

[Analysis of Experience Dashboard](#)

GAD provides actuarial advice on all the main UK public service pension schemes, which affects around 15 million people.

The development of our Analysis and Experience dashboard has provided us with a greater understanding of the underlying movements in pension scheme data. This helps us set and validate assumptions and improves the robustness of our work.

The development of these tools helps us support the ambition of the Government's [National Data Strategy](#) and [National AI Strategy](#) which encourages departments to enable data-driven policy decisions and realise the potential of powerful AI techniques.

Analysis of Experience dashboard

The Analysis of Experience dashboard is an interactive tool. It allows the user to compare the actual experience of membership progression for a pension scheme against expectations.

As with any model, once the assumptions have been set and the results produced, exterior factors then change, and assumptions need updating.

The Analysis of Experience dashboard is an interactive, flexible, and accessible tool. It enables actuaries to visualise emerging experience from a range of perspectives.

Among its features are dropdown menus and range sliders. Buttons allow users flexibility to adjust the calculations and outputs on the dashboard using validated input values

It also

- loads the inputs (from external files) that are relevant to the selected scheme
- performs a standard set of calculations on the input data
- prints output tables and interactive charts to the dashboard itself and external files
- provides an audit trail of data and model versions used
- provides the ability to save the input combination used so that it can be reloaded with ease at a later date

When might dashboards be useful for you?

Interactive dashboards have enabled GAD users to comprehend the meaning of data and to identify trends quickly and effectively. Contact us if you are interested in developing dashboards to better understand data in your organisation.

Dashboard benefits

Among the benefits are interactive charts which can be used to explore the data further and gain greater insights and understanding of its features. Other benefits also include:

- greater interactivity of the tool (compared to previous Excel model) makes it easier for users to test out different proposed assumptions
- access to a wider range of in-built statistical tests and visualisations that Python and R has available
- performs calculations for the various experience items (such as pensioner mortality, withdrawal, age retirement etc) within a single model/code
- single centralised code file means that only one model needs to be updated if the calculation methodologies require updating (rather than needing to update separate Excel spreadsheets for each scheme as in previous valuations)
- better consistency in calculation processing and output formats across schemes (so easier and more efficient for the people involved – more robust against errors)
- greater level of automation leading to reduced risk of errors
- more intuitive experience for users
- users cannot accidentally alter the underlying calculation code while using the dashboard

Developing our data science capability

GAD has been improving its data science capabilities through recruitment and training. We have also used data science techniques to complement traditional actuarial approaches on many client projections, including this one.

As an example, we have developed our knowledge of the ‘Dash’ package in Python for creating the dashboard which enable us to:

- setup the entire dashboard using only Python code – other frameworks can require the use of other languages
- utilise the Plotly package which provides interactive features

Contact GAD if you’d like to discuss how you can utilise data science techniques in your work and help government achieve its strategic ambition in this area.

[Government Chief Scientific Adviser](#)

visits UK Atomic Energy Authority and First Light Fusion

Government Chief Scientific Adviser, Sir Patrick Vallance, today visited UKAEA and FLF joined by Bill Lee, Chief Scientific Adviser (Nuclear) at the Ministry of Defence.

UKAEA, based in the Culham Science Centre, is the UK government research organisation responsible for the development of fusion energy. It is a non-departmental public body of the Department for Business, Energy and Industrial Strategy (BEIS).

During his visit, Sir Patrick learned about transformative potential of fusion energy in the global fight against climate change. Specifically, he received a briefing on [STEP](#) (Spherical Tokamak for Energy Production), the first prototype fusion energy powerplant, He also received presentations from several innovative companies based at the Culham Science Centre including General Fusions, Reaction Engines and Oxbotica.

Following his visit to UKAEA, Sir Patrick met the team at FLF, which focuses on decarbonising the global energy system through an inertial confinement approach. Sir Patrick was given facility tours of the Big Friendly Gun (BFG), the highest energy projectile launcher in the UK, and Machine 3 (M3), the largest pulsed power facility in Europe.

Speaking about the visit, Sir Patrick said:

It was fantastic to visit UKAEA and FLF today and see first-hand the exciting potential of fusion technology and the rapid progress being made. Their collective, ongoing contribution to nuclear fusion research and demonstration is helping to solve one of the world's greatest challenges in decarbonising our global energy systems, as well as advancing a range of critical science and technology areas.

