

[News story: Ground-breaking satellite projects will transform society](#)

Ordnance Survey MasterMap.

The electric vehicle charging point project, led by Energeo Ltd working with Bournemouth Borough Council, will combine satellite imagery, Open Data, and Machine Learning to deliver an interactive map based user interface. This will help the council identify charge point requirements via visualisation of different features and influences on EV roll out, such as existing charge points, residential driveway availability and size, and footpath width and potential obstructions.

The eight new projects are part of the UK Space Agency's [Space for Smarter Government Programme](#), which demonstrates the potential of using satellite technology to solve challenges faced by the public sector.

Satellite data and applications which use space have the potential to change the way the public sector works, leading to better services and lower costs. This in turn could help boost the growth of the UK space sector, which is already worth £13.7 billion to the economy and provides around 40,000 jobs.

The announcement comes on the day the Space Industry Act received Royal Assent, which will unlock an exciting era of British space innovation, exploration and investment. The Act will enable the first commercial space launch from UK soil in history, creating the potential for hundreds of highly-skilled jobs and bringing in billions of pounds for the economy.

Science Minister Sam Gyimah said:

“These projects demonstrate the potential of satellite technology to benefit life on Earth with innovative solutions to challenges ranging from monitoring plastic waste in the sea to supporting the roll out of charge points for electric cars.

“As set out in our Industrial Strategy, the UK Space Agency is working together with industry to ensure the UK thrives in the commercial space age. The Space for Smarter Government Programme is transforming the way the public sector works. It will stimulate innovation and growth, while helping the public sector save money and improve decision making.”

The Environment Agency will collaborate on two projects, one of which deploys satellites and drones in the battle against marine waste and the other will use satellite data to monitor flood defences in the Thames Estuary.

Dr John Kupiec, Environment Agency's Innovation Manager, said:

“The Environment Agency is delighted to support the development of these innovative projects that will help us work towards protecting the environment

and promoting sustainable development.

“The Government’s 25 Year Plan to Improve the Environment highlighted the problem of plastics in the environment – particularly in marine and coastal environments. By using Earth Observation and other novel technologies we hope to accomplish our common goals in reducing plastic and other waste pollution.”

The UK Space Agency is providing training to policymakers as well as access to data, wider expertise and market capability as part of the programme. Working alongside public sector partners, academia and industry can help bring new satellite applications to market to meet UK needs.

The full list of projects, which have received a combined total of more than £700,000 in funding, can be found below:

Project title

City Level Energy Analysis for Electric Vehicle Charging Points

Funding

£59,898

End user

Bournemouth Borough Council

Lead organisation

EnergEO Limited

Energieo’s CLEAN EV service will utilise geospatial Big Data (such as satellite imagery), Open Data, and Machine Learning in conjunction with strategic textual information. It will deliver an interactive, web based tool, designed to support roll out of Electric Vehicle charge point (EVCP) infrastructure in urban environments via intuitive visualisation, contextualisation and analysis of data in a map based user interface.

Public sector end users will be able to efficiently identify charge point requirements via visualisation of different features and influences on EV roll out, such as existing charge points, residential driveway availability and size, and footpath width and potential obstructions, in order to provide an accurate overview of current and potential EVCP preparedness. In addition, users will be able to identify specific features manually through the map interface, or run queries in order to model pre-determined scenarios that will support the strategic decision making process.

Project title

Transport modelling based on PNT data

Funding

£59,950

End user

Sedgemoor District Council, Somerset

Lead organisation

City Science

This project takes a range of position, navigation and timing (PNT) data and assesses the feasibility of its use to provide accurate and informative outputs within a transport planning context. Using PNT data, the project will investigate issues such as the scheduling and impact of HGV deliveries, the associated impact on congestion, bus timetable reliability and the distribution of journeys at different times of day. It will do this by integrating PNT data with traffic simulation and modelling models.

The outputs will be a data-based understanding of existing and future pinch points across a range of transport modes that are robust, fit-for-purpose and meet the needs of the local authority.

Project title

Urban healthy living using satellite enabled air pollution monitoring and mitigation

Funding

£123,582.09

End user

Cherwell District Council, Oxfordshire

Lead organisation

Geospatial Insight Ltd

This project addresses how air pollution exposure affects wide swathes of public sector policy and programmes. Management and mitigation of adverse air pollution exposure by integrating space-enabled technologies with other public-sector initiatives offers prospects for smarter, more efficient operations, risk reduction and enhanced policy delivery in many key areas, notably healthcare and urban air quality management.

Geospatial Insight Ltd will lead a team of innovative SMEs to work in partnership with leading public authority stakeholders to demonstrate beneficial disruptive interventions in primary and secondary healthcare provision and urban planning through the management of ambient air pollution.

Project title

Quantifying Congested Maritime Environments

Funding

£60,000

End user

United Kingdom Hydrographic Office (UKHO)

Lead organisation

SCISYS UK Ltd

Improved understanding of patterns of life in congested maritime environments will allow greater situational awareness for users of maritime waterways. The well-established Automatic Identification System (AIS) can determine movements of large vessels, but smaller vessels without AIS are less well understood and remain difficult to quantify. Some vessels in this category are visible from space using radar and optical satellite imagery, which may also capture tidal and seasonal changes.

