



Science & Technology
Facilities Council

Update from STFC

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Astronomy Forum

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Outline

1. The 2010 Comprehensive Spending Review
2. E-ELT
3. VISTA
4. The new STFC grants system

Discussion



Comprehensive Spending Review 2010



HM Government & HM TREASURY



BIS | Department for
Business Innovation & Skills



Arts & Humanities
Research Council



**Science & Technology
Facilities Council**

Allocation

Science and Technology Facilities Council (STFC)

Breakdown of the allocation

	£000	2011-12	2012-13	2013-14	2014-15	Total
RESOURCE						
International Subscriptions		108,598	119,515	121,697	123,071	472,881
Facilities		77,170	79,280	81,410	89,470	327,330
STFC Core Programme		190,060	172,200	172,200	172,190	706,650
CAPITAL						
International Subscriptions		46,221	30,293	28,530	27,667	132,711
Facilities		21,070	21,919	22,463	22,931	88,383
STFC Core Programme		19,630	21,981	14,237	14,169	70,017
Diamond I & II VAT – LFCF		4,600	3,300	3,300	3,300	14,500
Diamond III – LFCF		8,900	16,700	19,900	19,200	64,700

... this obviously needs some interpretation

Spending review outcome

- Overall the settlement is a good one for STFC, and an extremely good one compared to what we were expecting earlier in the year.
- The outcome partitions our programme into three* areas:
 - international subscriptions
 - UK large facilities
 - the “core” programme.

** Plus a separate administration allocation*



International Subscriptions

- International subscriptions are fully funded at the levels which have been agreed with our international partners.
- The planned reduction of ESRF exploitation from 14% to 10% is included.
- Foreign currency risk is being minimised by buying Swiss Francs and Euros in advance.



UK Large Facilities

- ISIS, Diamond and Central Laser Facility operations are supported at the levels agreed with the other Research Councils.
- This includes full operation of Diamond, operation of ISIS based on 120 days per year, and operation of the CLF with the high power laser programme as the priority.
- Capital for facility operations and development is included.
- No funds are provided for the Vulcan 10PW upgrade or the Lasers for Science Facility.



The Core Programme

- Supported at a sufficient level to maintain the prioritised science programme announced in 2009. No additional reductions in grants or in the programme are expected.
- Studentship numbers will be maintained, with the addition of an enhanced studentship scheme (“STEP”)
- The advanced fellowships programme is relaunched with the possibility for awardees to bid for (modest) research funding



The Core Programme

- New and simplified grants system is being introduced.
- We have not set any targets for “research concentration”
- *i.e. reducing the number of research groups supported*
- The core programme will not be adversely impacted by any restructuring that is carried out in 2011/12.
- Capital for the core programme is sharply reduced which will impact on projects such as the Vulcan 10 PW upgrade and accelerator R&D



Astronomy budgets

- BIS requested that we break our budget down into “themes”, and so Annex D in the Delivery Plan shows the spending in Astronomy as in the 2009 programme
- Not a ring-fence, and nothing new is being presented here
- The reductions in this table around 2012 correspond to our Gemini withdrawal (and budgets for the island sites)
- PPAN will revisit during 2011



Technology Support

- Statements in the Delivery Plan about greater complementarity between universities and STFC's in-house research groups have caused some concerns
- In the short term, expect a significant impact on staffing especially in the Particle Physics Department at RAL
- In the longer term, this *may* impact university groups, but focus is on the large-scale construction of big pieces of equipment (like the ATLAS detector upgrade for LHC)
- We will continue to support R&D and early stage technology development in universities through the rolling grants (subject to peer review)



Innovation and skills

- Expanded Futures programme for global challenges
- Public engagement activities to inspire and enthuse young people & improve public understanding/support



- New funding for collaborative industrial use of large facilities
- Further development of Campuses in partnership with Goodman at Harwell and Langtree at Daresbury