Professor Ian Chapman, UKAEA Chief Executive, added:

We believe fusion energy can be an environmentally responsible part of the world's future energy mix and it was fantastic to discuss the ground-breaking research and innovation being done here in the UK with Sir Patrick.

UKAEA continues to create jobs and drive economic growth in fusion-focused and adjacent fields, while helping to keep the country at the forefront of the international scientific community.

UK builds leadership in space debris removal and in-orbit manufacturing with national mission and funding boost

Two UK-based companies are designing missions to clear hazardous space junk alongside the launch of a new programme to back cutting-edge space technology, the UK Space Agency has announced.

ClearSpace and Astroscale have been awarded £4 million from the UK Space Agency to design missions to remove existing pieces of space debris, working with a consortium of industry partners. Once the designs are complete, the teams, along with other UK space companies, could receive further funding to see the UK's first national space debris removal mission launch in 2026.

The projects will directly support the creation of 70 new jobs, with further opportunities to increase growth in the wider UK space sector, which already supports 47,000 jobs and generates an income of £16.5 billion each year.

The UK Space Agency has also announced a new Enabling Technology Programme (ETP), with up to £15 million to support innovative space research and develop emerging space technologies across the UK.

The [first of six calls for funding from ETP opened today](#) and will include technology for in-orbit servicing and manufacturing, which can extend the lifetime of satellites, building resilience and reducing space debris. Future calls will focus on emerging technologies to support the UK's contribution to future space science missions.

Orbital congestion and space debris is one of the biggest challenges facing the global space sector and the UK Space Agency has committed £102 million, over the next three years, to deliver capabilities to track objects in space and reduce debris. The UK is also leading on global regulation and standard setting to make space activities more sustainable, in line with the government's National Space Strategy.

There are estimated to be more than 130 million pieces of space debris orbiting Earth, from tiny flecks of paint from spacecraft, to old satellites, spent rocket bodies and even tools dropped by astronauts. This debris can stay in orbit for hundreds of years and present a real danger to satellites and the public services that they deliver, from communications and navigation to environmental monitoring.

Dr Paul Bate, Chief Executive of the UK Space Agency, said:

As our reliance on space technologies increases rapidly and the UK becomes a global hub of satellite design, manufacturing and launch, we are committed to leading efforts to make space more sustainable.

With 1,700 satellites launched last year alone, the need to safeguard the space environment for the benefit of everyone on Earth has never been more pressing.

By catalysing investment, backing innovative new technologies and supporting a national mission to remove space debris, we can keep space open for future generations and protect the important satellite services that modern life depends on.

ClearSpace UK, based in London, and Astroscale Ltd., based at the Harwell Space Cluster in Oxfordshire, were chosen after completing feasibility studies of the missions to remove derelict objects from space earlier this year.

ClearSpace has been awarded £2.25 million to conduct the next phase of a study into a mission which would remove derelict satellites from Low Earth orbit (LEO). This design phase will last until October 2023 and will finish with the preliminary design review – an evaluation of the progress on the design and the technical adequacy of the proposed mission. The Clearing the LEO Environment with Active Removal (CLEAR) mission, which will advance key technology building blocks, is a catalyst for the development of commercially viable disposal services and other [in-orbit services](#).

Rory Holmes, ClearSpace UK Managing Director said:

ClearSpace is honoured that the UK Space Agency is continuing their support to the CLEAR Mission.

Space is getting more and more congested with defunct satellites, rocket bodies and other fragments – we have to act now to ensure this precious environment remains usable for future generations.

The CLEAR Mission is a vital step on the path to making the removal of space debris a reality, and will allow us to develop state-of-the-art space technologies, such as complex robotics and AI-based algorithms, within the UK. We cannot solve the challenge of space debris alone, and we are proud that 9 cutting-edge UK-based space companies – Alden Legal, AstroAgency, Critical Software, Deimos, MDA, Orbit Fab, Satellite Applications Catapult, University of Surrey – will work with us to address this issue.

Astroscale Ltd. has been awarded £1.7 million to design a satellite servicer that is capable of removing multiple retired or defunct satellites in a single mission. The Cleaning Outer Space Mission through Innovative Capture (COSMIC) will harness Astroscale's rendezvous and Remote Proximity Operations (RPO), and debris capture capabilities.

