeks to break them down, and to redefine our future.

Science and research achieves this through its own innate spirit of collaboration, and collective endeavour. Researchers working across national borders, placing progress for tomorrow above the political issues of today. The UK has sought to use its Chairmanship of EUREKA to help expand the opportunities for researchers to develop their shared agendas.

We announced in June 2018 3 ambitious objectives to make ours an effective chairmanship year:

1. to broaden the global participation of the network;
2. to improve the visibility of the value the network brings; and
3. to provide an agile platform that can adapt to the changing needs of the R&D and innovation community.

One mark of success was bringing new countries into EUREKA, and we achieved this through multilateral Global Stars calls with India and Taiwan, and I am pleased to announce the UK Chair will tomorrow sign a declaration of intent to launch a call with Singapore.

We've also been looking at Argentina's potential associate membership of EUREKA, and we hope to conclude this at the final London EUREKA network meeting in June.

On recognising the value of EUREKA, the UK Chair has resulted in the development of a new communications strategy, as well as increased engagement amongst member countries across the board.

Together, we developed the third Eurostars programme, with over a billion Euros to help innovative SMEs to collaborate, scale and grow.

Eurostars-3 encompasses a broad set of activities and a larger target group of companies, enabling the growth of a new and exciting generation of

innovative SMEs.

Now, as our Chairmanship comes to an end, what resonates particularly strongly with me are the themes of the last year – global, valued and agile.

For they are the themes which I also believe the UK must continue to commit to as a nation.

We have made a public commitment to ensuring that 2.4% of our GDP is invested in research and development by 2027.

Internationally, many countries, including South Korea, are already exceed this target. So the UK must raise its investment if we are to maintain our commitment to the future. Indeed, if we do not, we risk falling further behind other nations in the development of emerging technologies. The US, China, France, Germany and others have already set out their own ambitious strategies for maintaining global influence in innovation.

We too must raise our aspirations: to be leaders of tomorrow, we must act now, re-doubling our efforts, both as a government and as UK business and industry, to meet the 2.4% challenge.

The road to 2.4% requires massive public and private investment. In 2017, we invested £34.8 billion in R&D across all sectors, the equivalent to 1.7% GDP. To achieve 2.4%, investment will need to increase to around £70 billion, doubling in nominal terms.

I believe that we can and must meet this challenge.

Across the world, 14 countries – including emerging research nations such as China and South Korea – have successfully increased their R&D commitments by this scale and beyond.

And with more than 30 countries internationally having active R&D intensity targets, ensuring that we keep pace with the plans of our international partners must be a national priority.

We must learn from and adapt to other countries increasing their R&D intensity.

Our Industrial Strategy has already set out an additional £7 billion to be spent on research and development by 2022: the largest increase in the UK for nearly 40 years.

As Science Minister, in advance of the UK's Comprehensive Spending Review later this year, I want to set out what I believe are the core principles and framework that must underpin our overall strategy to meet the 2.4% target.

There are 4 key themes that I believe need to be addressed. Last week I gave a speech at the London School of Economics, setting out what we need to do to invest in the talent and researchers of tomorrow.

I will also be making speeches on the investment required in emerging

technologies, and how we must ensure that private investment in R&D can be fostered and increased.

Today, I wish to address what must be a crucial part of our road to 2.4% strategy– strengthening the UK's global position in the international research community.

To return to the 3 themes of our EUREKA Chairmanship– global, valued and agile: it is clear that international research partnerships cannot be forged simply for their own sake; they must have focus, a clear sense of purpose, and deliver meaningful outcomes for our societies.

Increasing and strengthening international partnerships must be the future of scientific collaboration.

Where EUREKA blazed a trail 34 years ago, today we must reach even further, forging and strengthening new relationships with countries that are equally interested in expanding their research capabilities.

But we must ensure that these new partnerships, while increasingly global, are centred in their value and commitment to expanding excellence. And they must also be agile enough to adapt to the changing demands of the future.

We are all living through enormous technological, social and environmental change, and the UK is determined to direct our world-class science, research and innovation towards tackling these global challenges.

That is why we have identified 4 Grand Challenges in our Industrial Strategy:

- harnessing the potential of data and artificial intelligence
- moving to clean growth to combat climate change
- transforming how people, goods and services move
- adapting to the new reality that many people around the world will start living beyond 100

These are global challenges, and we will only successfully tackle them through global collaborations – between governments, scientists, researchers, innovators, entrepreneurs, businesses and societies.

Only by working together will we meet our shared challenges of climate change, an ageing society, and an increased population with equally increased ambitions to live improved lives.

This is why we have invested £1.5 billion in our Global Challenge Research Fund, and over £700 million in the Newton Fund, partnering with countries from across the world on issues that affect developing countries. But the discoveries and impact of this research can benefit us all.

Back in January we committed £200 million to 12 interdisciplinary research hubs, working across 85 different countries.