SCISYS's novel approach involves automatically mining through archives of satellite data to build up a picture of spatial and temporal activity, taking variations in data availability into account. The main advantage is that this approach locates all objects of a certain size, irrespective of their type or if they are broadcasting an AIS signal, thereby delivering value-add information to existing maritime products and services. The United Kingdom Hydrographic Office will partner SCISYS for this feasibility study.

Project title

Space Derived Condition Assessment tool for CNI Structural Risk Management

Funding

£172,974

End user

Environment Agency

Lead organisation

Geomatic Ventures Limited

This project aims to provide a basis for the regular remote assessment of structural condition for Critical National Infrastructure (CNI) asset owners such as power stations, railways, roads, gas storage facilities, runways, flood defences and water treatment works. It will provide early warning

indicators of potential engineering failures through absolute motion vector mapping using a combination of satellite based radar with satellite navigation.

The project uses satellite based remote sensing to provide initial wide area, medium resolution screening and identify relevant site criticalities. Using national threshold standards it will target higher resolution deformation studies. An asset risk index will be developed so that the remote sensing techniques can be applied on soft and hard targets and used to inform asset condition across a range of asset types.

Project title

GeoInt Service for Marine Litter

Funding

£60,000

End user

Environment Agency

Lead organisation

ARGANS Ltd

The GeoInt Service for Marine Litter is a platform developed by ARGANS Ltd, aiming to integrate big data sources about marine litter from satellites, drones and citizen science initiatives on a single platform. The goal is to provide synoptic information to the public, voluntary and private sectors with an interest and decision-making capability to support policy-making, cleaning, prevention operations and long-term monitoring.

Local, regional and national authorities, NGOs, foundations, conservation societies, waste management companies and industry especially those focused on the circular economy will benefit from this service. ARGANS Ltd has received end user support from the Environment Agency, Cornwall Council, and European Space Agency.

Project title

AI Satellite Pluvial flood forecasting

Funding

£129,922

End user

Greater London Authority

Lead organisation

Ambiental Environmental Assessment Ltd

This project aims to help the public sector to increase the uptake of satellite and Earth Observation data via sustainable 'live' services relating to surface water flood forecasting, and associated dynamic mapping of changing patterns of green space in urban areas.

The goal is to enable smarter, more efficient operations, reduce risk/cost and enhance the quality of decision-making within the public sector in real-time. A novel aspect of the project involves utilising Artificial Intelligence (AI) to enhance situational awareness and provide actionable intelligence.

Project title

E0-derived soil moisture estimation

Funding

£55,900

End user

Network Rail

Lead organisation

CGG NPA Satellite Mapping

This project will improve the understanding of soil moisture evaluation from Earth Observation (E0) data. Soil moisture can have significant impacts on asset management within the rail sector. The occurrence of earthwork failures have been shown to correspond with ground (soil) saturation and weather conditions reported at the time of failure. NPA's E0 experts believe that soil moisture estimation algorithms developed for use with Sentinel-1 data could facilitate the remote estimation of soil moisture. If successful, this capability should improve Network Rail's ability to identify the most at-risk parts of its network. It is hoped that this solution will also benefit other public sector organisations concerned with asset management. In addition to working with Network Rail as a public sector end user, NPA will also receive support from the National Physical Laboratory (NPL) and British Geological Survey (BGS).

For more information about the work of SSGP and to view other case studies, please visit the [Space for Smarter Government Programme website](#), or contact the team at ssgp@ukspaceagency.bis.gsi.gov.uk

Speech: Green Brexit: a new era for farming, fishing and the environment

I want to thank Prosperity UK for organising this conference and in particular, Lord Hill of Oareford, Sir Paul Marshall and Alex Hickman who have been the dynamos who have ensured that today can occur.

And they, like the team that run Prosperity UK, are determined to bring together individuals from across the political spectrum to develop policies for Britain's future outside the European Union (EU). Their committee is composed of both those who argued that we should Leave the EU and also those who believed that we should Remain But they are united by the belief that, whatever positions individuals may have been adopted in the past it's important that all of us now focus on the opportunities of the future.

And in choosing today to focus on agriculture, fisheries, food and the environmental more broadly, I believe, that Prosperity UK and the people in this room have identified a critical range of areas where Britain has the potential to be an innovator, generating increased prosperity and setting new global gold standards in sustainability.

I want to set out, in a second, where I believe some of those opportunities specifically lie.

But first I wanted to say a little about how important it is to me in this Government that when we explore the opportunities of life outside the EU we ensure the hopes and fears of those who voted to Remain are woven into our thinking. And into our actions.

No decision in our nation's history has enjoyed such a strong popular mandate as the decision to leave the European Union. 17.4 million people voted to take back control of this country's trade, taxes and laws.

But more than sixteen million of our fellow citizens voted to Remain. And there is a special responsibility on those of us who argued for a Leave vote and who are charged with implementing it, to ensure that the underlying reasons why so many people voted to Remain are respected.

Many people voted to Remain because they understandably feared the economic consequences of leaving. There were warnings that a vote to Leave would trigger an immediate recession and precipitate job losses.

