

UK takes the lead in exoplanet mission with £30 million investment

Due to launch in 2029, Ariel's mission is to understand the links between a planet's chemistry, its evolution and its host star, by characterising the atmospheres of 1,000 known planets outside our solar system.

It is the first space mission dedicated to this analysis and will provide a step-change in our understanding of what exoplanets are made of, how they were formed and how they evolve. Scientific data will be released to the scientific community and general public at regular intervals throughout its planned four-year operational phase.

Ariel, which was proposed by an international consortium led by University College London (UCL), was selected by the European Space Agency (ESA) from 26 proposals put forward to be the next 'medium class mission' in its science programme. The UK will lead the overall science of the mission and head up a consortium of 17 countries building the mission's payload module.

The investment is the first major long-term commitment that the UK has made to space science since the publication of the National Space Strategy and the leadership role will provide an unprecedented opportunity for the UK space sector's academic base.

Science Minister George Freeman said:

This is an incredibly important commitment for UK space science and technology, marking a major milestone for the National Space Strategy and boosting our ambitions to grow our £16.5 billion commercial space sector.

By investing £30 million and taking the helm of the entire Ariel consortium – the first time in a decade that we have secured leadership for a mission of this magnitude – we are putting the UK at the heart of international space research, providing new opportunities for space businesses and academics across the country.

The £30 million is provided through the UK Space Agency's National Space Science Programme and is in addition to more than £6 million the Agency has already provided to support UK teams during Ariel's study phase up to March 2022.

This investment will secure the UK's scientific leadership of the mission and will incorporate the delivery of Ariel's payload module, cryogenic cooler and optical ground support equipment, as well as science operations and data processing.

UK organisations contributing expertise to the UK's role as mission consortium Principal Investigator and payload lead include University College London (UCL), Cardiff University, University of Oxford and the Science and Technology Facilities Council's (STFC) RAL Space at Harwell Space Cluster in Oxfordshire.

Professor Giovanna Tinetti, Mission Consortium Principal Investigator for Ariel at UCL, said:

Ariel will be transformational in helping us understand the planets in our galaxy. By studying hundreds of diverse worlds in different environments, we will see our own planet in context, giving us a better sense of why Earth formed as it did.

We are very grateful to the UK Space Agency and the UK government for their continued support and commitment in advancing planetary science, helping us understand worlds beyond our solar system as well as within it.

Paul Eccleston, Ariel Consortium Programme Manager and Chief Engineer at RAL Space, said:

We welcome the agreement and the commitment from the UK Space Agency to enable this collaboration. I'm delighted that the UK is taking a leading role in the mission and proud of the progress the consortium has already made to design the payload. These ties are only set to strengthen as we progress towards launch.

Teams at RAL Space will build and test the Ariel payload module, managing hardware contributions from other consortium nations, while the STFC Technology department is developing the £5.5 million cryogenic active cooler system.

Scientists at UCL and University of Cardiff will lead performance analysis, testing and fine-tuning the complex algorithms that will process the data returned from Ariel. The University of Oxford team will deliver the equipment to test Ariel's payload telescope and optical elements.

Günther Hasinger, ESA's Director of Science, said:

Ariel is a very important mission for ESA's Space Science programme, and among our world-leading fleet of missions that study extrasolar planets.

This commitment by the UK Space Agency and our scientific partner institutions in the UK is a big step forward for Ariel, and we are looking forward to working together closely on implementing the mission.

A payload design review will be completed later this year, with the design expected to be finalised by 2025. A flight acceptance review will be completed in early 2029 ahead of launch later that year.

Ariel's full name is the [Atmospheric Remote-sensing Infrared Exoplanet Large-survey](#). You can learn more about the mission through the [Ariel YouTube channel](#), created by UCL and ESA.

[Prime Minister's remarks at a press conference in Kyiv: 17 June 2022](#)

[PM Boris Johnson & President Volodymyr Zelenskyy hold a press conference in Kyiv](#)

Thank you for having me. It's great to be back here again in Kyiv and to see you, but also to see how life is coming back to the streets, to the cafes, to the restaurants.