Astroscale most recently proved their magnetic capture and RPO capability in-orbit during the End-of-Life Services by Astroscale-demonstration (ELSA-d) satellite mission launched in 2021.

The COSMIC servicer will be a technological progression of Astroscale's Sunrise programme ELSA-M servicer – a commercial partnership between the UK Space Agency, the European Space Agency and OneWeb, the global satellite operator. The ELSA-M multi-client debris removal space servicer will be launched ahead of the UK's Active Debris Removal mission in late 2024.

Nick Shave, Managing Director, Astroscale Ltd, said:

We rely on space in so many areas of our lives, yet without the rapid development of the in-orbit servicing market we cannot start removing the hazardous debris that threatens our societal dependence on satellites.

We are very pleased and honoured to have been selected by the UK Space Agency for this Active Debris Removal Mission Study award. Astroscale, working closely with expert UK partner companies, will design a national robotic capture capability that can safely remove two defunct UK-registered satellites in Low Earth Orbit. With our proven space mission heritage and strong industrial partnerships, we can deliver the UK government's ambitious plans to develop a sustainable space economy for the benefit of future generations. Our goal is to make in-orbit debris removal and satellite servicing routine by 2030.

The government recently unveiled its Plan for Space Sustainability to tackle the growing volume of debris in space, which is both environmentally and commercially unsustainable. The plan includes action to clean up the Earth's orbit as well as to ensure future projects minimise their footprint, for instance through in-orbit servicing and manufacturing to prolong a satellite's life or recycle satellites in orbit, as well as retrieving satellites and mitigating debris.

The UK has previously provided funding for the implementation of the UN Office for Outer Space Activities (UNOOSA) [guidelines for the long-term sustainability of outer space](#). To achieve a safe and sustainable space environment, the UK is playing a leading role alongside UNOOSA in the adoption of these guidelines, which set out how countries and companies can help preserve the outer space environment for future generations.

The UK is also the leading contributor to the European Space Agency's (ESA) Space Safety programme, which provides collaboration and funding opportunities for UK scientists and industry.

Joint Communiqué of the U.S.-Europe Group on Afghanistan

Press release

Special Representatives for Afghanistan and Pakistan, and Envoys from the US and Europe have issued a joint statement following a productive meeting on Afghanistan on 15 September.



Special Envoys and Representatives for Afghanistan of the European Union, France, Germany, Italy, Norway, the United Kingdom and the United States met in Washington D.C. on September 15, 2022, to discuss the situation in Afghanistan. Other officials from Japan, Qatar, Switzerland and UNAMA also participated in the meeting as observers, which included technical sessions with the World Bank and the Asian Development Bank.

The Special Envoys and Representatives for Afghanistan:

1. Expressed grave concerns with the continued undermining of human rights and fundamental freedoms of Afghans; welcomed the recent report by the UN Special Rapporteur on the Situation of Human Rights in Afghanistan to the UN Human Rights Council; denounced violations of international humanitarian law and abuses of rights protected under international human rights treaties and conventions to which Afghanistan is a State Party, including abuses of the rights of members of ethnic and religious minority groups or other marginalized groups; condemned, in particular, abuses of the rights of Afghan women and girls throughout the country, including restrictions on freedom of movement, as well as their exclusion from political, economic, educational and social spaces; noted the issuance of no fewer than 16 Taliban announcements and policies since August 2021 that have restricted women's and girls' enjoyment of their rights; and called for the immediate reversal of the Taliban's ban on girls' attendance in schools in grades 7 to 12, noting girls have not attended school at these levels for the last year throughout most of the country.

