Press release: UK tests self-driving Martian robots

As far as we know, Mars is the only planet populated entirely by robots! Due to the time taken for commands to travel to Mars (eight minutes each way), hand guided robots are limited to travelling only a few dozen metres a day.

New software developed in the UK will change this, enabling future Mars rovers to make their own decisions about where to go and how to get there, driving up to a kilometre per day so delivering more scientific returns per mission.

The UK is a world leader in robotics and the government is working with business and academia to encourage further investments in the technology as part of the modern Industrial Strategy.

Catherine Mealing-Jones, Director of Growth at the UK Space Agency, said:

> Mars is a very difficult planet to land safely on, so it’s essential to maximise the discoveries from each successful touchdown.
>
> New autonomous robot technology like this will help to further unlock Mars’ mysteries and I’m delighted that the UK is a key player in this cutting-edge field.

Companies and universities from around the UK including Airbus Defence & Space, Thales Alenia Space, Scisys, King’s College London, the University of Strathclyde, and GMV-UK participated in the software testing at Ibn Battuta Test Centre in Morocco in December.

Over the course of a month the team, consisting of engineers from companies all across Europe was co-ordinated by representatives from the UK Space Agency as well as the German, French, Spanish, Italian and European Space Agencies (ESA). They tested a variety of new technologies, including data fusion systems, a plug-and-play sensor suite and an open-source operating system for robotic control.

Airbus in Stevenage is the prime contractor for the new ESA Exomars rover, due to land on Mars in 2020. Following a public competition last year, the UK Space Agency will announce the name of the new UK-built rover this spring.

The UK Space Agency is the second largest European contributor to ExoMars, having invested €287 million in the mission and £14 million on the instruments. This, in addition to successful negotiations with ESA, secured key mission contracts for the UK space sector.

What technology was tested?

- The ERGO Autonomy framework: The autonomy framework enables the rover to make decisions by itself without the need for human intervention. These decisions could be about the path a rover needs to take to get to its destination. It also means the rover can make decisions about managing its resources, for example shutting down certain functions to conserve power. It will also give the rover the ability to investigate things it deems to be interesting, things which human operators might miss.

- The INFUSE Data Fusion: Data fusion is the fusing together of data from different sensors and sources in order to create useful information such as maps, which the rover can then use to navigate successfully across the difficult Martian landscape. The data will be provided by different types of camera, sensors, trackers and torches to give the rover a full understanding of the Martian world around it.

- The I3DS Plug And Play Sensor Suite: The rover needs various sensors to enable it to see, perceive and understand the Martian world. Using a 'plug-and-play' approach means that sensors can be installed and removed easily according to the mission requirements. The Sensor suite also has a unique, built-in computer called an ICU (Interation Control Unit) that processes the signals from the sensors into information before passing that information to the Data Fusion system.

- The ESROCOS Operating System: Robots need operating systems to function, just like your computer, tablet, phone or laptop at home. The operating system provides the low-level software and libraries required by the robot to undertake basic functions. It also provides the language and framework with which the other software (such as the ERGO Autonomy Framework and the INFUSE Data Fusion) must adhere in order to create a coherent and integrated system. In other words, this is the core software that provides the rules which bind all the other systems and software together.

The new software systems were mounted onto a four-wheeled rover called 'Sherpa', provided by the German Robotics Innovation Centre DFKI.

The Ibn Battuta test centre is named after the 14th century Islamic explorer of the same name, and is a popular site for testing Mars rovers, as the red, rocky terrain is very similar to the surface of the Red Planet.

The tests are part of a series of research projects of a programme called the Space Robotics Strategic Research Cluster, funded by the European Commission via the Horizon2020 Programme.

[Press release: Minister for Asia statement on Bangladesh elections]

I note the announcement of the unofficial results of the 11th Parliamentary Elections in Bangladesh.

While I welcome the participation of all opposition parties in these elections, I am aware of credible accounts of obstacles, including arrests, that constrained or prevented campaigning by opposition parties, and of irregularities in the conduct of elections on polling day that prevented some people from voting. I urge a full, credible and transparent resolution of all complaints related to the conduct of the elections.

I deplore the acts of intimidation and unlawful violence that have taken place during the campaign period, and am deeply concerned by the incidents that led to so many deaths on polling day. My thoughts are with the families and friends of those who have lost loved ones.

Free, fair, peaceful, and participatory elections are essential to any functioning democracy. It is vital for the government and all political parties to now work together to address differences and find a way forward in line with the interests of the people of Bangladesh.

We have a broad and important partnership with Bangladesh, and a significant Bangladeshi diaspora in the UK. We will continue to support the people of Bangladesh in their aspirations for a more stable, prosperous, and democratic future.

[Press release: Mel Stride: British productions deserve our support]

Thousands of productions – including the widely-anticipated series five of Idris Elba's hit BBC One drama – have benefitted from the government's creative industry tax relief.