It's much livelier than it was just a few weeks ago when you and I went on our impromptu walk about, Volodymyr, and that's a very positive thing. It's good to see visitors, let me put it this way from other European countries, coming to Kyiv.

But we've got to face the fact that only a couple of hours away a barbaric assault continues on entirely innocent people.

Towns and villages are being reduced to rubble.

And as you rightly say, Volodymyr, we continue to see the deliberate targeting of civilians – what is unquestionably a war crime.

And in a hideous echo of the past, the illegal deportation of people that the Russian forces believe are insufficiently sympathetic to Putin's aggression and in these circumstances, we can only once again salute the heroism of the Ukrainian forces, the bravery of your armed forces.

In these circumstances, Volodymyr, I completely understand why you and your people can make no compromise with Putin.

Because if Ukraine is suffering, if Ukrainian troops are suffering, then I have to tell you that all the evidence is that Putin's troops are under acute pressure themselves and they are taking heavy casualties.

Their expenditure of munitions, of shells and other weaponry is colossal.

And after our 114 days of attack on Ukraine, they have still not achieved the objectives they set out for the first week.

So Volodymyr, we are here once again, to underline that we are with you to give you the strategic endurance that you will need and we are going to continue to help intensify the sanctions on Putin's regime.

We're going to do everything we can to continue to strengthen the diplomatic coalition around the world for Ukraine.

And I completely understand and sympathise with the need for continued financial support for Ukraine.

We're going to work together to liberate the grain, as you rightly say that he's being held hostage right now by Putin, depriving people around the world of the food that they need.

And of course, we will continue, as we have from the beginning, to provide the military equipment, the training that may be necessary to go with that with that new equipment, so that you – the Ukrainian people, the Ukrainian Armed Forces, will be able to do what I believe Ukrainians yearn to do and that is to expel the aggressor from Ukraine.

And that will be the moment for talks about the future.

And it will be in that context of a free Ukraine that we and other countries will be making the security commitments and guarantees that we've we discussed so often.

And we will work together with you and with our partners to rebuild your wonderful country for the benefit of Ukrainians and I might say, for the benefit of the whole of the global economy.

Thank you for having me to Kyiv again. Always wonderful to be here. Slava Ukraini.

[Dr Jo Saxton at Confederation of School Trusts' annual conference](#)

Introduction

Good morning and thank you to Leora and CST for inviting me to join you today. I welcome the opportunity to join your discussion about what it means to be truly civic in 2022.

The idea that citizens should be actively engaged in public life is not a new one; in fact, it is an ancient one. It's something I once lectured about, before I left academia for school leadership.

The debate, in the ancient and then Renaissance times, centred on the relative merits of living a public life, negotium, or one of leisure, otium. Public life or leisure. It was not a clear cut matter for the Romans. But by the 15th century the importance of civic involvement was the theme which united many of the otherwise fractured thinkers. By 16th century there was acceptance that, for those in positions of leadership, negotium linked directly to the moral duty to provide education.

When I look around this room, I see negotium alive and well. Amongst the familiar faces, so many of you have played a pivotal role in helping me improve the troubled schools I took on when, like you, I was an academy Trust leader. Your unquestioning support is one of many examples of how, as a sector, you bring to life the power of civic service.

Today, I stand before you with a different civic responsibility; that of a regulator. Specifically, at present, I'm in the extraordinary – (and as one dinner companion last night said, unenviable) position of overseeing the first summer exam series that has been held for three years. This series could not have happened without collective, civic commitment.

From you helping DfE and Ofqual know what it is students would need, to preparing your students, explaining to parents what is and is not reasonable; to finding invigilators against the odds and juggling contingencies. I want to take this opportunity to thank all of you for the vital role you have played in what has been a very difficult couple of years.

It's only when you think about the scale of the exam system that you realise what a feat it is. Almost 5,000 schools and colleges are involved in administering GCSE, AS and A level examinations in the summer series, with more than 16 million GCSE, AS and A level scripts likely to be completed and marked this summer and 5.7 million grades awarded to over a million students. These are extraordinary numbers when you pause to think about them. And as of today, some 1,500 papers and vocational assessments have been sat right across the country, with 7 school days left until the end of this year's series.