2. Denounced increasing restrictions on freedom of opinion and expression, notably through media repression, including of female reporters, and condemned the detentions of both Afghan and foreign journalists.
3. Stressed the urgency in continuing to address the grave humanitarian crisis in the country, including through steps to prepare the Afghan population for the upcoming winter; highlighted the substantial humanitarian assistance provided for Afghanistan since August 2021 from their respective governments and organizations; affirmed the need for all relevant actors to adhere to applicable international law and to ensure the independence of humanitarian organizations; emphasized the importance of all humanitarian staff – men and women – having unimpeded access to any areas of the country necessary to performing their jobs effectively; called for adherence to humanitarian principles and for the removal of any restrictions and obstacles to the provision of humanitarian assistance; and emphasized the importance of equitable and direct access to humanitarian aid, as well as to aid intended to address basic human needs, with appropriate consideration for vulnerable populations, including women and women-led households, children and ethnic and religious communities.
4. Expressed grave concern about the continued presence and operations of terrorists and terrorist groups in Afghanistan, including al-Qa'ida and other groups with a stated aim to target countries in the region and beyond; and specifically condemned the recent presence of al-Qa'ida leader Ayman al-Zawahiri in Afghanistan and emphasized that Zawahiri's presence in Kabul was a clear example of the Taliban's failure to meet their counter-terrorism commitments.
5. Highlighted the need for the Taliban to take sustained and verifiable steps, consistent with their commitments and applicable international law, including international humanitarian law, against all terrorist groups and activity occurring in Afghanistan; condemned recent ISIS-K attacks against civilians, the diplomatic community and areas where civilians gather, including mosques; acknowledged active operations by the Taliban against ISIS-K; and called on the Taliban to protect at-risk ethnic and religious communities from attacks by members of ISIS-K and other terrorists, as well as to take all possible steps to ensure perpetrators of such attacks are held accountable.
6. Emphasized that enduring peace and stability in Afghanistan requires a credible and inclusive national dialogue leading to a constitutional order with a representative political system; noted that the risk of armed conflict is likely to increase significantly without a broadly representative and accountable government chosen through a credible process in which all adult Afghan women and men can participate; and called on the Taliban to fulfill their commitment made in the February 2020 Doha Agreement to participate in intra-Afghan dialogue and

negotiations over a political roadmap that leads to a new Afghan Islamic government.

7. Underscored the importance of the Taliban fulfilling their commitments to counter drug production and trafficking.
8. Noted that the Taliban have committed to allow safe and orderly passage to and from Afghanistan of foreign nationals and Afghans – both women and men – who are properly documented.
9. Discussed the recent lapse of the exceptions to the UN travel ban on certain Taliban leaders and called on all countries to act responsibly in implementing their UN obligations.
10. Emphasized that foreign assistance to Afghanistan is for the benefit of the Afghan people and not a sign of progress toward normalization of relations with the Taliban; and noted that engagement by members of the international community with the Taliban should not be interpreted as progress toward normalization.
11. Highlighted the need for the Taliban to focus on the country's economic crisis and to create an enabling environment for greater investment through, among other things, adherence to fair and transparent rule of law; stressed that humanitarian assistance and assistance for basic human needs are not sufficient to prevent further deterioration of the country's economy; discussed other ways to help sustain Afghan livelihoods through economic stabilization and by increasing liquidity in the country; emphasized the importance of reviving Afghanistan's banking and financial sector and to facilitating licit cross-border money flows; raised the need to expand the capability, transparency and professionalism of the Afghan central bank as part of efforts to increase liquidity and to stabilize the economy; noted the recent establishment of the Afghan Fund in Switzerland that aims to preserve and protect Afghan central bank reserves and to make targeted disbursements from those reserves for the benefit of the people of Afghanistan; and emphasized the need for the Afghan central bank to (1) demonstrate its independence from political influence and interference; (2) demonstrate it has instituted adequate anti-money laundering and countering-the-financing-of-terrorism (AML/CFT) controls; and (3) complete a third-party needs assessment and onboard a reputable third-party monitor.
12. Welcomed the appointment by UN Secretary General Antonio Guterres of Ms. Roza Otunbayeva as the new Special Representative for Afghanistan and head of UNAMA; and called on the Taliban, other Afghans and members of the international community to cooperate with SRSG Otunbayeva as she implements UNAMA's mandate, including on the promotion of dialogue among

all relevant Afghan stakeholders aimed at achieving inclusive, responsive, representative and participatory governance at national and subnational levels and on the monitoring of the human rights situation; and expressed support for the renewal by the UN Human Rights Council of the mandate of the UN Special Rapporteur on the Situation of Human Rights in Afghanistan, called for the strengthening of its role on gender rights and an increase in the position's financial resources, and welcomed the work done to date in this role by Mr. Richard Bennett.