Next Steps

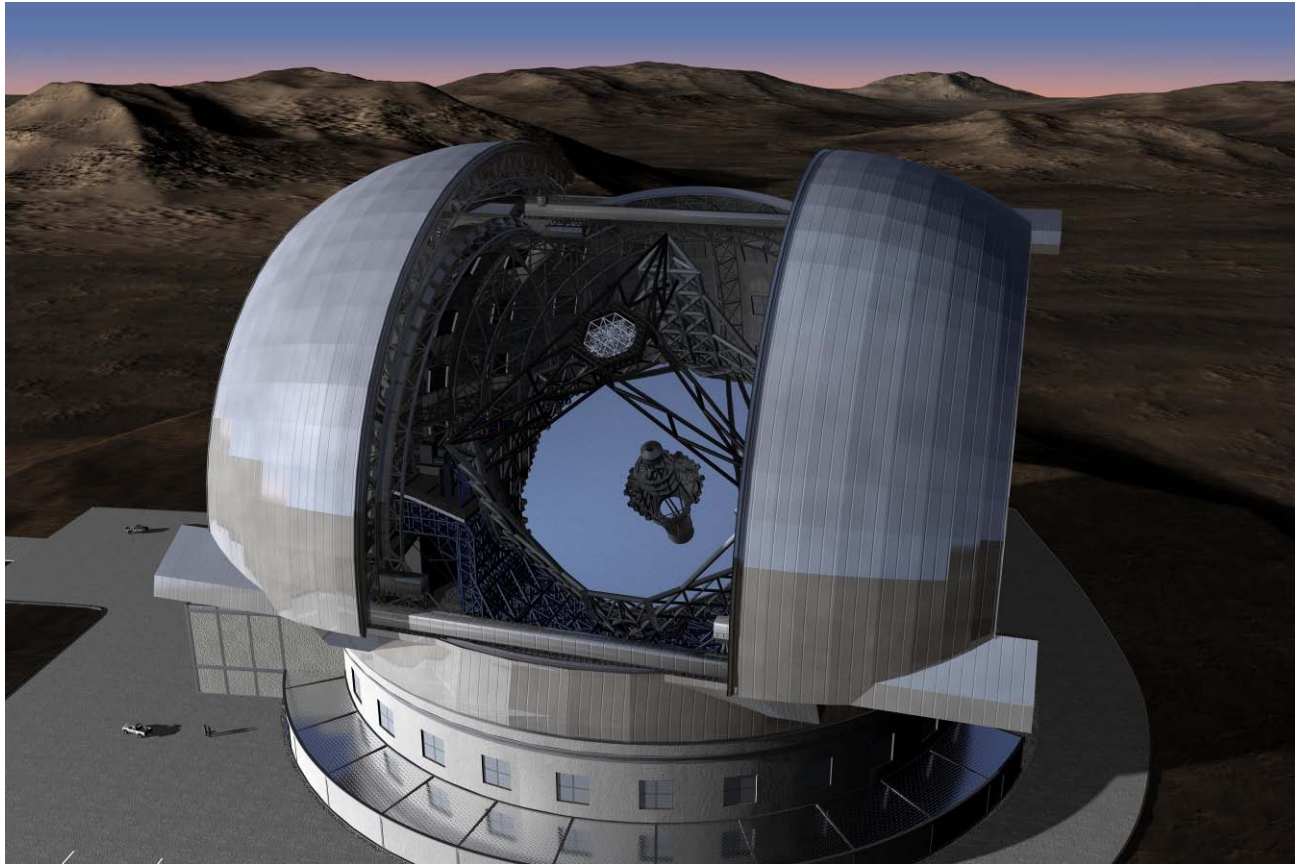
- We need to translate the statements and commitments in the Delivery Plan into an Operations Plan for 2011-12
- Will be informed by discussions with science communities, Science Board
- Aim to have in place by start of financial year (April 1)



- Funding is clearly constrained in the UK for the next four years
- *But* the importance of science is growing – scientific and technical innovation is increasingly key to our future prosperity, security and wellbeing
- We must find ways to maintain our scientific position within flat funding levels while protecting our long term vision and prospects
- **We need scientifically excellent projects that are imaginative, affordable, and relevant**

Over to you!