These will build new global collaborations to tackle some of our biggest challenges, such as preserving our oceans, averting flooding risk, ensuring

gender equality, boosting life prospects for teenagers and protecting future cities against disasters.

We must never lose sight of the fact that the purpose of scientific research must always be centred on excellence. International infrastructures ensure that excellence can be nurtured and indeed expanded.

Later today, I'm heading to Jodrell Bank, to the headquarters of one of the most ambitious international science projects in history: The Square Kilometre Array – a project of such a huge scale that it gets to be called 'mega-science', and is the fruit of the combined efforts of 11 different countries.

The UK is proud to be the international headquarters of this project.

Just as we are equally proud to continue to host the Joint European Torus fusion reactor in Oxfordshire – known simply as JET.

Hosting JET has enabled the UK to become a world leader in fusion technology.

Following the triggering of Article 50, one of the first things we did was guarantee our fair share of JET costs if the EU extended the contract. In the Spring Statement this year, the Chancellor guaranteed our commitment to the UK's funding for the JET nuclear fusion reactor, whatever happens with Brexit. And in March we signed a new contract extension with the European Commission.

Crucially, this will last until the end of 2020 regardless of wider EU exit negotiations, safeguarding this world-leading facility and over 500 high-skilled science and engineering jobs.

When it comes to developing the future of fusion, the UK is also keen to continue to participate in ITER in Southern France. UK companies are currently helping to build this exciting international project.

We are equally determined to maintain our commitment as a founder-member of CERN, investing £137 million last year, maintaining our position as the second largest contributor.

The same is the case for our membership of the European Space Agency. At the ESA 2016 ministerial meeting we made a record investment of €1.4 billion bringing our average annual subscription with ESA to over €350 million per year.

I plan to renew our subscription with ESA at this year's ministerial meeting, investing in highly ambitious programmes that not only are about collaborating with Europe but with the rest of the world.

These programmes include a renewed ambition for humankind to explore deeper into space – establishing a Lunar Gateway space station orbiting the moon and using UK world leading robotic expertise for the first time to return surface samples from Mars.

Our commitment to infrastructures like ITER, CERN and ESA, and indeed all future technologies, must be a common one that puts short-term politics aside.

The UK may be leaving the European Union, but we are not, and must never leave behind our commitment to our European research and innovation partnerships.

This is why as a government, we have guaranteed funding for all successful competitive UK bids to Horizon 2020 submitted before we leave the EU in a no deal scenario. In 2018 we extended this no deal commitment to cover all successful competitive UK bids to Horizon 2020 calls that we can access as a third country that are submitted between Exit and the end of 2020. Vitally we will continue to fund these projects for their entire lifetimes, beyond the end of 2020.

And it is why, as Science Minister, I am keen to explore how the UK can fully participate in the future Horizon Europe programme. I attended the EU Competitiveness Council meeting in February to agree the regulations, and hope to attend the next Council meetings on 28 May and 4 July. It is vital that the UK remains around the table, helping to shape the future of the programme and ensuring that it maintains its commitment to excellence.

I want to send a message today that as the UK, we value our partnerships with our European neighbours and friends. And that we maintain our shared commitment to joint working on science and research. Just as we continue our membership of ESA, we will also continue our existing memberships of the European Research Infrastructure Consortia that we have joined.

We are European, but we must also extend our international reach if we are to meet our 2.4% commitment.

Our universities– with 4 in the top 10, and 18 in the top 100 in the latest QS global rankings, and indeed with 97% of all UK Universities in the world's top 5% of universities– have long understood this. World class institutions attract world class knowledge – producing world class talent.

It is this knowledge, but more importantly in the people who work within them, that attracts the leading R&D intensive international companies who seek to co-locate and cluster near to these unique, globally leading ecosystems.

We must never lose sight of the fact that our universities provide the magnetic field that attracts people, business and investment into the UK.

In Cambridge we now have Europe's largest technology cluster, with 1,500 tech based firms, employing 60,000 people and an annual revenue of £13 billion.

It is talent and ideas that are the magnetic poles, driving international investment. In Cambridge, the strength of its research base has attracted R&D investment from multinational businesses such as Amazon, Microsoft, Samsung and Apple.

And here in Manchester, global diagnostics firm QIAGEN are working with the University of Manchester to create a world-leading precision medicine campus in the Corridor Manchester Enterprise Zone, creating and supporting up to 1,500 jobs and adding £150 million to Manchester's economy over a decade.

And they're not alone. Other big companies like Unilever, BP and Rolls-Royce are all choosing to invest in this city too. It's clear evidence that the UK is very much open for business.

We want to continue to attract international investment, and to be the destination of choice of international companies seeking to partner with our world class research facilities and universities.

And we will continue to invest in people and talent.

Last week, in my first speech setting out our road to 2.4%, I announced the first 41 Future Leaders Fellows- in total we will invest £900 million in 550 fellows.

