Science & Technology Facilities Council

Annual Delivery Report
2009/10

August 2010

Science & Technology Facilities Council

Contents:

STFC ANNUAL DELIVERY REPORT 2009/10

Executive Summary

In 2009/10, STFC reported against 125 detailed ongoing targets, 9 at the strategic-level, of which 74% were met in full by the target date. Three targets that were classed as 'red' or 'amber' (at risk), were of a strategic nature. Those deliverables that were not met during the year are expected to be achieved in full by the next reporting period.

Throughout 2009/10 STFC continued to maintain high quality service to users of the existing facilities (ISIS, Central Laser Facility (CLF), Diamond Light Source and the Isaac Newton Group (ING), La Palma, and Joint Astronomy Centre (JAC), Hawaii, ground-based telescopes) whilst developing programmes of ongoing development to sustain their operational performance and enhance their capabilities.

To fulfil its mission the Council provided a multi-disciplinary environment to provide opportunities for innovative development of technologies for the wider economy through Knowledge Exchange, and to foster multi-disciplinary research and promote improved interaction and collaboration across disciplinary boundaries, both within our laboratories and with university partners.

STFC continued development of the Science and Innovation Campuses at Daresbury and Harwell, including the public launch of the ESA Centre at Harwell.

STFC concluded a major re-prioritisation of its activities towards the end of 2009 and, following a well orchestrated and well-received announcement in December, instigated a programme of savings and managed withdrawal from some projects in order to live within its future means.

STFC continued to ensure the Council is fully integrated and is operating cost-effectively, and it worked as an active participant in the RCUK SSC (Research Councils UK Shared Service Centre) project. STFC is now taking services from RCUK SSC Ltd for HR and Payroll, and is working towards migration of Finance in June 2010, and Grants in summer 2010.

Recent successes

Key successes of STFC in 2009/10 included:

- The Oxford University Protein Production Facility and Membrane Protein Crystallography group from Imperial College moved into the Research Complex at Harwell;
- Continued promotional activities relating to the Large Hadron Collider (LHC) at CERN, including a national tour, posters on the London underground, and provision of educational resources;
- Agreed with TSB that STFC will act as the academic host for Knowledge Transfer Partnerships, enabling industry to access the knowledge base of STFC laboratories;
- Achieved collisions at 7 TeV (3.5 TeV/beam) on the LHC;
- Agreed medium-term support and management arrangements for e-MERLIN (Multi Element Radio Linked Interferometer Network) with the University of Manchester;
- Continued progress on ALMA (Atacama Large Millimetre Array), with all sub-contracts in place and full operation of the European Front End Integration Centre at Harwell;
- Started shared risk observing with SCUBA-2 on the JCMT in Hawaii;
- Completed a further 5 Diamond Phase II beamlines, bringing the total number of operational beamlines to 14;

- Demonstrated enhanced energy operation of ALICE after upgraded performance of the accelerator systems;
- Beam now being taken by all seven ISIS Second Target station Phase 1 instruments. Six instruments started user operation within the year, with the seventh instrument in technical commissioning;
- Established the Engineering Technology Centre at the Rutherford Appleton and Daresbury Laboratories.

Key Economic Impact Outputs:

- Spin-out of Scitech Precision Ltd, located at STFC's Rutherford Appleton Laboratory at Harwell. The company combines unique expertise in microengineering and design to make ultra-precise parts for laser experiments;
- Developed a portfolio of economic impact case studies, matched to BIS' key themes, and continued to collect and write case studies reflecting economic impact across the whole of STFC;
- Published several documents illustrating impacts arising from STFC's activities, including a series of case studies from Technology Department, from ISIS, and a brochure outlining the impact of laser research;
- Updated career profiles of STFC PhD students, describing how former students have made use of the skills developed during their PhDs and the impact they have had on their organisations;
- The public launch of the ESA Centre at the Harwell Science and Innovation Campus. The establishment of the new ESA facility will capitalise on the UK's world-leading expertise in space science, earth observation and related technologies;
- Diamond Light Source, the UK's synchrotron, is helping scientists better understand the brain's chemistry – and this could help early diagnosis and the development of new treatments for Parkinson's disease;
- Daresbury Science and Innovation Campus now hosts 100 high tech companies and was awarded the UK's Outstanding Science Park 2009 for making the most significant contribution to the exploitation of the UK's knowledge base;
- Held two CERN industry roadshows with UKTI (UK Trade and Investment). Sixty-six companies attended, 50 of which held 1:1 meetings with CERN procurement teams.