E-ELT

E-ELT

- Brazilian accession to ESO – 300M€ for E-ELT
- Δ phase B study underway
- Expect vote at ESO Council in summer 2011

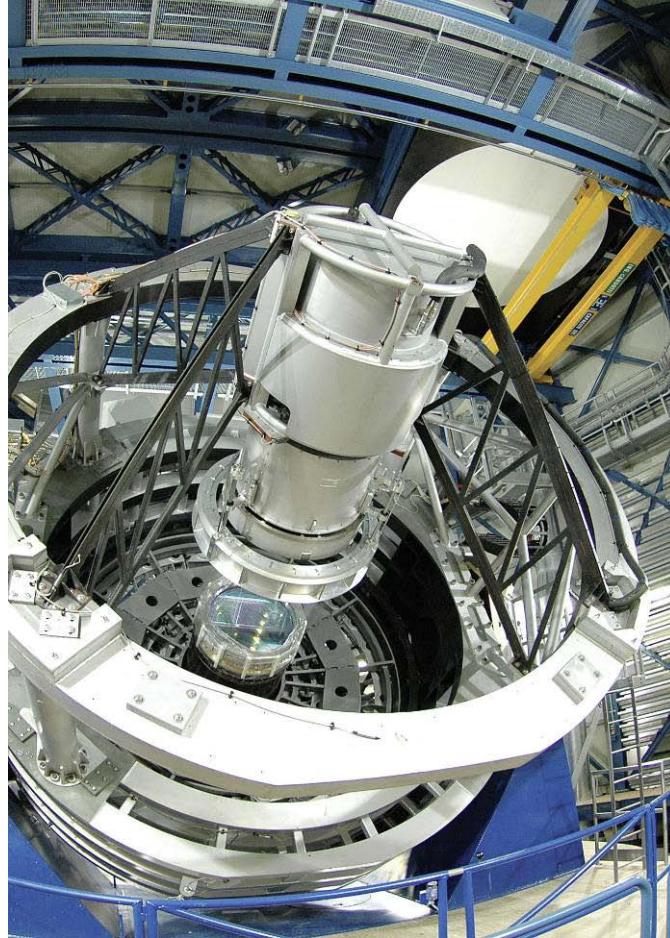
We need to have a clear UK position by ~ April 2011



What do we need to do?

- Understand how the decision on E-ELT will be made at ESO Council?
 - understand the ESO Convention position (additional projects, voting, consequences of votes against etc)
- Reconfirm the strategic priority for E-ELT in STFC (via PPAN/Science Board/EB/Council)
 - not just science but also business case for STFC and for UK.
- Reconfirm that funds are foreseen in the STFC 10YP, and that indexation and contingency have been taken into account. Understand the risks.
- Obtain ministerial buy-in and Treasury consent





VISTA

UK Proposal to ESO Council

December 2010

- The STFC (formerly PPARC) agreed to build and deliver the VISTA telescope as an in-kind contribution to ESO under the arrangements for the UK's accession to the organisation.
- Delivery was later than originally proposed, primarily due to factors outside the STFC's control, but VISTA has been delivered and accepted, and is delivering high quality science data.



STFC Council

- recognises the central (and growing) strategic priority of the ESO telescopes within the UK's astronomy programme.
- notes that the continuation of a disagreement with ESO benefits neither side.
- wishes to resolve the VISTA issue before the major decisions that need to be made on the E-ELT project and the admission of new member states, and hopes ESO shares this view.
- notes the ESO Council's request made at the 118th (Extraordinary) meeting of Council in The Hague for a settlement valued at at least €18M.



- STFC Council therefore offers a package intended to enhance and add further value to the ESO programme
- The total value is €18M, as requested.
- The offer consists of a set of in-kind elements which have all been previously discussed and presented to ESO Council during 2010, and which have been provisionally assessed by ESO to have a total value of €12.2M, together with a voluntary reduction in the UK's usage of the VLT telescopes, to value €5.8M.
 - since the UK gained immediate access to these telescopes when joining ESO, it could therefore be argued to have benefited prematurely given the delay in delivering VISTA.