13. Welcomed UNAMA's mandate to promote transitional justice and called on the Taliban and other Afghans to work in good faith toward addressing the country's legacy of war crimes and other violence; acknowledged that grievances exist on all sides of the conflict and noted that sustainable peace is unlikely without a reconciliation process that emphasizes healing and restorative justice over retribution; and noted the importance of adherence to the Taliban's policy of amnesty for former Islamic Republic officials and to upholding accountability for those who violate this policy.
14. Highlighted the need for all members of the international community, particularly Afghanistan's neighbors, other partners in the region and Muslim-majority countries, to cooperate in Afghanistan with the interest of the Afghan people in mind.
15. Expressed their appreciation to the United States for organizing these consultations and hosting the meeting.

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Foreign Secretary James Cleverly makes first visit to East Asia

- James Cleverly begins a three-day visit this week (26 September), to Japan, Republic of Korea and Singapore.
- He will demonstrate the growing importance of the Indo-Pacific Tilt, and the UK's ambition to become the European partner of choice with the greatest presence in the region.
- The Foreign Secretary will meet President Yoon Suk-yeol of the Republic of South Korea, Deputy Prime Minister Lawrence Wong of Singapore and deliver a keynote speech at the Milken Asia Summit.

Focused on strengthening bilateral ties and enhancing trade and security

links, Foreign Secretary James Cleverly will begin a three-day visit to Japan, Republic of Korea and Singapore this week (26 September).

It is one of his first international visits as Foreign Secretary – following the United Nations General Assembly in New York – demonstrating the growing importance of the Indo-Pacific Tilt, and the UK's ambition to become the European partner of choice with the greatest presence in the region.

The UK and Japan are the closest of friends and partners. Cleverly's visit comes after Prime Minister Liz Truss met Japanese Prime Minister Fumio Kishida at the UN General Assembly in New York, where the leaders looked forward to expanding the UK-Japan relationship. Both countries are working together to further shared goals on security, defence and trade through programmes like the Future Combat Air System (FCAS) and the UK's application to join the Trans-Pacific Partnership (CPTPP).

During the visit in Japan, Cleverly will attend the State Funeral of former Prime Minister Shinzo Abe and meet Foreign Minister Yoshimasa Hayashi. While in the Republic of Korea he will meet President Yoon Suk-yeol and visit the Joint Security Area of the Demilitarised Zone (DMZ). Finally in Singapore, Cleverly will meet Deputy Prime Minister Lawrence Wong and deliver a keynote speech at the Milken Asia Summit.

Speaking ahead of the visit, Foreign Secretary, James Cleverly, said:

As I start my visit to the region in Japan, my thoughts are with the Japanese people as we remember the legacy of former Prime Minister Abe – their longest serving prime minister who brought our two countries closer together.

The UK has a long-term commitment to the Indo-Pacific region, as we look to establish a greater and more persistent presence than any other European country. This in turn will boost economic development, strengthen trade ties and enhance security.

While in Japan, the Foreign Secretary will offer condolences at the State Funeral of former Prime Minister Shinzo Abe. In a meeting with Foreign Minister Hayashi, Cleverly will reaffirm the UK's ongoing commitment to its relationship with Japan, its closest security partner in Asia, and the two countries' strong people-to-people links.

Cleverly will then travel to the Republic of Korea to highlight closer cooperation on security, trade and energy and meet President Yoon Suk-yeol. He will visit the Joint Security Area of the Demilitarised Zone with the United Nations Command. With Foreign Minister Park Jin, he will discuss UK-RoK cooperation on global security and economic issues including Ukraine, Russia and China as part of the existing bilateral framework.

The visit will conclude in Singapore, with a keynote speech at the Milken Asia Summit setting out the Foreign Secretary's foreign policy vision for the Indo-Pacific region, and a bilateral meeting with Deputy Prime Minister

Lawrence Wong.

In recognition of Singapore's role as an important regional finance centre, he will launch the new British Investment International Office, boosting investment in green infrastructure and establishing a significant economic hub. The Foreign Secretary will meet Prime Minister Lee Hsien Loong to discuss regional security and trade, and later have dinner with Minister for Foreign Affairs Vivian Balakrishnan.