In leading schools it is very clear that the role of Trust leader is to serve the community – this will be second nature to you, and indeed it is what we sign up to when signing our funding agreements – to advance education in the public benefit, and ensure that the school is at the heart of its community and promotes community cohesion.

In becoming the Chief Regulator, that flame of civic leadership that burns inside us as school leaders, is very much alive and well for me today and I have very deliberately carried over that same purpose into everything that we do at Ofqual.

I've been explicit, that, on my watch, all of Ofqual's statutory powers, resources and focus, will be to regulate in the interests of students of all ages and apprentices. Students will be our true north, our compass.

Ofqual's civic role

Last summer, when I was preparing to start this role, I went back to read the parliamentary debate that preceded Ofqual being formed.

It was clear there, that an entity to 'be the guardian of standards' and a 'champion of fairness' was sought.

One that would prevent ministers from meddling in qualification outcomes; one that could have a role in the efficiency of the market, and one that would hold exam boards to account should they fail to act in accordance with key principles and rules.

These are aspirations I want to live up to.

Why regulation matters

You are, I know, in midst of a live debate about regulation – and how to ensure that provisions to prevent harms do not undo the freedoms that allow you to do good.

Regulation is needed where forces, or a market, do not – by themselves – act in the wider public interest. We're all feeling this in respect of energy and fuel pricing at the moment. To quote the great Malcom Sparrow, what regulators choose to do, and how they choose to do it, greatly affects the quality of life in a democracy'. At its best, regulation ensures we are safe as we fly for a summer holiday and gives us confidence to receive our covid vaccines.

A regulator's civic function, or its role in a democracy, is to act when power imbalances prevent some citizens from being treated fairly. In the context of qualifications, I see this as the socio-economically disadvantaged. For example, to ensure that no one is disadvantaged by maths questions that rely on knowledge of the layout of a theatre, nor French questions depending on understanding the etiquette of a skiing holiday. Qualifications must be open to all to take because the recognition they provide gives a passport to further opportunities.

The sum total of all of this is that the qualifications system has to work first and foremost in the interests of students and apprentices, not the market. Some individual students may think it's a good thing for their qualification to be a little bit easier, but it's not collectively in their interest. It's in a student's or apprentice's interest that the piece of paper they receive counts for something and means something. It's in the collective interest that standards are maintained and it's in the collective interest that society believes those standards are maintained.

Listening tour

One of the greatest risks for regulators is to fail to be in touch with, or to lose touch with, those on whose behalf one has powers in the first place.

Ivory towers with regulators becoming increasingly remote from the action on the ground is dangerous territory and flies in the face of civic duty.

I am determined not to fall into that trap. And this is one of the drivers behind the extensive programme of visits to schools, colleges and providers that I embarked on in the new year. Thank you to those of you here today who have hosted me.

I wanted to hear directly from those pursuing qualifications, and those striving to deliver them under the most challenging of circumstances; what were they experiencing, and what else Ofqual could be doing to help them?

Since last autumn, I have met with over 300 school leaders as well as students from Blackpool to Sedgefield to Plymouth, and these sessions have been absolutely invaluable.

I have learned that students really, really want to do exams. That, much as they love and respect their teachers, they don't want 'COVID grades', and moreover, they want to prove themselves in what they consider to be a fairer means of assessment – answering the same questions as their peers, at the same time, in the same way, and marked by impartial adults.

But I also learned that too many students didn't know anyone apart from their teachers who had done exams. So, we created a series of films of those who had been talking about what to expect.

It's also clear how much students like exam aids and formulae sheets; they have spoken of these 'taking the stress off their shoulders' to me; whereas they have found the idea of advance information great but the reality of navigating it just another thing to think about.

Above all, most of the many students I have spoken to, just want to be taught consistently by their own trusted teachers. They've welcomed the spacing of this summer series to give them more time to be with you and prepare between sessions.

It's also become clear to me that there is a huge appetite amongst the profession to even better understand assessment and awarding disciplines. One leader in Bristol said that whilst the workload of the 2020 and 2021 arrangements was horrendous, her staff also talked about it as some of the best continuing professional development they'd experienced. Leaning into this interest, we have started a series of podcasts; the first of which on marking and grading is out now.