VISTA

- Additional spares 0.6 M€
List is agreed, but valuation needs to be finalised
- Extend warranty from 2 to 5 years 3.0 M€
Modified warranty text is agreed
- Operational support 2.6 M€
5 engineers for 5 years, not limited to VISTA
Could be in Chile and/or Garching
- Coating plant enhancement/extension 1.3 M€
Process agreed; final valuation after design work done
- Staff support for data flow and software 2.0M€



ALMA

- Staff effort at RAL FEIC 2.0 M€
Just need to verify whether any change to the contract with RAL is needed

KMOS

- Additional KMOS hardware 0.6 M€
Just need to verify what action is needed on contingency



Observing Time

- VLT nights valued at 50k€, so 116 nights = 5.8M€
 - average UK use is 96 nights per semester

Discussion with Bruno Leibundgut proposes the following:

- Go through the usual OPC process, then deduct 29 nights of scheduled UT time per semester from UK
- Eliminate the lowest ranked UK A and B proposals
 - If less than 29 nights allocated, roll over the excess
- Proposal guidelines remain unchanged, and the OPC's work is unaffected
- Will require some extra effort in rescheduling (second round of allocation after UK proposals removed)



What is a “UK proposal”?

Bruno’s suggestion is

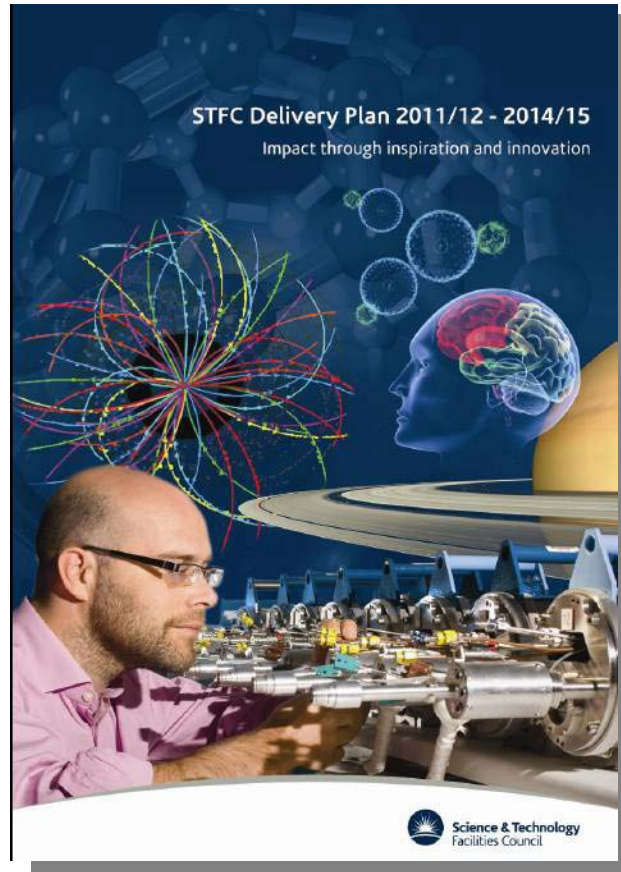
- Start simple: UK PI = UK proposal
- Monitor the proposals compared with previous semesters
- If we see a big shift in the pattern of UK PI’s and Co-I’s, then start using a similar definition to non-member-state proposals
 - based on the fraction of Co-I’s
 - e.g. $> 2/3$ of the Co-I’s from UK = UK proposal



Outcome

- ESO Council agreed in principle with proposal, while noting that some details remain to be worked out
- Would like to reduce the reduction in observing time if possible
- Aim to have a legal agreement that can be signed at an extraordinary council meeting at the CoC in March
- Colin is leading on this process





Grants Round and New STFC grants system

Outcome of grants round

- 98 Standard grant applications
- Astronomy observation = 33
- Astronomy Theory = 21
- Solar Science = 21
- Planetary = 23
- Fund roughly 14 RAs
- Success rate 1 in 7