Progress in Management

STFC published its Strategic Vision in July 2009. Following this, the emerging corporate strategy was presented to Council in December as a framework for decisions on the programme prioritisation. The draft was also considered by the Senior Staff Conference in February and Staff Workshops in March where the consensus view was that real progress has been made, improvements could be made by sharpening the actions and measures and that next steps should be to integrate this into STFC's strategic and business planning framework.

The corporate strategy will be further refined ahead of a summer publication to incorporate the above recommendations plus the outcomes of Lord Drayson's review and the establishment of the UK Space Agency.

STFC concluded a major re-prioritisation of its activities towards the end of 2009 and, following a well orchestrated and well-received announcement in December, instigated a programme of savings and managed withdrawal from some projects in order to live within its future means.

STFC has put a team in place to manage the re-prioritisation implementation; progress has focussed on taking decisions on the current round of particle physics and astronomy grants, re-profiling projects that STFC will continue to support and developing plans for managed withdrawal from other projects. The re-profiling and plan preparation has been undertaken in close cooperation with our principle researchers.

The Executive and Council worked closely with our community and BIS, assembling data and gathering views to assist the Chairman in his commission from Lord Drayson to review STFC's structure and financial stability.

A single change process and fully resourced action plan integrating the Blueprint work streams is being developed, that takes account of the skills, capacity and change potential of STFC. Executive Board will oversee the change management programme and is considering options for its delivery.

Progress to date against targets and milestones

Introduction

STFC supports, through various delivery mechanisms, much of the research base. This support spans a broad spectrum of fundamental research which generates intellectual capital and the application of this knowledge for public good and economic gain. There is a high degree of synergy between the techniques and technologies it deploys. It is therefore well-placed to support underpinning technology development, cross-Council multi-disciplinary programmes, and to deliver a distinctive contribution to knowledge exchange and increased economic impact.

Delivering World Class Science

The diversity of the science undertaken on the STFC facilities and programmes spans many areas that are important both to the citizen's quality of life and the desire to understand how our world and universe work.

The range of science is wide: from the study of the fundamental physics of elementary particles to taking forward our knowledge and monitoring of medical conditions such as arthritis, surfactant development on the lungs of premature babies, and the ongoing desire to understand protein structures and functionality.

Alongside these experiments might be investigations into the new thin film magnets for data storage, identification of archaeological specimens, stress analysis of aircraft wings and much more, including fundamental scientific explorations.

STFC continued progress to enable our world class science and facilities programmes and research community to address a wide range of Big Science questions that are fundamental to the advancement of knowledge and are of high societal and economic impact.

Particle Physics

STFC and IoP launched the co-funded "Particle physics – it matters" in May 2009 at a press event to introduce a wider audience to the economic and societal benefits of particle physics research. STFC completed the UK contributions to the accelerator elements of the T2K project, with all accelerator beam and target contributions delivered, installed and operational.

Achieving collisions at 7 TeV (3.5 TeV/beam) on the LHC at CERN started a long phase of operation with the LHC expected to run until summer or autumn 2011. The next long shutdown of about 1 year will allow more work to be done to allow the machine to operate at 14 TeV.

Nuclear Physics

The STFC-EPSRC jointly commissioned review of Nuclear Physics and Engineering, recommended by the Wakeham Review, has now reported. STFC has agreed that the ALICE experiment at CERN will continue to be supported as an already-issued grant until mid-2011.