Others chose Remain because they feared a Leave vote was somehow a vote to turn inwards and backwards. It was a vote for narrower horizons rather than a truly global Britain.

Others were concerned that a vote to Leave would strengthen the hands of separatists particularly in Scotland or others who wished to pursue an even more populist political platform.

And, critically, there were many that felt that during the time we have been in the European Union there have been undoubted advances in how we treat each other, and the planet, which have been enshrined in law and underpinned by regulation, and all that would be put potentially at risk by a vote to Leave.

All of those concerns – for economic justice, cultural open-ness, social harmony and environmental enhancement – are critically important.

And that is why I am glad that, since the referendum result, this Government has ensured that progress has been made in all of those areas.

Since the referendum, Britain has recorded the best employment figures in its history, with more than 32.1 million people in work. Employment is just 66.5% in the Eurozone, compared to 74.1% in the UK.

And for those in work, particularly at the bottom end of the income spectrum, wages have been rising. As the OBR pointed out this week, there has been a 7% real terms increase in pay for the poorest.

More jobs for working people and better-paid jobs for working people I believe contributes to greater economic justice.

All this has been underpinned by a shift in our economy towards export-led growth, away from what I believe to be an over-reliance on domestic consumer demand in the past.

In the last 12 months exports have risen by £64.5 billion – that's a rise of 11.5%.

Our service sector continues to thrive with exports up by 10.1% and exports of goods have risen even faster by 12.6% to £344.5 billion, and the manufacturing sector in particular has been making a significant contribution to this growth.

So far then, the decision to leave the EU, far from precipitating recession, harming food security or hitting working people in the pocket, has promoted economic progress.

And it has also, I believe, had a beneficial political effect.

Since the British people voted to leave the EU, support for separatist parties and separation itself has declined. Most notably of course in Scotland.

The decline in support for separation in Scotland stands in contrast to the increased support for secession in Catalonia and the growing regional tensions that we've seen in Italy in their election campaign.

And indeed it is not just support for separatist movements which has declined in Britain since the referendum.

Support for populist parties has also collapsed. The United Kingdom Independence Party is now a ghost political movement, like the Luddites or

the Whigs, and no populist party of the right, or of the radical fringe, is taking its place.

Again, by way of contrast, the recent electoral success of the Five Star Movement in Italy, the Alternative for Deutschland in Germany, the Front National in France shows that almost alone in Europe, Britain does not have either a burgeoning populist party in parliament or making progress in the polls.

The ebbing in support for populist parties in the UK has also been accompanied by a warmer and more welcoming approach by the British people to issues such as immigration.

The most recent polling on migration showed that the UK was the country in the EU with the most welcoming attitudes towards migrants from outside the EU. We are the most open, global, nation in Europe.

And that is reflected in university admissions with the number of foreign students applying to study in the UK increasing.

In 2018 there were 7,300 more applicants from overseas, with 43,500 applications from EU students alone – an increase from the year before.

Applications from some EU nations such as Croatia, Finland, Germany, Spain, Poland and Portugal have continued to rise in the last few years by as much as 30%.

The continuing popularity of our world-leading universities with foreign students is a win-win all round. It's a wonderful example of British soft power, it makes universities themselves more diverse, it generates earnings for the UK economy, and the fees from foreign students can help keep our own costs down.

So, as well as serving economic justice, Brexit, if we make the right decisions, can serve social justice too.

THE GREAT PROGRESSIVE PRIZE OF A GREEN BREXIT

But more than that, Brexit, with the right decisions, can enhance our natural environment.

Which is why I am so delighted by the range of speakers, and indeed the breadth of issues, at today's conference. The potential for progressive change is huge.

But that change can only be made real if we utilise the talents of everyone who cares about the natural world.

I am very well aware that for many who care deeply about the environment, our membership of the EU coincided with both increased awareness of environmental concerns and improved mechanisms to safeguard the natural world.

And as I mentioned earlier, leaving the EU, for many, appeared to put those

gains at risk, or at the very least raise a question over the prospect of continued progress.

And it's because I appreciate the strength of those concerns that we in DEFRA have moved as quickly as we can to affirm that not only will there be no abandonment of the environmental principles that we've adopted in our time in the EU but indeed we aim to strengthen environmental protection measures and to create new mechanisms to incentivise environmental improvement.

That is why we're consulting on how to introduce a new environmental protection body and it's why we've outlined policies for the natural world in our 25-Year Environment Plan that, in some cases, are more ambitious than any required by EU membership.

I recognise that some of the ambitions outlined in the Plan will need legislative under-pinning. And while I can't say now what will be in future Queens' Speeches I can state clearly that if we are to honour our pledge to leave the environment in a better state than we inherited it we must also leave the statute book in a better state than we inherited it.

And in advance of any major legislation, we're also determined to show at DEFRA that we're making progress as rapidly as possible towards meeting the goals that we've set for ourselves in our Environment Plan.

That's why we're planning to go further in dealing with the pollution caused by single use plastics, and building on our plastic bag and plastic microbeads bans.

I am also determined, as I reminded today by the House of Commons, that the UK must do more to clean up our air. I want to create stronger incentives for us to do so, and I will set out our proposals in a clean air strategy later this Spring.