[Marking and grading in summer 2022](#)

Overarchingly, I've seen at first hand that you have all had greater COVID-related disruption in 2022 than at any point in the pandemic to date. And that it is your current Year 10s and 12s who are most anxious, whose attendance remains a great concern and that to think the impact of the pandemic is measured only on the 22 weeks or 109 days of mainstream school closure is to completely miss the point of how deep and wide the actual impacts of the pandemic are upon education and lives. I am absolutely making

sure to share this with policy makers and Ministers, at every opportunity I get.

So invaluable are the insights gained from these visits, that I intend to keep doing them regularly; for as long as I serve as Chief Regulator. On my watch, Ofqual will continue to listen, and as far as we possibly can, will adapt so that we are genuinely meeting our civic duty and not inadvertently drift away from it.

This year's arrangements

Leora asked me to cast an eye to the future as part of my session with you today, and I will do that. Forgive me, though please Leora, for first touching on the present.

You will be very familiar with the unprecedented package of support in place for students to make the path back to pre-pandemic arrangements as smooth as possible. I recognise that there have been real bumps along the road. I understand the distress that mistakes in papers and advance information will have caused. But I also hope that the overall effect and additional support provided is beneficial.

The package itself, ranging from curriculum adaptation through to series spacing and grading is, in and of itself, a small case study in balancing the interests of individual students with that of wider society, so that the individuals get an appropriate level of additional support in recognition of what everyone has been through, without the ultimate qualifications they receive being devalued to the extent that they could not serve for the progression and employment purposes they are actually needed for.

Many of you serve cohorts and communities who continue to feel the impact of this pandemic, and I recognise that there are some for whom, at an individual level, the package does not go far enough. But what taking steps to get back to normality remains the right, and civic, thing to do, because of the common currency doing so provides.

Grading, marking and comparable outcomes

As we move through the exam season, your thinking will naturally start turning to results days in August. I've mentioned some of the adaptations made to different subjects: what is universal to all will be the approach to grading.

We want to return to pre-pandemic grading, not least because this is best understood by the many users of qualifications. But I have made no secret of the fact that fairness to students is at the heart of our decision making, and I don't think it would be fair to return to pre-pandemic standards in one fell swoop.

As such, grading this year will make sense for this year's students. Results will reflect a staging post between 2019 and 2021. Ofqual is asking the exam boards to set grade boundaries to reflect the pandemic context; to avoid

disadvantaging some students who might otherwise just miss out on a higher grade.

I must be clear; whilst these will be the most generously graded exams ever; nevertheless the approach means that overall, 2022 results are likely to be higher than in 2019, when summer grades were last determined by exams, but lower than we saw in 2021. This means that your schools are highly likely to find their results are lower than in 2021 when exams did not go ahead. Schools that get higher results than in 2021 will be few and far between, if any.

Another thing I want to make absolutely clear, is that there is no quota of students of students that get a particular grade. This is a persistent and troubling myth about grading, and about comparable outcomes, and I would like your support in helping quash it when you hear others suggest that is the case.

It is simply wrong: grades are not decided in advance. As in any other year, grade boundaries will be set at a national level, and only after students have taken their exams, and only after their papers have been marked. Comparable outcomes does not limit anyone – its role is to ensure that the essence of a grade is comparable from one year to the next, and has the same meaning between subjects, and so importantly in our national context – between Boards.

If any of you would like to know more about how marking and grading will work this summer, and about what comparable outcomes does and does not do, I do recommend listening to the podcast with Laura McInerney, that I mentioned earlier and can be found on Ofqual's YouTube channel.

2023

Whilst we have many milestones still to pass through for 2022, arrangements for 2023 are on my mind, and I know from my visits that they are on the minds of many of you too.

Recently we confirmed that the adjustments made to non-exam assessment, fieldwork and practical science in 2022 to respond to the public health measures in place at that time, are now no longer needed given that measures have now been removed.

This is not because we don't realise the extent of disruption; it's because we believe so passionately that students have a right to the richest, roundest curriculum and education possible.

We also wanted to give you enough notice to plan your next academic year, and to use the time you have left of this one to plan. In terms of the other adaptations in place this year, advance information, exam aids and series spacing, you have my commitment to get you clarity as early as I can in the new academic year.