Particle Astrophysics

STFC continued to work with other European funding agencies to improve collaboration in particle astrophysics. ASPERA 2 commenced in July 2009, following the successful completion of ASPERA ERANET. STFC participated in the first common call for R&D applications with other national funding agencies.

Astronomy and Space Science

In April, financial arrangements for the transfer of support and related research to NERC for ground-based STP facilities were agreed, with formal handover completed in September. STFC set up advisory panels with the community and undertook a review of requirements for ground-based optical/IR and radioastronomy facilities. The Panels delivered advice to PPAN in September, with final reports in November to guide the prioritisation process.

In September 2009 medium-term support and management arrangements for e-MERLIN were agreed with the university of Manchester. This provides for 5 year support for e-MERLIN with a reducing STFC share of the total cost. All elements of the UK ALMA contract were agreed, in line with ESO schedules. Full operation of the European Front End Integration Centre at RAL was achieved.

Space Exploration

STFC continued to develop plans for UK involvement in high priority space exploration missions and explore new opportunities based upon UK academic and industrial expertise. On Aurora, discussions between ESA and NASA are converging on a long term programme of robotic Mars exploration which will enhance the scientific return by sharing infrastructure costs. ESA Council will need to approve this by year end.

Light Sources and Lasers

Enhanced energy operation of ALICE was demonstrated after upgraded performance of the accelerator systems.

The Central Laser Facility (CLF) is a partnership between its staff and the large number of members of UK and European universities who use the specialised laser equipment provided to carry out a broad range of experiments in physics, chemistry and biology. A highly successful commercial access experiment was completed on Vulcan in February 2010, securing over £400k external income.

The Lasers for Science (LSF) have started to move to the Research Complex at Harwell. This will enable much more effective exploitation of bioscience and medical applications, and integrated experimental campaigns with Diamond.

Neutrons

Following the highly successful first operation of ISIS Target Station 2, both target stations are now routinely operated together. All seven Phase 1 instruments were taking beam in June, six with user operation. The new Hi-Fi Muon instrument became operational, also in June, with first users for the cycle in November. Wish, the new magnetic powder and single crystal diffractometer at the ISIS second target station became fully operational and hosted its first external users in December 2009.

A programme to pursue innovative development in the areas of detectors, electronics, microelectronics, high-power targets, cryogenics, magnetic and micro and nano-technologies continued throughout the year.

Technology

STFC Technology provides advanced technology and engineering solutions in support of STFC's activities and other high-profile international projects. Throughout the year, STFC pursued innovative development programmes in the areas of detectors, electronics, microelectronics, high-power targets, cryogenics, magnetic and micro and nano- technologies. Research and Development programmes continued in all areas, providing technology to STFC facilities and programmes. In addition, Centre for Instrumentation programmes addressed priority generic development activities.

A step change in knowledge exchange and economic impact

A key part of the STFC mission is to ensure that its investment in major facilities in the UK and overseas and peer reviewed funding within UK universities, has a positive impact on the UK's economy through innovation. To meet this challenge STFC ensures that knowledge generated from its facilities, research and technology programmes and interactions with universities and academic partners will be transferred to the wider economy for enhanced productivity and economic growth.

During the year, STFC developed a portfolio of economic impact case studies, matched to BIS' key themes, and continued to collect and write case studies reflecting economic impact across the whole organisation. Additionally, an internal communication programme was launched, to increase awareness of economic impact.

The Harwell and Daresbury Science and Innovation Campuses

To create the development vehicles and frameworks to enable Harwell and Daresbury Science and Innovation Campuses to become internationally leading centres of excellence for science and technology, STFC completed a range of activities. A joint-venture model was agreed to ensure optimum delivery of the Daresbury SIC, and a call for a private sector partner was issued during July 2009.

The Oxford University Protein Production Facility and Membrane Protein Crystallography group from Imperial College moved into the Research Complex at Harwell. The Oxford Protein Production Facility is a structural proteomics facility in the Division of Structural Biology of the

Department of Medicine, Oxford University, funded by the Medical Research Council and Biotechnology and Biological Sciences Research Council. The OPPF aims to promote and facilitate high throughput structural biology for the UK academic community. It is the first stage in a structural proteomics programme for the UK and represents an essential stepping stone toward the practical exploitation of the wealth of information coming from the human genome sequencing projects.