Because to be frank, as again the House of Commons has reminded us today, we've been too slow to act on what is a major public health scandal.

Again, we'll be saying more in coming weeks, but we all know that we have to do more to restrict diesel use, to protect urban centres from pollution, to change how some of us heat our homes and we also need to reform aspects of agriculture and industry to ensure our air is properly breathable.

A STRONG ECONOMY NEEDS A HEALTHY ENVIRONMENT

In acting in this way, I believe that this Government is being true, actually, to the best Conservative traditions. It was Disraeli's Government that recognised improving public health depended on passing enlightened environmental legislation. His administration introduced laws to safeguard our rivers. The great third Marquis of Salisbury's Government introduced laws on housing, Macmillan's introduced laws on Air Quality and Margaret Thatcher's on a range of environmental issues, all of which reflected a profound appreciation of the inter-dependence of a healthy environment, a healthy population and a flourishing economy.

I recognise that it's a stock in trade of some political commentary that you can only really pursue environmental goods at the expense of consumers or business. There are some who say that you can pursue greenery or prosperity but you can't put a premium on both.

Indeed that was the line doggedly asserted by the BBC's Nick Robinson when he interviewed me on the Today Programme for the launch of our 25 Year Environment Plan.

But, even when that case is prosecuted with all the vigour and talent of a Nick Robinson, I believe, and I believe that history shows, that it's a false dichotomy.

The truth, as governments have long understood, is that you cannot sustain economic growth if you erode the natural capital on which all human flourishing depends.

And, in parallel, sustainable economic growth will generate the income we all then can invest in future, further environmental enhancement.

It has been economic growth – free market-inspired, capitalist-generated and business-driven – that has helped us to secure cleaner rivers, cleaner and less carbon-intensive energy and to protect natural habitats in the world's wealthiest nations.

And unfortunately history tells us that centralised state control, socialist management, and the absence of effective price signals and functioning markets, and indeed the expropriation of private property and collectivisation have led, not just to economic misery but also to environmental degradation. The example of Mao's China, Soviet Russia and Maduro's Venezuela, shows that that path leads to poisoned soils and contaminated rivers, toxic air and wrecked habitats.

Indeed the economic policies pursued by the leaders of the Bolivarian Revolution in Venezuela – Hugo Chavez and Nicholas Maduro – who have such enthusiastic fans here in the UK, naming no names – those policies have involved the grotesquely profligate exploitation of fossil fuel reserves in a manner that has been both economically foolish and environmentally reckless. And that has been accompanied by the immiseration of the nation's population, provoking not just the migration of millions of refugees but also the devastation of that country's rural economy.

So poor, and hungry, have Venezuela's citizens become under Chavez and Maduro that they were driven to eat the animals in Caracas zoo to keep alive. As a metaphor for how economic failure drives the destruction of the natural world, it is both all too fitting and heart-breaking.

A POST BREXIT LONG-TERM ECONOMIC PLAN

But while open and enlightened market economies have done a demonstrably better job in delivering environmental goods than closed command economies, we've also got to be honest about where our economic thinking has been deficient in recent years.

Just as growth in the first decade of this century was over-reliant on debt, on borrowing that we expected the next generation to pay for, so growth over many decades has been over-reliant on exploiting finite natural resources whose depletion inevitably leaves future generations poorer.

As a Conservative, someone who believes in the careful husbanding of resources, both financial and environmental, and as someone who also believes in the principle of stewardship, the idea that we must hand on our inheritance to the next generation in an enhanced state, I believe we have a responsibility to ensure that our economic model prices in those valuable principles. In other words we have to have truly sustainable economic growth.

That is why I am such an enthusiast for the idea of natural capital, pioneered by the brilliant economist Dieter Helm, from whom you will be hearing later this morning.

Dieter developed the idea, the concept of Natural capital accounting, which aims to measure every natural asset – from freshwater to the oceans, oil and gas stocks to fish stocks, woodland to peat – and record how those assets are changing over time, both in physical and financial terms.

The UK was the first country in the world to establish an independent Natural Capital Committee to advise the Government on how to manage and enhance our natural wealth and that committee has been playing a critical role in the formulation and implementation of our 25 Year Environment Plan. The insights of the Natural Capital Committee have ensured that this government recognised that natural capital is as fundamental to our health and prosperity in our future as our human capital or physical capital.

Of course it's important to note that natural capital is just one tool we can use to deliver on our environmental gains. Not everything that we cherish in the natural world can be given a monetary value. We don't want to protect and restore the environment simply because of its economic value, but because of our moral duty and our emotional attachment. But still, natural capital remains a powerful tool for all of us who care about the natural environment and prosperity in the future to ensure that we take our responsibilities towards the environment seriously, and we can be held accountable for our actions.

So as we design the economic and environmental policies that will guide Britain after Brexit our aim will be to ensure we incentivise investment in physical, human and, above all, natural capital.

CAP REFORM

The prosperity of our economy, and in particular our food economy, depends on us developing a truly sustainable approach for the future, and in particular towards our landscape.

So as we escape from the Common Agricultural Policy and develop our own domestic farming policy we have to move away from our current system, which lacks effective incentives for long-term-thinking, to one that promotes

investment in our shared future.