Why can't I give that to you today? Because I need to be able to understand

what the path of the pandemic is, to return results safely this summer and to fully assess the impact of the advance information and aids.

Critically, I need to continue to hear from year 10s and 12s about their experiences and what they will consider to be fair.

What I can confirm, is that my plan is very much to get back to pre-pandemic grading. This is for a host of student focused and civic minded reasons.

Pre-pandemic, for almost all qualifications, there were banks of exemplar works for students and teachers to refer to. This makes giving predictions for admission to the next stage of education or life so much easier, and so much more accurate.

It means that is far easier for teachers to work out what advice to give students on how to improve. And because there are no quotas of grades; because there is no outcomes bell-curve imposed to determine results before qualifications are sat; this is, therefore, the fairest way to work.

Thanks to the National Reference Test, you can rest assured that when underlying student performance increases, or decreases in English and maths, we can – as regulator – instruct Boards to alter grade boundaries accordingly, so that results appropriately serve cohorts over time, because we have a reliable measure, comparable over 6 years now, to refer to.

The future

So, what does the future hold?

In our recently launched corporate plan, we set out our big four priorities for the next few years, including how Ofqual will shape the future of the qualifications landscape.

I've said before that it's a case of when, not if, we move further towards online assessment. We know the future will change but we cannot throw the baby out with the bathwater. I can tell you now that handwriting is here to stay! Ofqual needs to make sure that any changes to the system are done right, have students' and apprentices' interests uppermost, and are supported by you.

When we published our plan in May, it was the focus on the possibility of online GCSEs and A Levels that really caught people's attention. We have developed a Technology in Assessment Programme and through this programme we'll consider approaches to the regulation of innovative practices and technology.

We will make sure these promote valid and efficient assessment and are implemented safely in the interests of students.

This programme includes a number of exploratory research projects such as adaptive testing, remote invigilation and perceptions of technology in assessment.

The first step, though, is to undertake an assessment of what the sector needs, together with DfE, in terms of infrastructure to make use of digital technology in national qualifications so that access would be equal and fair.

As regulator my job is to take an evidence led approach, and not an ideological one. Accordingly, our primary focus will be on research, analysis and engagement to assess the different approaches that can be taken to digitise assessment, what the risks and opportunities are specifically in relation to validity and good assessment practice. And then how our regulations will need to evolve to ensure we continue to protect students.

What else do we see for the future of qualifications? There's an interesting question too about grading scales. In the context of the review of qualifications at L3, we have asked, as you know, for views on grading scales. How many different grading scales does a society need? Would it be easier for all to understand if there was a limited range of grade scales and, perhaps, to have some common principles? Where, for example, a grading scale uses numbers, the highest number is always used for the highest grade? I also want to make the register of qualifications which we publish interactive, so it's easier for you to be confident about differences between them and make decisions informed by fact not myth and rumour. I'd like to keep the series spacing required by the pandemic, because it means students have more time with you in school or college.

Conclusion

The last three years have been a time of great turbulence for us all, and whilst the pandemic has clearly cast a long shadow, we are now moving back towards a sense of normality. But despite all the challenges, and all the changes that have had to be thought through and brought in and implemented by you on the front line, one constant is our theme today of civic life and civic duty.

That is a golden thread that binds all of us here today, and is something that I commit to you, will be Ofqual's calling card for years to come.

Thank you.

Defence Secretary meets NATO Ministers in Brussels

The Defence Secretary met with NATO Defence Ministers this week to reaffirm the UK's support for Ukraine and underline our iron-clad commitment to defend every inch of Alliance territory.

Ben Wallace met with his counterparts from all 30 member states as they

gathered at NATO HQ in Brussels. They spoke about the impact of Russia's unjustified invasion of Ukraine and how the Alliance can further fortify efforts to support Ukraine and strengthen its deterrence and defence posture, including along the NATO's eastern flank.

Earlier this year, the UK doubled the number of troops in Estonia from 800 to more than 1,600 in response to Russia's barbaric invasion and increased our commitment to NATO air policing in Romania from four to six RAF jets.