Science and Technology Gateway Centres

The public launch of the ESA Space Centre took place in July 2009, with other centres to follow. The establishment of the new ESA facility will capitalise on the UK's world-leading expertise in space science, earth observation and related technologies. The ESA facility is expected to be a key element of a much wider vision for the future of the UK's fast-growing space economy, through the creation of an International Space Innovation Centre (ISIC) at Harwell.

The Business Case for the proposed new Hartree Centre at DSIC was evaluated by a formal project review panel with a representative from another Research council in mid March and was awarded an amber-green project status.

Goals for interaction with TSB and other agencies

STFC reached an agreement with the TSB to act as the academic host for Knowledge Transfer Partnerships, enabling industry to access the knowledge base of STFC Laboratories.

Funding of £1.62m over the CSR period has been committed to programmes with TSB including the Sensors and Instrumentation KTN, CubeSat, mini KTPs at DSIC and the Knowledge Centre for Materials Chemistry. Other initiatives under discussion include TSB involvement in ISIC, the ESA incubator at HSIC, and the other Gateway initiatives. STFC continues to act as lead Council for interaction with the TSB on formation of the new Electronics, Sensors and Photonics KTN. Early stage discussions have been held with TSB on joint funding of future challenge-led calls aligned with Grand Challenge areas, where STFC would fund academic and TSB would fund industry partners.

Contributions to multidisciplinary, cross-Council programmes

STFC contributed to Multidisciplinary, Cross-Council Programmes by continuing and building upon access to our world leading facilities and the provision of underpinning technology (Futures programmes). Programmes in Energy, Healthcare, Security and Environment are now underway and champions for each programme have been appointed. The overall Future programme was presented to STFC staff as part of the launch of Innovations Directorate in July 2009.

STFC established an Energy Futures Forum to co-ordinate STFC's work in the energy arena, and is supporting arrangements for the RCUK International Review of Energy. STFC sits on the International Review Steering Committee and the Energy Futures Programme, and the RCUK Energy Programme Science Advisory Committee.

STFC has been participating in a joint £15m technology call with NERC on 'Networks of Sensors' covering Environment Futures/Living With Environmental Change. STFC has been using links established with the Daresbury Innovation Centre through the Healthcare Futures Programme to build partnerships and encourage blue chip companies and SMEs onto the campuses.

Education and skills training

STFC continued to develop strategic partnerships regionally and nationally to establish a skills development and capacity building programme. STFC undertook activities to sustain our output of trained people, to promote the development of transferrable skills and to promote diversity and equality of opportunity.

To sustain and increase the pool of people trained in highly analytical research skills, STFC reviewed the outcome of the algorithm consultation process and refined the proposed arrangements.

STFC conducted a study of former STFC students, covering a cohort who are now 6-9 years into their post-PhD careers. This shows that 97% are in full or part-time employment or are self-employed. 71% are still engaged in scientific research.

STFC Innovations Ltd

To contribute and facilitate knowledge exchange and economic impact to the benefit of the UK through STFC IP and access to STFC facilities, STFC Innovations Ltd is increasingly working across the STFC research base, including a recent collaboration with ESA.

A new spin-out company, Scitech Precision Ltd has been formally launched. Based on STFC's micro-scale laser target manufacturing capability, this company is already profitable and has a healthy order book.

STFC shareholder facilities

STFC continued to measure and grow UK contract return through joint programme with UKTI. Two CERN industry road shows were held with UK Trade and Investment (UKTI) in Sept 2009. Sixty-six companies attended, with 50 having 1:1 meetings with CERN procurement teams.

HEI funded programmes

Grant funding schemes were rebranded to reflect STFC's identity. A significant change to eligibility was for Enterprise Fellowships where staff in the operational departments can now apply.