That will mean we pay farmers to improve the quality and fertility of their soil, that means we want to reverse the trends of the past which have led to compaction and run-off, and which have polluted our rivers and choked our fish.

Supporting those who practice min or no-till cultivation in agriculture is not only better for our rivers and watercourses, it will also help to control and reduced carbon emissions, it will reduce demand for chemical inputs and it will provide a richer habitat for insects and invertebrates.

And we should indeed, as we revise our policy towards our land and embed natural capital thinking in our approach, move to provide better support for our farmers and land managers who maintain, restore, or create precious habitats for wildlife. Whether it's supporting those who're protecting curlews on moorland or who're ensuring the health of sphagnum moss in blanket bog, the stewards of precious natural assets which Britain has a special role in conserving, need improved support in the future, and that will be at the heart of our environmental, agricultural and economic policy post-Brexit.

FISHERIES

And as well as reforming the Common Agricultural Policy to reward those who provide habitats on land, leaving the EU also provides us with an opportunity to escape the Common Fisheries Policy and replace it with an approach to managing our marine environment which puts conservation and sustainability at the heart of our approach towards our own territorial waters.

Effective reform in all these areas will of course depend on also enabling the right sort of technological and scientific breakthroughs. And freedom to innovate in these policy areas should I hope also provide new opportunities for the burgeoning growth and environmental entrepreneurship that we see in Britain. From the appropriate surveillance of fishing activity to the use of artificial intelligence to improve farm animal health, we can demonstrate how we can increase both natural capital on land and at sea and also boost national productivity.

AGRITECH

There is, I am delighted to say, a continued and intense interest in British environmental technology and innovation because we excel in agritech and supporting innovation in green finance. There were more than 58,000 tech start-ups in the UK in 2017 and more venture capital invested in technology in London than in Germany, France, Spain and Ireland combined.

A new business starts every 75 seconds, and many have the potential to change how we define prosperity and how we enhance natural capital. New companies like Saturn Bioonics are leading the way with new modular growing systems that allow farmers to increase crop density while making harvesting cleaner and easier, reducing labour costs by up to 50% and producing an almost 100% saleable yield. Overall, Saturn Bioonics have shown that investment in their

technology will be paid back between 1-4 years through increased profitability.

And Government, critically, has a positive role to play in helping to enable this sort of innovation.

Just this week an investment of £90 million from the Industrial Strategy Challenge Fund was directed towards the Transforming Food Production programme. Investments like this will I believe help to support a technology and data-driven transformation for UK farmers, UK land managers and those who work on or with our environment.

By supporting farmers with the initial investment we can help their businesses to not only become more productive and to generate more growth, and indeed to provide more high-skilled jobs, we can also drive more high-value export opportunities, and critically we can also ensure that our environment becomes more resilient and even better guardians of our natural environment.

Across the UK there is a wealth of innovative start-ups redefining what it means to be a farmer or a land manager, and how to farm effectively and sustainably. One company, Hummingbird Technologies uses crop mapping to identify problems in drainage, compaction, nutrition, weeds and pests before they become devastating, and it can pre-emptively detect the presence of particular diseases like potato blight and blackgrass.

It is also the case that our universities like Harper Adams who have been collaborating with a number of tech companies, have helped to lead the charge in developments in agronomy and agritech, and in particular the world has been paying attention to the way in which Harper Adams through its Hands Free Hectare project has shown the way for a more efficient and environmentally sensitive approach towards agriculture.

I believe that we can also, as well as demonstrating global leadership in all these areas, also demonstrate it in our approach towards resource efficiency and the treatment of waste. We all know that we need to reduce our reliance on plastic and in particular make sure the incentives are there to move away from the use of virgin products so we all use more recycled material. I recognise that we need to reform the existing producer responsibility scheme, we need to impose appropriate costs on those whose products leave a heavier environmental footprint and we then need to use the money generated from that to invest in dramatically improved recycling facilities in this country.

In the same spirit, we also need to encourage movement away from diesel and petrol cars towards ultra-low emission vehicles such as those Sir James Dyson is developing. And we also should build on the work that's being done to develop autonomous vehicles in the future. Their development could help us to further reduce the adverse environmental impact of our current approach towards urban transport.

GLOBAL LEADERSHIP

I believe that Britain has the potential now to demonstrate global leadership in all these and more areas.

And there are opportunities on the months ahead for us to demonstrate, alongside, other nations, our determination to do more for our planet.

At the forthcoming Commonwealth Heads of Government meeting, and with Canada's Presidency of the G7, we can play our part to extend protection to more of the world's oceans.

At the Illegal Wildlife Trade Summit in London this autumn we can take decisive steps to safeguard biodiversity worldwide, and indeed we can, in the months ahead, develop new approaches to measuring, valuing, and enhancing biodiversity worldwide.

We can also ensure in the trade agreements that we hope to sign and indeed in the economic partnership that we plan to forge with the EU, that natural capital is protected, that the natural world will be respected and that the highest ethical and environmental standards are upheld.