The British Film Institute said this support is playing a vital role enabling the industry to work on the global stage, while generating thousands of jobs.

Treasury Minister Mel Stride said the booming UK industry is now giving Hollywood and Bollywood a run for their money.

In the last year, almost 300 films and TV shows and a further 2,000 theatre productions, including festive pantomimes, claimed tax relief.

Britain’s world-leading creative industries benefited from over £850 million of support through this HM Treasury scheme in the last year. Since its introduction, 2,420 films, 530 TV productions and 480 videogames have benefited from the tax reliefs.

As such, families sitting down together this Christmas most likely enjoyed a production made possible because of this. These included:

- festive treats such as the Dr Who Christmas special and Snowman
- gripping dramas like Luther and Bodyguard
- family-friendly favourites including the Jungle Book and Mary Poppins Returns

Financial Secretary to the Treasury, Mel Stride MP, said:

> Original British productions deserve our support. They not only make a valuable cultural contribution to the UK, they are also a crucial part of our economy.
>
> Thanks to your support our industry has gone from strength to strength and is giving Hollywood and Bollywood a run for their money.
>
> The TV guides and festive calendars this Christmas are another reminder of our booming creative industries which, with the backing of the Treasury, will continue to grow in 2019.

The Chief Executive of the British Film Institute, Amanda Nevill, said:

> The government’s screen sector tax reliefs play a vital role in enabling our film and television industries to work on a global stage and do what they do best – creating world-class film and television, generating thousands of jobs for talented people working in front of and behind the camera.
>
> UK-made films and television productions are a vibrant part of our storytelling culture, celebrated by audiences at home and abroad and showcase UK creative excellence to the world.

Further Information

- the UK’s creative industries made a record contribution to the economy in 2017 growing to over £100bn (compared to £95bn a year earlier)

- creative sector tax reliefs were first introduced 10 years ago to support production companies filming in Britain

- in 2013, the scheme was expanded to include high-end TV, video games and theatre (which includes pantomimes)

- once a TV or film company meets the qualifying criteria, it allows producers to claim a significant rebate on a large part of its expenditure

- to be eligible for the film, high-end TV, animation, video games or children's TV tax relief, a production must be culturally British

- productions are assessed by a "cultural test" or co-production treaties administered by the British Film Institute

- last year, some 180 UK films, 90 TV shows and over 2,000 theatre productions claimed this tax relief

- in total, over £850m was paid out to the creative sector through the scheme during 2017-18

- several well-known productions on the TV guide and in cinema this Christmas have claimed creative sector tax relief. Notably: Avengers: Infinity War, Bodyguard, Dr Who, Holmes and Watson, Killing Eve, Paddington, Ready Player One, Snowman and the Snowdog, Star Wars: The Force Awakens, The Jungle Book, The Inbetweeners Movie, and Watership Down

- creative Tax Relief is available for: films, high end TV, animation programmes, video games, children's TV, orchestras, theatre productions, and museum and gallery exhibitions

---

Press release: Loyal energy customers to pay fair price from today

- Government delivers on manifesto commitment to protect millions from unjustified price rises as energy price cap comes into force today
- new cap will mean 11 million loyal energy customers on "default" tariffs pay a fair price for their energy

- part of the government’s commitment to tackle fuel poverty and protect consumers

Around 11 million households who have stayed loyal to energy suppliers on poor value energy tariffs will pay a fair price from today (1 January 2019) thanks to the government’s price cap.

The cap will bring down the amount consumers have been overpaying to energy companies, including the Big Six, by £1 billion a year, starting this winter when households are typically using more energy to heat and light their homes. It will remain in place until at least 2020, while energy suppliers and industry continue to work with the energy regulator Ofgem and the government to build an energy market that works better for all consumers.

Prime Minister Theresa May said:

> Our energy price cap will cut bills for millions of families and people across the UK who have been ripped off by energy companies for far too long. From today, money will go straight back into the pockets of loyal consumers, including the elderly and those on lower incomes who feel the pinch more acutely.
>
> But work to tackle this issue doesn’t stop there. We’re working with regulators and industry to ensure that consumers are not unfairly overcharged in the future – whether on their phone bills or their insurance premiums.

Energy and Clean Growth Minister Claire Perry said:

> Today marks the end of unjustified price rises on energy bills as this government delivers on time on its promise to protect millions of households from poor value deals, especially the vulnerable.
>
> For too long, suppliers have failed to pass on any savings to their customers, who deserve to pay a fair price for their gas and electricity. Switching supplier is still the best way to find a better deal, but that doesn’t mean customers should be punished for their loyalty.
>
> Bill payers can now be confident that any change to the price cap will be a fair representation of the actual costs of energy, rather than suppliers passing on inefficiencies to their customers or as excess profits.

Following a consultation, Ofgem set the price cap level at £1,137 per year for a typical dual fuel customer paying by direct debit. The amount customers will pay depends on how much energy they actually use, as the price cap sets a limit on how much suppliers can charge per unit of gas and electricity not on overall energy bills.