Our fellowships have been designed to be truly international, open to researchers from across the world, to come and pursue their research in the UK. Winners last week included researchers from Canada to Japan, who will now choose the UK to relocate and pursue their research careers.

As I set out in my speech last week, I want to ensure that every researcher, indeed every potential researcher, will actively consider the UK as a destination of choice.

We must also ensure that we frame our international partnerships in our shared ambitions for developing emerging technologies. For example, we're investing over £50 million to partner with South African researchers to develop better battery storage technology, to enable both the transition to electric vehicles and wider clean energy systems.

And we've also launched a UK-Canada AI Innovation Challenge to bring the brightest AI minds together to find solutions for problems across sectors. Recently, we have signed bilateral science and research agreements with the US, Canada and China in 2017, Israel and Thailand in 2018 and, where possible, I am keen to do more.

That is why we have also commissioned Sir Adrian Smith, the Director of the Alan Turing Institute, to review how we can develop future international research partnership funds, both in the scenario of not being able to associate into Horizon Europe, but also to develop new international grants that will be held in global esteem, open to the international research community.

Sir Adrian Smith is currently consulting on what any future funds should look like, their scale and framework, and I would urge everyone here to respond to the call for evidence which closes on 24 May.

The Smith Review is only one part of a wider strategy that the UK is determined to develop as we set out our international ambitions for the

future of our international research partnerships on the road to 2.4%.

Today, I am pleased to be able to announce that we are publishing our International Research and Innovation Strategy – otherwise known as IRIS.

This strategy sets out, for the first time, the UK's framework for future collaboration for the long term.

It takes a broad, holistic view of our research and innovation system – including not just our universities, research institutions and businesses, but also our regulatory system, our quality infrastructure, and our policy and governance expertise. And it shows how each of those can be opened up to international partners, for mutual benefit.

It can be difficult to frame a whole UK strategic approach to international research and innovation partnership because the drivers and benefits for collaboration are articulated on so many different levels, in so many different ways.

But the strategy does attempt to provide a framework to show the breadth of our approach to international engagement – captured under 7 pillars.

They cover the UK's commitment as an outward-facing global partner, with partnerships at multiple levels guided by excellence and impact.

These collaborations will be built on access to talent, supporting the international mobility and connectivity of researchers and innovators where the best can work with the best.

We will continue to be a global hub for innovation, backed up with incentives and financial support which will strengthen international collaboration – whether it's about improving the capacity of UK SMEs to scale and access overseas markets, or showing overseas investors that the UK research and innovation base can support, connect and build the technologies and global business of tomorrow.

We will provide a platform for the technologies of the future through the strength and global reach of our governance, intellectual property and standards frameworks, which can support the design of common regulatory approaches to support emerging technologies.

As Partner for a Sustainable Future, we want to build and invest in collaborative partnerships resources to explore the secrets of the universe, address global challenges, and build capacity in developing and emerging countries to combat local challenges.

And of course, there is the responsibility to be a good global citizen, concerned both with improving the global governance of research, and improving the impact research has on global governance.

We must not forget our responsibility to help create global citizens of the future through our International Education Strategy and strengthening the global reach of our higher education system, as I set out in my speech at the

‘Going Global’ conference in Berlin yesterday.

As we look ahead to the opportunities and challenges of the ‘Fourth Industrial Revolution’, we also need to build an international consensus across a range of issues – from research ethics to Open Science – to share knowledge and build public trust in science and technology. And to ensure at every stage we recognise the importance of communicating the need for science and research to the public, for the public and where possible by the public.

The International Research and Innovation Strategy acknowledges that. It embraces the variety of roles the UK plays internationally. It shows how we are investing over the long term in a set of enduring international research and innovation partnerships, in order to drive excellent research, develop new technologies and industries, tackle global challenges and help meet our 2.4% target.

And my hope is that this will be a framework which we will use, not just to achieve the 2.4% target, but to confidently project to international audiences the value they will receive from collaborating with a transformed UK; one that has built its future on the collective strength of its research and innovation community.

The UK’s EUREKA Chairmanship has been a real privilege, and it’s a fitting signal of intent that we’re marking the end of our tenure with a commitment to invest an additional £30 million over 4 years to supporting UK businesses to participate in EUREKA.

This includes the launch of £4 million of funding competitions at this Summit for those UK innovators in areas such as AI and Quantum who looking to access new partners, knowledge, skills and markets to enhance their competitiveness.

And there’s one more opportunity too: the current UK-South Korea bilateral call on the Internet of Things, and advanced materials for transport.

Today marks the tenth anniversary of Korea’s membership in the EUREKA network. So I am delighted to present this commemorative token, and welcome to the stage Vice Minister Cheong Seung-il from South Korea’s Ministry of Trade, Industry and Energy.

Thank you.