CONCLUSION

A commitment to the highest environmental standards in everything we do doesn't involve any long-term economic sacrifice. Quite the opposite. We will only succeed in the world as a food exporter, a centre for tourism, a hub for technology investment and an incubator for wider innovation on the basis that we are an economy and society where quality, integrity, sustainability and a commitment to long-term relationships are guaranteed. We need to build an economy and a society which continually promotes incentives to virtue.

There are great prizes for our resourceful, resilient, remarkable nation in the years ahead – and I hope, with the help of all the people gathered here for this conference, that we can succeed in the years ahead in building something special in this our green and pleasant land.

Thank you.

Press release: Salisbury attack: Joint statement from the leaders of France, Germany, the United States and the United Kingdom

We, the leaders of France, Germany, the United States and the United Kingdom, abhor the attack that took place against Sergei and Yulia Skripal in

Salisbury, UK, on 4 March 2018. A British police officer who was also exposed in the attack remains seriously ill, and the lives of many innocent British citizens have been threatened. We express our sympathies to them all, and our admiration for the UK police and emergency services for their courageous response.

This use of a military-grade nerve agent, of a type developed by Russia, constitutes the first offensive use of a nerve agent in Europe since the Second World War. It is an assault on UK sovereignty and any such use by a State party is a clear violation of the Chemical Weapons Convention and a breach of international law. It threatens the security of us all.

The United Kingdom briefed thoroughly its allies that it was highly likely that Russia was responsible for the attack. We share the UK assessment that there is no plausible alternative explanation, and note that Russia's failure to address the legitimate request by the UK government further underlines its responsibility. We call on Russia to address all questions related to the attack in Salisbury. Russia should in particular provide full and complete disclosure of the Novichok programme to the Organisation for the Prohibition of Chemical Weapons (OPCW).

Our concerns are also heightened against the background of a pattern of earlier irresponsible Russian behaviour. We call on Russia to live up to its responsibilities as a member of the UN Security Council to uphold international peace and security.

[Speech: Hard as well as soft power: the case for modern defence](#)

1. BRITAIN'S PROUD HISTORY

The United Kingdom has a proud history on the world stage. We helped defeat tyranny in two world wars and communism in the Cold War. We have shielded the most vulnerable from Kosovo to Sierra Leone. We helped liberate millions from the shackles of oppression and exported democracy, tolerance and justice around the world. In the process, Britain alongside our allies ushered in a period of peace and prosperity across our continent unparalleled in its history

2. OUR ARMED FORCES ARE STILL DELIVERING FOR US TODAY

Today, our Armed Forces continue to uphold this proud British tradition. They are keeping us safe across the world. Our pilots are destroying terrorist

targets in Iraq and Syria and policing Eastern European skies against an increasing threat from Russia.

Our soldiers stand sentinel with our NATO Allies in Estonia and Poland to deter this threat. We are strengthening the security of Afghanistan and, in South Sudan, helping establish stability and giving democracy the chance to grow and flourish.

Our sailors are countering international piracy, policing our waters and securing safe passage for the ships that support our global trade.

Beneath the waves our nuclear submarines go undetected, our submariners on patrol every day of every year providing our ultimate defence against the most deadly dangers to our way of life

In the last few weeks alone our forces have provided vital assistance in the wake of Storm Emma and are using their expertise to assist the ongoing criminal investigation following the horrific attack in Salisbury.

I want to thank each and every one of them for the dedication and commitment they have shown our nation.

3. THREATS INCREASING

Continuing to deliver for the Armed Forces is imperative – especially in a world where the threats are growing.

When it comes to non-state actors we're seeing a generational shift with terrorist organisations able to access increasingly sophisticated weapons.

And state-based dangers are increasing. Back in 2010 we did not believe they posed us a credible threat. With the benefit of hindsight, this can, at best, be described as naive.

China is pushing for superpower status, restructuring the People's Liberation Army, pushing towards the Indian Ocean and employing "sharp power" including military, media and economic pressure against any challenger.

Iran's proxy military presence in Iraq, Syria and Yemen is well known.

North Korea has demonstrated an active global cyber capability while its nuclear actions are destabilising the international order, flouting decades' worth of non-proliferation treaties.

And then there is Russia.

At a time when its economy is under pressure, it is still prioritising military expenditure, investing in highly capable equipment across all domains including long-range surface to air missiles, T-90 tanks, new advanced submarines, long-range precision strike systems and ISKANDER ballistic missiles, a new range of BLACKJACK strategic bombers and the new nuclear systems President Putin recently boasted about in his state of the nation address.

What is also clear is that the Kremlin is ripping up the international rule book. Using its growing hybrid capabilities to subvert, undermine, and influence countries around the world. Its cyber operations are active and brazen. It uses social media to muddy the waters and spread confusion.

Last year Russia's military intelligence organisation directed the NotPetya ransomware activity. Overwhelming systems in Ukraine from its power grid to its postal service and causing hundreds of millions of pounds of damage to companies around the world including here in the UK

But Russia is capable of much more. It is already increasingly using proxies to undermine sovereign states. Its involvement in the Ukraine conflict has cost tens of thousands of lives.

In Syria, we're seeing a humanitarian crisis where Russia is using private military companies such as the Wagner Group to reduce their liability and limit criticism on the world stage.

Meanwhile, Russia is also using its operatives insidiously to interfere in the political processes of other nations.

