

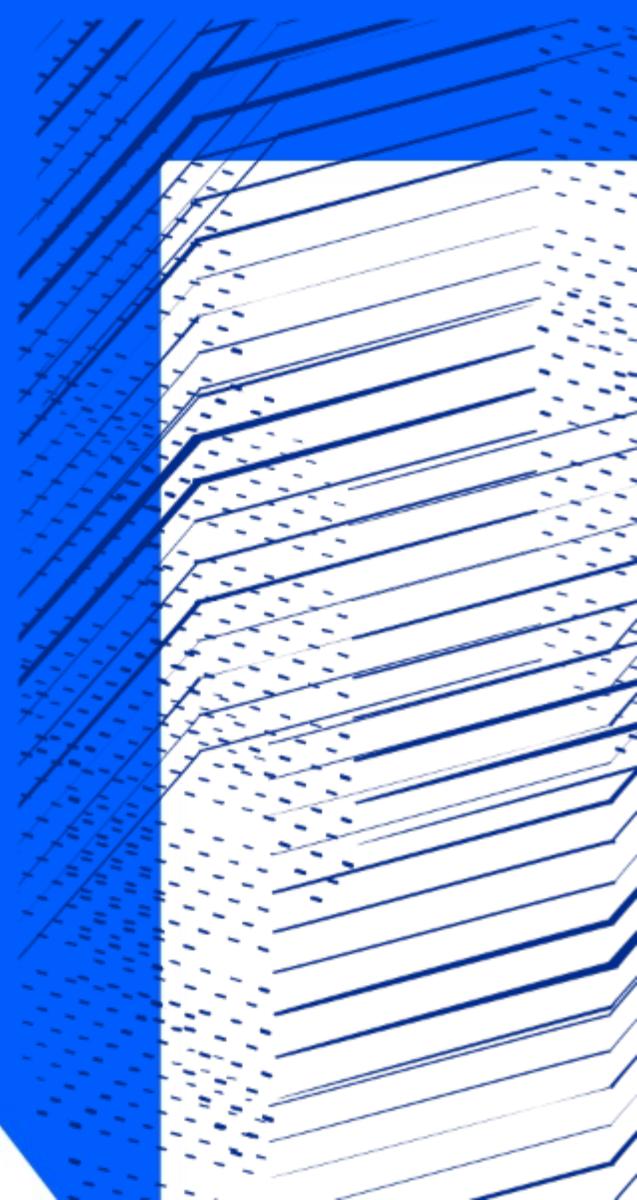


Science and
Technology
Facilities Council

STFC Update

Mark Thomson
Executive Chair

9 June 2021





Science and
Technology
Facilities Council

1. Covid Recovery Update



Science and
Technology
Facilities Council

Current STFC Operational Alert Level

The measures that we have introduced to ensure that our sites are Covid-secure enable us to keep STFC at Operational Alert Level 3



Note: STFC Operational Alert Levels (which refer to operational capability on our sites) do not directly map to Government Alert Levels (which relate to the prevalence of Covid-19 in the community)

Covid-security measures – in summary

Controls mitigating the **transmission** of infection on STFC sites

Controls mitigating the **arrival** of COVID-19 infection onto STFC sites

MINIMISING ON SITE NUMBERS

Move to home working where possible and minimising time on site with hybrid home and site working



MINIMISING SYMPTOMATIC SITE USERS

Self-awareness of COVID-19 symptoms, distribution of thermometers to site users to self test

Thermal testing of site visitors, contractors etc.

- Low occupancy in most operational areas/offices
- Risk assessment and additional controls where social distancing can't be met