Outcome of grants round

- 16 applications for Rolling Grants
- cosmology, planetary science, star formation, solar physics
- Request 95 RAs + 8 Tech
- 50 RA cases were scored as "competitive with best in World"
- Fund 42 RAs (+7 Tech – most of those requested)
- Total PDRAs (Std + rollers) = 56 + Tech



Review of Grant Funding Mechanisms in 2010

- To recommend the optimum way for STFC to provide support for science exploitation to universities and other research groups, currently served by grants.
- To consider, from first principles, the most appropriate mechanisms to deliver research resource, while meeting agreed requirements.
- No 'hidden agenda' or 'preferred solution'.
- Review Panel chaired by Professor James Stirling.



Main Criteria

- science excellence;
- focussed upon STFC's strategic priorities;
- allowed the focussing of support to secure critical mass and impact;
- had the flexibility to respond to different needs;
- addressed the need to provide access to key skills and capabilities;
- delivered administrative and managerial efficiency,
- provided appropriate stability of support to allow long term research projects.



Consultation

- Consultation with STFC Grant panel chairs.
- Options presented to community for comment via web, all other comments welcomed /considered.
- 84 individual and groups responses received from all subject areas and group sizes.
- No unanimous or consistent view from communities.



Panel Conclusions

- Current system already concentrates resources (~50% of grant panel spend in 6 institutions)
- 5 year rolling grant commitment limits financial flexibility in a decreasing budget but tapering of rolling grant support after year 3 creates planning difficulties for groups.
- An urgent need to look at other funding models that would provide the flexibility in lean times to retain key people/skills, while at the same time, supporting the next generation of scientists.
- The differentiation between standard and rolling grants had been eroded over recent years and was now more likely to be defined by the number of posts.



Implementation 1

The existing standard and rolling grant mechanisms to be replaced by a single consolidated grant scheme

The main features will be:

- a) rolling grant and standard grants schemes to be replaced by single scheme;
- b) one consolidated proposal per department (or equivalent);
- c) an individual academic can only be supported for exploitation on one consolidated grant;
- d) AGP grants will support blue skies, generic, technology plus exploitation. Project grants separate as are UKSA grants;



Implementation 2

- e) AGP's advice is not to distinguish core and non-core posts, and to issue all grants for 3 years, reviewed mid-way through;
- f) we will enhance the ability to ask for no cost extension for up to one year (rather than the current 6 months) to allow for delayed starts etc.;
- g) visiting fellows will be rolled in, but we will consider later this year whether PATT might be included;
- h) existing standard grants will be maintained until can be rolled into consolidated awards;
- i) applicants without current rolling grants will be asked when they believe is best for their consolidated grant submission



Other issues

- Encouragement to smaller groups to join with other groups in same well defined research area as a consortium to submit a consolidated grant – but note that the number is likely to be small;
- Greater flexibility on consolidated grants to allow staff to be moved between projects over the course of the grant, particularly to start new activities before the next review;
- Closing date for 2011 shifted to 1 May – we are working with AGP to reduce the timescale for review and looking at when in the year might be the most appropriate for the review process (to be implemented next year);



Other Issues

- we are looking at the possibility of a scheme for young researchers (not fellows) to foster early research career via modest grant funding;
- we will consider how best to enable certain level of public outreach activity might specifically funded on consolidated grants, subject to a well justified, peer reviewed case.



STFC e-Val

- On-line data collection system for all grants.
- Need to provide evidence of impact of our investment.
- Builds on work already commissioned and successfully used by MRC.
- Questions tailored to STFC-specific requirements.
- Successful pilot study in July 2010.



STFC e-Val

- Roll-out full data gathering to all grantholders in 2011.
- Data to be used for:
 - Government (CSR evidence, regular reports);
 - Advisory and Management Boards;
 - Peer Review Panels;
 - Case Studies.
- In the longer term, we aim to adapt the system to capture impacts from facilities.





Discussion

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