Security authorities have compelling evidence to show Russia was involved in the attempted 2016 coup in Montenegro, just prior to that country's joining NATO.

And, if we doubted the threat Russia poses to our citizens, we only have to look at the shocking example of their reckless attack in Salisbury.

4. WE MUST HAVE THE CAPABILITY

But against this backdrop of threats, we shouldn't forget that our Armed Forces remain truly world class and we are giving them the capabilities to respond

For example, we know the chemical threat doesn't just come from Russia but from other actors so we're evolving the capability to meet that danger.

I made the decision to offer the anthrax vaccine to our forces at the highest readiness providing them with vital protection against a deadly danger

And today I can announce we are building on our world class expertise at the Defence Science and Technology Laboratory in Porton Down.

We are investing £48 million in a new Chemical Weapons Defence Centre to maintain our cutting edge in chemical analysis and defence.

We've brought together Defence's world-renowned explosive ordnance expertise with chemical, biological, radiological and nuclear specialists.

And we are continuing to invest and explore new ways and new capabilities to deal with this threat.

More broadly, our Armed Forces are internationally recognised as having an

almost matchless combination of capability and experience, able to field a well-equipped Army division, with armoured brigades, strike brigades, and an air assault brigade, able to project power at distance through an expeditionary air group, based on the state-of-the-art Typhoon and the new F35 Lightning II that will soon embark on our new aircraft carriers.

Those carriers, in turn, will form part of a hard-hitting maritime task group including modern destroyers, frigates, submarines and commando forces.

All this plus the world's best Special Forces and some of the most advanced intelligence gathering and analytical capabilities in the Alliance.

These are all the hallmarks of a serious military nation:

able to conduct first night, first strike attacks with the technology to go into contested air, sea or land space to project power at range from the UK and make a major contribution to deterring threats not just in the Euro-Atlantic area but across the globe.

Many of these forces are on operations and missions today, we are making a major contribution to the campaign that has crippled Daesh, where we have helped to train over 60,000 Iraqi Security Forces, seen the first UK use of offensive cyber in combat and our airforce is operating at an intensity not seen in more than 25 years

We're training the Afghan and Nigerian security forces and even the US Marine Corps.

And this month we have deployed HMS Trenchant to the Arctic with the US Navy on ICEX 2018 – confirming our ability to operate under the ice.

Our operational experience and prowess is the reason the UK has played an important leadership role in NATO since its formation.

The reason we lead a range of international divisions and operations right around the globe.

And the reason we're the preferred operational partner for other top tier Western militaries, particularly the US and France who also acknowledge they too must modernise to stay ahead of our adversaries

5. THE GOVERNMENT'S RESPONSE

But, after a long period of relative peace, threats are increasing again.

So we have arrived at a profound moment in our history.

A crossroads where the choice before us as a nation is simple.

To sit back and let events overtake us.

Or step forward.

Seizing the moment, as we leave the European Union, to shape our vision for a bolder, more prosperous Britain.

A Britain proud of its past and confident of its future.

A Britain ready to reassert its right to do global good in a dangerous and unpredictable world.

A Britain able to protect our security and prosperity at home and abroad

After all, our Armed Forces are the face of Global Britain, enhancing our international reputation, epitomising everything that is great about our nation.

We talk about soft power and we must acknowledge the amazing work of the Foreign Office and DFID, but also of business and organisations like the British Council, in promoting Britain's values around the world.

Our Armed Forces work with them delivering aid in the wake of Hurricane Irma minesweeping in the Gulf and bringing medical support to fight Ebola in West Africa.

But let's be clear soft power only works because hard power stands behind it.

And that's what our Armed Forces deliver and why they are so important to our future.

That's why this is our moment to retain our competitive advantage and invest in hard power capabilities

6. MODERNISING DEFENCE PROGRAMME

And that is why we have launched our Modernising Defence Programme.

It will make sure our country can respond to the changing character of warfare and can deter and, if necessary, contest the new threats we face to British interests demonstrating to potential adversaries that their efforts to harm the UK are futile and not worth the costs they will incur.

So our Modernising Defence Programme will give us a more productive, more lethal, harder-hitting Joint Force able to counter conventional threats and deal with the new challenges of asymmetric conflict. Building on our existing plans for the future of our Armed Forces.

It will balance routine every day capabilities vital to fulfilling day-to-day tasks with highly sophisticated new equipment, using technology and different approaches to counter the full range of threats to our security and to be able to operate freely in all five domains, land, sea, air, space and cyber

It will prioritise game-changing technologies giving our service personnel the edge in combat.

In practice this will mean taking our intelligence, surveillance and

reconnaissance capability to the next level, hoovering up information from beneath the waves, from space, from across the increasingly important electro-magnetic spectrum finding out what our enemies are doing in high-definition and providing artificial intelligence – enabling analysis that can stay ahead in a fast-moving world

It will mean accelerating the development of our innovative 77 Brigade – those reservists and regulars who give us the ability to win the information war – so we create and counter the narratives so central to modern conflict

It will mean investing in new more advanced and more capable armoured vehicles, more drones as well as stealth fighters and state-of-the-art anti-submarine ships in new autonomous systems – in areas like mine hunting – to enhance the protection we can provide to the Royal Navy and our NATO allies and in offensive cyber developing our capability, working in partnership with GCHQ.