CO2 monitoring to assess ventilation and occupancy

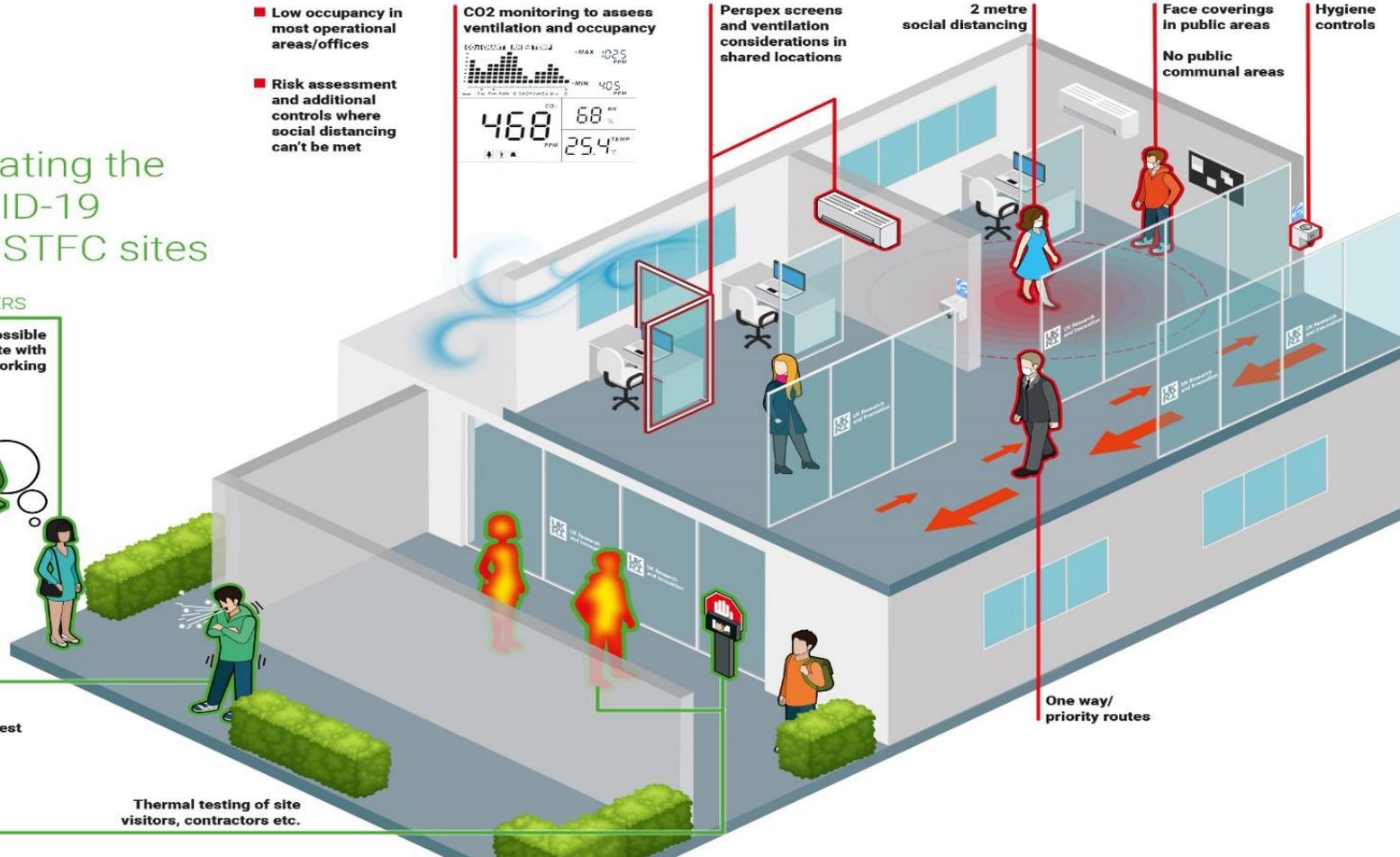


Perspex screens and ventilation considerations in shared locations

2 metre social distancing

Face coverings in public areas No public communal areas

Hygiene controls



Returning to a safe environment

STFC's workspaces continue to offer Covid secure environments to work, collaborate and meet colleagues for teambuilding and social support

- As Government lockdown restrictions ease, we are welcoming more and more colleagues back to our sites:
 - **1,753** (out of 2500) **individual STFC staff** attended site at least once in May
 - Now regularly at ~50% occupancy and sometimes beyond
 - **A total of 4,637** people (including visitors, contractors, tenants) attended site at least once in May
 - Since the start of the pandemic, we have had only **one case** of suspected **Covid transmission** on site – a testament to the effectiveness of our site controls

European and International travel will hopefully open up in the not-too-distant future, but restrictions are currently constraining collaborations



Science and
Technology
Facilities Council

2. Funding Update



Science and
Technology
Facilities Council

Spending Review Allocations: BEIS

BEIS R&D allocation

- Published on gov.uk in May
- Overall R&D spend across departments: £14.9 billion
 - Dominated by BEIS R&D budget of £11.3 billion
 - BEIS budget includes provision for UK contribution to EU R&D programmes
- UKRI budget: £7.9 billion