Relationships with stakeholders

Stakeholder engagement

STFC determined the role of the Economic Impact Advisory Board, the Terms of Reference were agreed, and these were implemented with effect from June 2009.

Future targets/milestones for the Spending Review

We outline below our continuing priorities over the remainder of the CSR07 period. We will:

- give highest priority to exploiting recent investments in major national and international facilities which will tackle some of the most exciting science challenges of the next decade, building in the recommendations of the Wakeham Review of Physics;

- maintain, as far as possible, our international subscriptions in CERN, ESA, ESO, ESRF and ILL. Continued membership of these organisations is crucial to the delivery of our science strategy and our international credibility and leverage;
- invest in targeted R&D to achieve the necessary leverage for the UK to be a significant partner in a small select number of timely and affordable major large-scale facilities and to host at least one in the longer-term;
- target our investment in science exploitation through grants;
- invest in a prioritised programme of innovative, underpinning technology development, including accelerator science and technology, detectors, sensors etc. which enhance the effective exploitation of major national and international facilities and our programmes;
- develop, in close partnership with the RDAs, the TSB and private sector partners, the Harwell and Daresbury Science and Innovation Campuses, as national hubs of knowledge exchange between university groups, the international R&D sector and high added value industries. Our aim is to move rapidly to a Joint Venture model for both Campuses;
- plan to create 5 new 'Science and Technology Gateway Centres at the Harwell and Daresbury Science and Innovation Campuses to provide a step-change in engagement with industry and academic users. The centres will enhance the access to the Council's cutting-edge facilities and core scientific and technological strengths in the major thematic areas of computational science and engineering and high performance computing, space science, detector technology, imaging and materials science;
- develop ways of encouraging our research community to exploit the intellectual property from their research and embed within the STFC a culture of entrepreneurship and a reward system that provides incentives for innovation and knowledge exchange as well as high scientific endeavour;
- seek, with our Campus partners, to implement a skills and training strategy to identify and address core skills gaps regionally and nationally;
- embed public engagement as an integral part of our science and technology programmes; focus, working with RCUK and other stakeholders, on high impact campaigns on key science and technology themes which excite and inspire as well as demonstrate the social and economic value of science; and explore how best to use modern, more diverse media to engage and excite the young.

In establishing a robust programme which is sustainable into the future we will, in line with the recommendations of the Wakeham Review of Physics, ensure that there is coherence of planning of facilities and the allocation of research grants.

- develop and promote both the Harwell and Daresbury Science and Innovation Campuses as JV partnerships and explore alternative options for running the UK Astronomy Technology Centre;
- as part of this process, reduce our infrastructure and overhead costs, seek opportunities for rationalising and consolidating core competencies and capabilities and creating a more flexible workforce;
- reduce significantly the proportion of in-house staff funded through the science budget
- The CSR07 settlement necessitated efficiency savings across the organisation by focusing reductions on our internal costs. 2010/11 is particularly challenging as a result of borrowing money from DBIS earlier to help manage our profile of spend during CSR07. This loan has to be repaid in 2010/11. This will be achieved in two ways. The first through the prioritisation programme review which was completed at the end of 2009 in readiness for the future, starting in 2010/11, and secondly by targeting £11m of internal savings and then ongoing efficiency savings of 2.5% year on year;
- withdraw from major facility programmes which are not of the highest priority;
- reprioritise our investment in other high priority science programmes and facilities informed by our ongoing programmatic review;

- maintain spending on exploitation grants at the reduced levels planned in 2008.

The Efficiency Programme

Organisational Change

To improve internal business processes in line ongoing development in the Shared Services Centre, reducing administration costs and improving internal efficiencies in line with the other Research Councils to achieve the 3% target reduction cost, STFC participated in the Shared Services Centre at a level of £11.2m.

For the Value for Money programme, the current year position was very good. At the end of Quarter 3, STFC declared year to date savings of £17.388m against an annual target of £17.530m. It is anticipated that the eventual saving will be between £20m and £22m (between 15 and 25% over target) for the full financial year.