Ministers also discussed plans to reform NATO's force structure and develop more flexible forces to respond to crises and conflicts, and looked ahead to the NATO Summit in Madrid later this month, where key decisions will be taken by Heads of State and Government.

Defence Secretary Ben Wallace said:

I was delighted to meet again with my NATO colleagues. The most successful military alliance is more united than ever and determined to stand up for each other.

The Defence Secretary also attended a donor conference to discuss with other like-minded member states what further military aid can be provided to Ukraine. Following the meeting, the UK, US and Germany issued a [joint statement](#) on providing Multiple Launch Rocket Systems (MLRS) with Guided MLRS (GMLRS) rockets to Ukraine.

While at NATO the Defence Secretary also signed a Memorandum of Understanding with France, Germany, Spain, Italy, Greece and the Netherlands for the NATO's Next Generation Rotorcraft Capability. Key to the UK's Rotary Wing strategy, this international framework allows the UK and its allies to explore the latest technology on the market with industry, designing a medium-role helicopter for key NATO commitments and operations.

The UK has so far provided more than £750 million of military aid to Ukraine, including thousands of anti-tank missiles, air defence systems and armoured vehicles, and [recently announced we will be sending multiple-launch rocket systems \(MLRS\)](#) as the conflict has entered a new phase in the Donbas.

The Defence Secretary also met with representatives from Sweden and Finland and reaffirmed UK support for their recently announced membership applications.

[UK to offer major training programme](#)

for Ukrainian forces as Prime Minister hails their victorious determination

- Prime Minister Boris Johnson meets President Zelenskyy in Kyiv today to discuss Ukraine's valiant fight against Russia.
- Offers major training programme for Ukrainian forces to help sustain their heroic defence.
- The UK would spearhead the programme, with the potential to train thousands of new and existing Ukrainian soldiers.

The Prime Minister has offered to launch a major training operation for Ukrainian forces, with the potential to train up to 10,000 soldiers every 120 days.

During a visit to Kyiv today, the Prime Minister told President Zelenskyy the UK could spearhead the landmark programme, which would fundamentally change the equation of the war, ensuring the Armed Forces of Ukraine have the resilience they need to be victorious in their fight for enduring peace.

The offer to President Zelenskyy came as the pair discussed the situation in Ukraine, and how the Ukrainian people continue to inspire the world with their incredible resistance.

The UK-led programme would train and drill the Armed Forces of Ukraine using battle-proven British Army expertise, allowing them to accelerate their deployment, rebuild their forces, and scale-up their resistance as they continue to defend their nation's sovereignty against Russian invaders. International partners would be invited to host the programme, if the offer is accepted by Ukraine.

The previous Operation Orbital saw the UK train more than 22,000 Ukrainian personnel from 2015 until the full-scale invasion of Ukraine. The new programme would train forces outside of the country.

The battle-winning skills taught during the seven-year programme enabled Ukrainian forces to launch a ferocious defence against Russia's illegal and unprovoked invasion.

Prime Minister Boris Johnson said:

My visit today, in the depths of this war, is to send a clear and simple message to the Ukrainian people: the UK is with you, and we will be with you until you ultimately prevail.

As Ukrainian soldiers fire UK missiles in defence of your nation's sovereignty, they do so also in defence of the very freedoms we take for granted.

That is why I have offered President Zelenskyy a major new military training programme that could change the equation of this war – harnessing that most powerful of forces, the Ukrainian determination to win.

Two months on from my last visit, the Ukrainian grit, determination and resilience is stronger than ever, and I know that unbreakable resolve will long outlive the vain ambitions of President Putin.

Each soldier would spend three weeks on the training course, learning battle winning skills for the front line, as well as basic medical training, cyber-security and counter explosive tactics.

Alongside the training offer, the leaders also discussed how the UK can play a pivotal role in ending the blockade of grain.

The major training programme builds on the UK's global leadership in supporting Ukraine in its valiant defence of its country.

The UK has already pledged more than £1.3bn in economic and humanitarian support to Ukraine – including more than 5,000 NLAW anti-tank missiles, long-range multiple launch rocket systems, and artillery systems including 155mm Self Propelled Guns.