Organisation or Programme	R&D allocation 2021 to 2022 (£m)
UK Research and Innovation	7,908
UK Space Agency	534
UK Atomic Energy Authority	217
National Academies	207
Met Office	186
National Measurement System	110
Core programmes	106
Advanced Research & Invention Agency	50
Aerospace Technologies Institute	150
Automotive Innovation Programmes	87
Centre for Connected Autonomous Vehicles	19
Materials Processing Institute	5
Government Office for Science	14
Knowledge Assets	17
Net zero programmes	243
Nuclear Decommissioning Authority	201
Provision for UK contribution to EU R&D programmes	1,293
TOTAL	11,347

UKRI Allocations: historical context

UKRI allocation

- Published in May

	2018-19	2019-20	2020-21	2021-22
Research & Innovation Budgets	4,869	4,719	5,475	5,693
Science Infrastructure Capital	1,021	891	1,235	934
ODA	312	390	423	139
Strategic Programmes (formerly NPIF)	696	1,260	1,369	1,354
Corporate Funding	106	88	110	151
Tax (Asset Transfer Liability)	150			
Sub total	7,154	7,347	8,611	7,908
DfE Strategic Priorities Grant	58	58	57	47
TOTAL	7,212	7,405	8,668	7,955

STFC Budget for 2021/22

STFC Executive have agreed a balanced budget for 2021/22

- Challenges: many budgetary pressures in STFC programmes and estate
- STFC Executive and STFC Council agreed to prioritise:
 - Core science (flat real)
 - STFC Staff (no redundancies)
 - Facilities operations (CLF, DLS, ISIS) – partly protected from cuts (see below)
- Departments were set the challenge of a **5% cut to resource budgets** and **10% cut to capital budgets**
 - some areas such as Programmes Directorate and International subscriptions were excluded from this exercise
- The resultant pressures were then tensioned against existing pressures and the Executive agreed which were to be funded
- **Overall FY21/22 is challenging but manageable**

Spending Review 2021

Looking beyond 2021/22:

- Current Spending Review provides funding for Research Council core R&D budgets in FY21/22 and **FY22/23**
- Government ambition for 2.4% GDP on R&D remains (includes private investments)
- Work is commencing on the Autumn 2021 Spending Review and UKRI is developing several themes aligned to government policies:
 - Build back better
 - Health, ageing and well-being
 - Integrated review (security)
 - Net Zero
 - Resilience
 - Tackling Infections
 - Transformative Technologies (including AI, Quantum, digital twins)