Science and Society

Public engagement

Public interest in the Large Hadron Collider continued at a high level. In addition, STFC continued engagement with the LHC through media releases, the completion of exhibition national tour, posters on the London Underground, and educational resources.

To stimulate and respond to public interest in STFC science and technology developments, STFC issued regular media briefings on science and technology developments and their benefits to the UK. Public visibility of programmes at the operational sites continued with public lectures, schools interactions, masterclasses. A brochure supporting facility users' public engagement work was produced.

To encourage and support researchers' public engagement work, STFC ran two rounds of small awards, totalling over £130k. In addition, training courses in media awareness and public communications are offered to STFC-supported researchers. Thirty-five delegates each received funding of £14k, plus up to £250 each for travel and subsistence.

Missed or Delayed Targets

STFC reported on 125 detailed targets in 2009/10. At year end, 74% had been completed. Those that had not been achieved are detailed below.

Chart 1 below provides a detailed breakdown of progress by quarter. Chart 2 shows deliverables due and delayed by quarter.

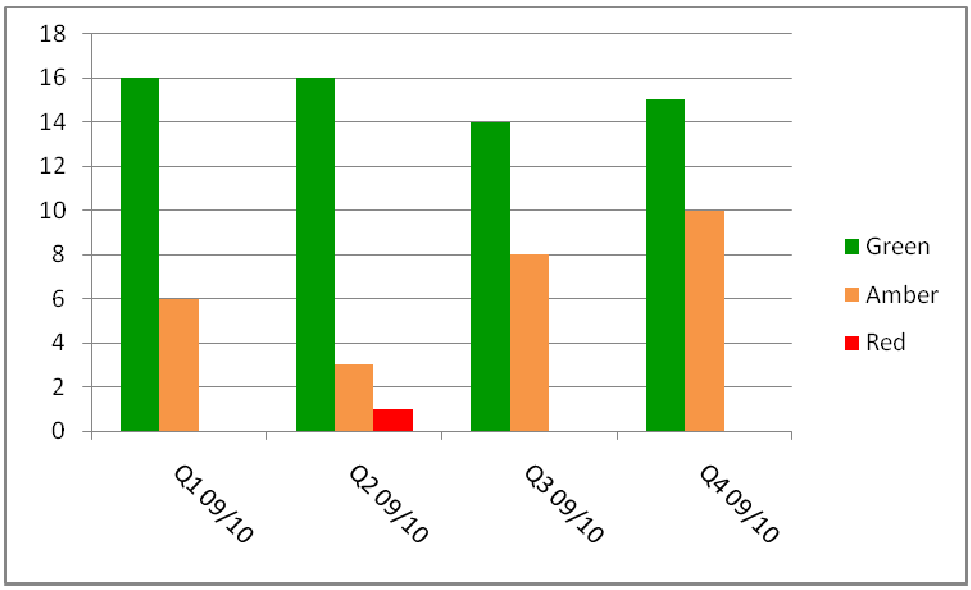

Chart : Number of deliverables by quarter.