Today I can announce we will be spending almost £4million with Thales and General Dynamics Land Systems-UK to deliver the Ajax Shot Detection System which can sense enemy gunfire and protect troops using our next generation armoured vehicles.

But we'll be going further developing and embedding new approaches to warfighting protecting and enhancing our information networks to give our commanders the edge over our adversaries and pursuing technological 'big bets' in big data, artificial intelligence and novel weapons.

All the while building innovation and risk tolerance into our thinking, planning and operating.

So that's my vision:

A modernised force.

Fit for the future.

Delivering the hard power to complement Britain's soft power.

Strong, balanced and innovative Armed Forces, equipped with cutting edge capabilities.

Operating confidently in the new domains of warfare.

Preparing us for the unpredictable.

Keeping British citizens safe wherever they are.

Fulfilling our global ambitions and defending Britain's national interests.

Our Modernising Defence Programme will make sure we continue leading in NATO.

Continue to be a capable and reliable contributor to missions led by close allies and partners but just as importantly continue to act independently or,

lead multinational missions when the need arises.

And this weekend I will be attending a major exercise of the UK-led Joint Expeditionary Force – bringing together the capabilities of nine nations that allow us to respond more rapidly and pack a more powerful punch in times of crisis.

7. STRONGER PARTNERSHIPS WITH INDUSTRY

Our Modernising Defence Programme is also about our prosperity.

You cannot have prosperity without security.

What better illustration of that fact than our iconic hosts in Filton today – Rolls Royce.

The very embodiment of cutting edge, world leading technology, one of our largest suppliers of defence aerospace engines, and a driver of local economic growth, as an employer of more than 22,000 people across the UK.

Together with thousands of other brilliant British businesses they form an industry supporting one in every two hundred jobs in the UK and providing high-quality training and apprenticeships that in just over a decade generated more than £73 billion in exports.

Our Modernising Defence Programme will support the growth and competitiveness of the defence sector, helping to create and sustain jobs by transforming our partnership with industry.

It will allow us to deliver cutting-edge capability more effectively bring more small and medium sized enterprises into the supply chain encourage greater innovation and deliver long-term value whilst we drive a harder bargain for the goods and services we buy.

Since strong defence underpins our nation's prosperity, I have invited Philip Dunne to conduct a review to help demonstrate it is far more than an insurance policy, it's an investment in jobs at home and exports abroad.

He understands this sector extremely well and also brings an important independent perspective.

8. SUMMARY ON MDP

This work on the Modernising Defence Programme, delivering the right capabilities for our Armed Forces, making sure we remain a leading voice on the world stage, supporting economic growth and creating a stronger and more strategic partnership with industry will be substantially completed by the time of the NATO Summit in July, at which point we will be in a position to share some headline conclusions

I will be saying more in the weeks ahead about my vision for the Armed Forces we want to create.

I hope to engage with many of you between now and then, and would encourage you to take part in our public consultation.

9. CONCLUSION

But let's be clear – after 1990, we believed the world was going to become a safer and better place with every year that passed.

Just as we have believed there would be only one superpower.

But, as we have seen increasingly clearly over the last few years, the reality is rapidly changing.

In every continent of the world there are not just extremists but states willing to undermine our values, ideas, and everything we stand for.

To deal with this challenge we need to ensure that soft power has the hard power to back it up.

As we take a new approach to Defence in a post-Brexit world we must work harder to explain why it matters to the nation.

When I visited the Parachute Regiment recently I was told something that's stuck with me:

“Knowledge dispels fear”

So let's not give into the demons of doubt

Instead let us be confident.

Let us be determined.

And let us be resolute in our belief that, by using all our power, hard and soft, Britain will continue bringing light to a darkening world.

Consultation outcome: River Pinn and Cannon Brook flood reduction

Updated: Added final outcome information.

The River Pinn catchment is in the west of the Greater London area. It flows through the London boroughs of Harrow and Hillingdon before joining the Frays River in Uxbridge. The Pinn is joined by several smaller rivers along its length, including the Cannon Brook in Ruislip. It is also fed by numerous outfalls which convey excess rainwater to the river. The rivers flow

generally in open channels made of earth, passing through various bridges and culverts.

Communities in the River Pinn catchment have experienced flooding several times, most recently in June 2016. The Environment Agency has been working with Hillingdon and Harrow Councils to better understand the causes of this flooding and identify actions that could reduce the risk in the future.

The investigation objectives are:

- to better understand the risk of flooding in the River Pinn and Cannon Brook catchments
- to collaborate with others to develop flood reduction proposals which maximise benefits for people and the environment
- to work with local communities to ensure they understand our proposals and what actions they can take to be more prepared for flooding
- to work with partners to find funding from other sources to help deliver viable flood reduction proposals

The proposals will not eliminate the risk of flooding, only lessen it.

The Environment Agency needs to continue to work with our partners and communities to find funding for these proposals. The project is currently partly funded by central government, but there is still a need to find more funding, for example from organisations and businesses that will benefit. The proposals can only be progressed if they are fully funded.