Science and
Technology
Facilities Council

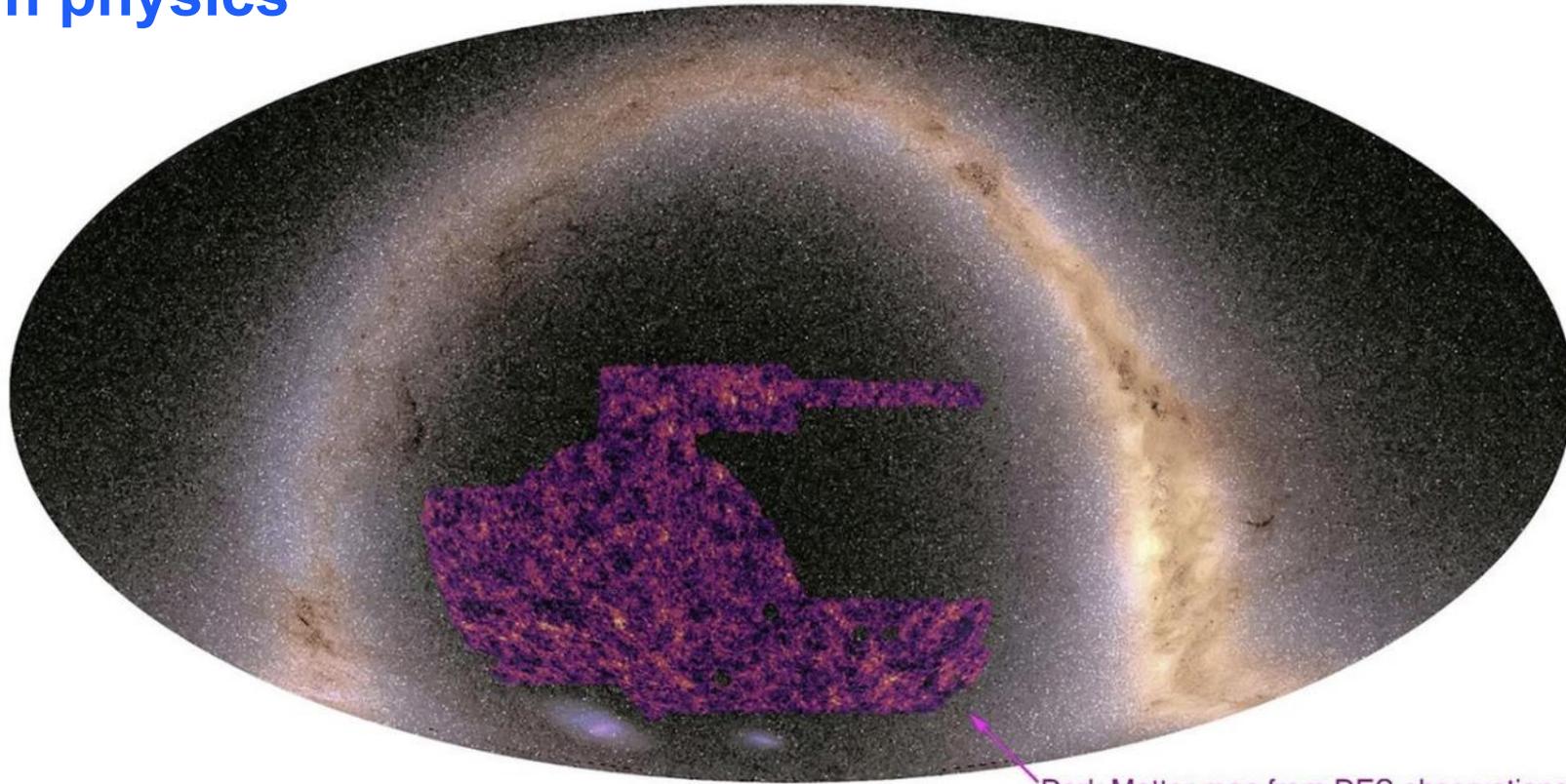
3. Programme Highlights



Science and
Technology
Facilities Council

Dark Energy Survey (DES)

Recent Dark Energy Survey releases highlight STFC's continued support for the UK's technical and scientific excellence in tackling the biggest questions in physics



Dark Matter map from DES observations

Square Kilometre Array Observatory

Transitioned to the new Intergovernmental Organisation in May

- Recently
 - China completed its ratification
 - France agreed to fully join the partnership
- Hope that SKAO Council is able to approve the start of phased construction at its meeting later in June
 - We are seeking HMG approval to commit, including uplifted budget
- UK research and development groups have submitted proposals for STFC review for the first in-kind contracts around software development



European Southern Observatory

ESO News:

- Facilities at Paranal, La Silla and ALMA are partly operating
 - continued issues with travel as result of pandemic are hampering speed of recovery
- Work at the Armazones ELT site is yet to restart, but the contractors are undertaking preparatory work
- UK work on HARMONI, Metis and towards MOS and HiRES have been delayed but we are working with the Project Office and teams to minimize impact
- MOONS has just been re-approved at a new cost and end date (2023) to better reflect the test and acceptance phase risks
- We are nearing completion of an independent impact study on the UK's involvement in ESO, and ESO itself will publish an updated strategy later this year

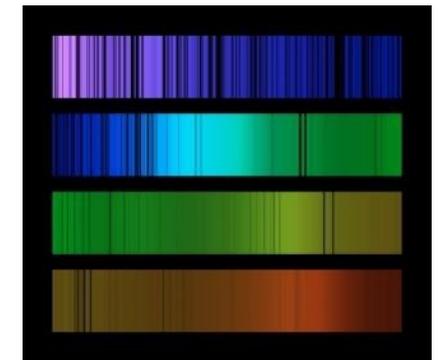
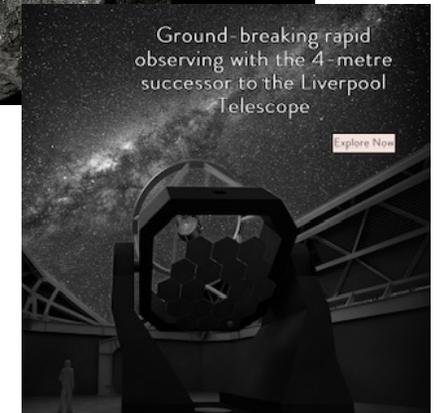