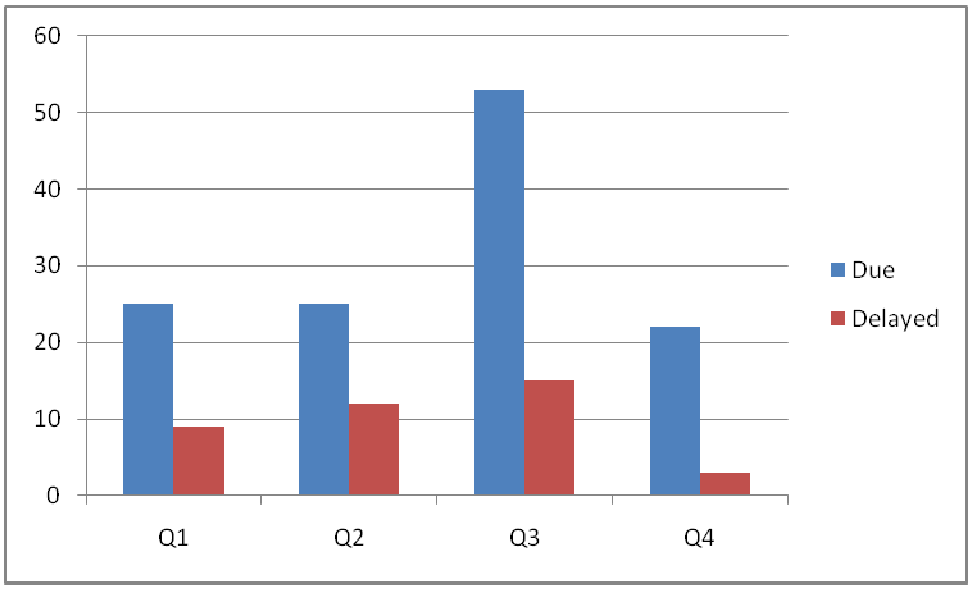

Chart 2: Delayed deliverables 2009/10 by quarter.

The following deliverables have been attained at a reduced level, revised, delayed, or abandoned.

Achieved at a reduced level

STFC Innovations Ltd

- *Spin-out two additional companies per year*. One company, Scitech Precision Ltd, was launched Quarter 4.

Revised

Particle Physics

- *Decide on the level of support for exploitation in 2010/11 and 2011/12 for: LHC, MINOS, T2K, nEDM, CDF and DO, and for UK particle physics experimental groups*. STFC programme prioritisation outcome announced by Council December 2009. Scope/duration of future

grants announcements agreed by Executive Board early February 2010. Detailed financial implications for individual projects and grants worked through and plans requested from experiments to meet target savings required.

Public Engagement

- *Develop Lab-schools interaction, increasing visits and outreach events volume by 20%*. This cannot be achieved because of the financial cut to the SiS programme. We will seek ways of achieving such an improvement through non-cash methods such as better working or through partnerships with education and engineering organisations.

Delayed

Particle Physics

- *MICE Phase 1: complete commissioning of beam line*. The objectives of the MICE Phase I were to implement the MICE Muon Beam, the time-of-flight system, the Cherenkov, the scintillating-fibre tracker and the first spectrometer magnet and to commission all these devices with the muon beam. The decay solenoid and target are operational and running routinely allowing data taking. However there were problems with the thermal shield of the spectrometer solenoid (a US deliverable), and the magnet has not successfully been kept cold. Investigations are underway and a review by independent experts has been undertaken to fully understand the issues and resolve this in the best way. Delivery of the spectrometer solenoid to RAL is now anticipated in mid-2010. Whilst this means that Phase 1 cannot be formally signed off, all UK deliverables have been completed and other aspects of the Phase 2 build are not affected and data taking is taking place.

Astronomy and Space Science

- *Complete the commissioning of VISTA for ESO.* VISTA is now fully operational and delivering excellent science. Discussions on UK contributions to VISTA enhancements and support are on-going at senior level between STFC and BIS.
- *Complete the commissioning of SCUBA-2 on the JCMT*. SCUBA-2 is currently delivering a shared-risk observing programme, in parallel with further commissioning. However, ongoing problems with the remaining detectors have pushed the start of the full science programme back to summer 2010.
- *Complete the construction of the ESA-NASA MIRI instrument for the JWST*. Continuing technical and contractual delays across European partnership have led to escalated costs and schedule slip. A complete review of the remaining risks, schedule and budget has just been completed and has recommended a route by which delivery can be assured within overall MIRI planning.
- *Complete construction of UK elements of LISA Pathfinder mission.* Issues with manufacture and delivery of photo-diodes have been addressed. All components of the UK LISA Pathfinder workpackages expected to be delivered in 2010. ESA delayed launch late 2011 or early 2012.
- *Agree reduced programme for ING, focussed upon WHT only and pursue discussions with partners regarding medium-term arrangements for support and management.* EU-funded review panel on medium sized telescopes will report in March 2010 and will be key to taking forward discussions within Europe on facility sharing and economies of scale. The ING is likely to play a central role in this. Realisation of savings is likely to take some while longer, dependant on inter-agency discussions.