The cap will also protect around one million households who receive the Warm Home Discount currently protected by Ofgem’s safeguard tariff. Ofgem already caps energy prices through its safeguard tariff for 4 million households on pre-payment meters.

Ofgem will review the level of the cap every 6 months taking into account any changes to the actual costs of providing gas and electricity to energy customers. The first review will take place in early February coming into effect on 1 April 2019.

Dermot Nolan, chief executive at Ofgem, said:

> Under the cap, Ofgem will protect consumers from being overcharged and ensure they pay a fair price to heat and light their homes. Consumers can have confidence that any rise in prices in the future will only be down to genuine increases in energy costs rather than supplier profiteering while falls in energy costs will always be passed on to them.
>
> Households who are protected by the cap will be able to save even more money by shopping around for a better deal. In the meantime Ofgem will continue with reforms which aim to deliver a smarter, more competitive energy market which, combined with protection for those who need it, works for all consumers.

The Domestic Gas and Electricity Act, which passed Parliamentary scrutiny and became law on 19 July 2018, put in place a requirement on Ofgem to cap standard variable and default energy tariffs after the Competition and Markets Authority (CMA) found consumers had been overpaying the Big Six an average of £1.4 billion a year.

While the temporary cap is in place, energy suppliers and industry will continue to work with Ofgem and government to build an energy market that works better for all consumers, ensuring they get the best service for a fair price so that everyone reaps the benefits of the move to a smarter, more digital economy.

Other measures designed to deliver the government’s objective of clean, affordable and innovative energy, while tackling fuel poverty, as part of our modern Industrial Strategy include:

- the rollout of smart meters
- initiatives to promote smarter and faster switching
- a joint review with Ofgem on the future of the retail market

1. Ofgem already caps energy prices through its safeguard tariff for 4 million households on pre-payment meters. This cap was extended to a further one million vulnerable households in receipt of the Warm Home Discount, a £140 discount on winter energy bills, early in 2018. These Warm Home Discount households will be transferred on 31 December to the

new price cap for direct debit customers, which has been designed for those on standard, rather than prepayment, meters.

2. The new cap will protect households in every region of Great Britain who are on standard variable or default fixed-term tariffs. Around 60% of households currently pay for their energy on these tariffs.

3. The cap will remain in place until at least 2020 and can be extended until end of 2023 if the conditions for effective competition are not in place.

4. For more information on the energy price cap, including the pre-payment meter cap, visit Ofgem's Energy price cap webpages.

Press release: New executive pay transparency measures come into force

Pay ratio regulations will apply to large UK listed companies with over 250 employees and the first statutory disclosures will be provided from the start of 2020. Disclosures will make companies justify their pay for top bosses and account for how those salaries relate to wider employee pay.

New regulations coming into force today (Tuesday 1 January 2019) mean that, for the first time, the UK's biggest companies will have to disclose and explain every year their top bosses pay and the gap between that and their average worker.

The pay ratio regulations will make it a statutory requirement for UK listed companies with more than 250 employees to disclose annually the ratio of their CEO's pay to the median, lower quartile and upper quartile pay of their UK employees. Companies will start reporting this in 2020 (covering CEO and employee pay awarded in 2019).

In addition to the reporting of pay ratios, the new laws also require all large companies to report on how their directors take employee and other stakeholder interests into account and require large private companies to report on their corporate governance arrangements.

These reforms are part of the government's action to upgrade our leading corporate governance and business environment to ensure the UK remains a world leading place to work, invest and grow a business. Reforms follow support and calls from investors and shareholders for companies to do more to explain how pay in the boardroom aligns with wider company pay and reward.

The pay ratios regulations will hold Britain’s largest businesses to account for excessive salaries, while recent changes to the corporate governance code give employees a greater voice in the boardroom.

Business Secretary Greg Clark said:

> Britain has a well-deserved reputation as one of the most dependable and best places in the world to work, invest and do business and the vast majority of our biggest companies act responsibly, with good business practices.
>
> We do however understand the frustration of workers and shareholders when executive pay is out of step with performance and their concerns are not heard.
>
> The regulations coming into force today will build on our reputation by increasing transparency and boosting accountability at the highest level – giving workers a stronger dialogue and voice in the boardroom and ensuring businesses are accountable for their executive pay.
>
> These new regulations are a key part of the wider package of corporate governance upgrades we are bringing forward as a government to help build a stronger, fairer economy that works for businesses and workers.

Alongside the pay ratio reporting will be a new statutory duty on companies to set out the impact of share price growth on executive pay outcomes. This will provide greater clarity and for shareholders about the impact that significant share price growth can have on executive pay outcomes and whether discretion has been exercised before pay awards are finalised.

The corporate governance upgrades introduced by the government form an essential part of the UK’s modern Industrial Strategy – a long term plan to build a Britain fit for the future through a stronger, fairer economy.