New Astronomy awards

Despite a flat budget we are planning to support:

- Liverpool John Moores University for the New Robotic Telescope, the 4m survey facility on La Palma
 - highlighting time domain research
- CUBES – a new instrument for the VLT, led by the UK ATC
- Study of the Winchcombe meteorite
 - an urgency award to enable rapid analysis led by the NHM – an exciting opportunity to sample the early solar system
- About to interview for the two Webb Fellowship positions to exploit the science and the outreach aspects of the JWST launch

We continue to support science preparation for space missions such as Bepi, Webb, Ariel, Euclid, etc.



Astronomy grants

The 2021 round is out for review

- almost 200 projects in more than 20 Consolidated Grants (CGs)
 - again including new groups and new applicants
- The Astronomy Grants Panel has agreed again to meet virtually and to continue with last year's adoption of sifting, but have added feedback to applicants



43% of the current Astronomy Grants Panel are women, including the new chair, Lyndsay Fletcher (Glasgow)

Astronomy grants

STFC Review of CGs

- STFC review of CGs recommended a move to offering two types of award: **Large and Individual**
- Recent implementation panel recognised the main issue is money
 - **only Astronomy is likely to offer these two awards options in the near future, and implementation (given our three year rolling programme of review) will be challenging**
 - **not likely to take effect until the 2023 round at the earliest, unless there is a significant funding uplift**
- We also need to work within the evolving UKRI framework for awards, and agree a preferred method for demand management



Strategy for Space cont.

Number of different opportunities to engage in the development of the UK strategy for space:

- STFC has strong and varied space interests:
 - RAL Space, NSTF, UK ATC and science programmes
 - also at our campuses (Catapult, ECSAT, Space Cluster)
 - we are emphasising our unique role in the landscape
- We have provided inputs
 - the National Space Strategy
 - House of Commons S&T Committee on UK Space Strategy
- Strong STFC engagement with the new BEIS and MOD Space teams



Strategy for Space

Number of different opportunities to engage in the development of the UK strategy for space:

- STFC are also engaged with the work of the Space Academic Network and with the Royal Astronomical Society WG on satellite mega-constellations, including funding studies
- Working with academia and commercial interests to highlight need for: fundamental research; early stage technical development; skills (STFC Skills Factory, apprenticeships, training awards); and space commercialisation
- Look forward to working with the new UK Space Agency CEO when appointed



European Science Vision and Roadmap

STFC continues to lead the Astronet development of the new European Science Vision

The pandemic has proven challenging, nevertheless:

- Completed first consultation on science drafts (over 200 responses)
 - The European Astronomical Society Webinar on 11 June is next opportunity for comment
 - Good engagement from UK scientists in panels
- Clearly still holes and we have two sections – covering computing and skills/sustainability still in draft
 - There will be further consultation
- Publication not before end of 2021

STFC Advisory Panels and Infrastructure

UKRI Infrastructure Fund

- Now UKRI has a budget allocation for FY21/22 we hope to launch the first round of the Infrastructure Fund awards (based on the 2020 round) in the near future
- The 2021 round is now underway:
 - currently considering projects that are already in the system and known to be priorities.
 - guided by advice from Science Board and STFC Council
 - STFC looking to put only a small number forward for UKRI consideration
- Solar System Advisory Panel and Astronomy Advisory Panel are commencing work to refresh their roadmaps between now and the end of the year
 - these roadmaps will provide guidance on future investment choices



Science and
Technology
Facilities Council

4. Outlook



Science and
Technology
Facilities Council

Outlook

Government R&D funding

- 2.4% GDP research and development ambition remains

Spending Review likely in Autumn 2021

- An opportunity to support the wider UKRI research and development programme
- Will set out Government's longer-term ambition for Science

New ways of working

- The post-Covid world will be different
- Seeking new opportunities for the ways we work is key (both in core programmes and facilities) – this is a live topic

As always, uncertain times...

- But many reasons to be positive, including the (gradual?) easing of covid restrictions



Science and
Technology
Facilities Council

Questions?