Space Exploration

- *Aurora.* The UK has confirmed its funding for the Aurora subscription to ESA and ESA Council has agreed the plan to deliver the first 2 missions with support from NASA. Following the Prioritisation, funds for the national programme have been reduced and re-

profiled and work is now underway to determine whether all of the highest priorities for UK instrument involvement can be accommodated.

- *Play leading role in the development of international strategy for space exploration via bilateral and multi-national initiatives*. Following the Prioritisation, resources for the ESA Cosmic Vision (CV) programme have been reduced and re-profiled. Work is underway to determine the best programme towards the expected first missions of CV, whilst continuing R&D for later opportunities. The bilateral mission proposal, MoonLITE, cannot be supported under current planned funding.
- *Play leading role in the development of international strategy for space exploration via bilateral and multi-national initiatives.* Support provided to HEIs and UK industry for R&D phase of ESA Cosmic Vision missions, in preparation for downselect in 2010. Aurora programme re-confirmed but work underway to address post-Prioritisation budget effects . Further development focussed through new arrangements for STFC Space Programme with BNSC, and proposed Space Agency.
- *Play leading role in the development of international strategy for space exploration via bilateral and multi-national initiatives.* Aurora programme agreed by ESA Council and work underway to determine whether all elements of UK priorities can be supported within reduced and re-profiled budget, post Prioritisation.

Light Sources and Lasers

- *Define future upgrade for Vulcan (10PW); secure full funding for the construction project.* Facility Development proposal submitted, following consultation with the entire user community. This was reviewed by an expert panel, approved by PALS, endorsed by Science Board and approved by Council. However, financial approval is still pending.

Neutrons

- *Maintain ISIS accelerator obsolescence mitigation programme; complete refurbishment of synchrotron main magnet power supply*. Good progress continues. New main magnet power supply chokes were tested successfully with DC during January. Full implementation will take place during the 2010/11 long shutdown.

Technology

- *Contribute to the development of the Detector Systems Centre, and submit Business and Strategic Case*. The DSC Business plan and Science case were presented to Council and have now been approved by the RCUK EG to go forward to the gateway process. The Campus Project Board has been asked to agree the site and financial split decisions prior to the Full Business Case being developed but agreements is still awaited.
- *Pursue innovative development programmes in the areas of detectors, electronics, microelectronics, high-power targets, cryogenics, magnetic and micro and nano-technologies.* CfI funding provides early TRL technology development but the level of funding available is limited. A review of how the CfI operates will be undertaken in late summer 2010.

A Step Change in Knowledge Exchange and Economic Impact

- *Increase internal and external awareness of Economic Impact*. A new website has been developed, which is now live on the development site, awaiting final testing.

The Harwell and Daresbury Science and Innovation Campuses

- *Develop RAL Estates Strategy*. A draft RAL Estates Strategy document has been produced, it has been circulated to the RAL Accommodation and Buildings Committee and their comments will be incorporated. It will then be submitted to the STFC Estates Strategy and Oversight Committee (ESOC) for approval. After this it will be made available on a wider circulation i.e. Operations Board and Executive Board.
- *Major Inward Investing R&D Activity located in new build at DSIC.* Build has commenced on Vanguard House, a new building for Hi-tech SMEs. Expected completion Q1 2011. The two Gateway Centres, Hartree and Detectors, are proceeding through the OGC gateways.

Science and Technology Gateway Centres

- *Publicly launch second round of centres.* It is not now expected to be possible to complete OGC Gateway reviews of second tranche of gateway centres before pre-election purdah in Spring 2010. Earliest possible launch would therefore be in summer or autumn 2010.
- *Approve Strategic Business Case for Space Innovation Centre to underpin signing of Hosting Agreement with ESA.* A business case was submitted to BIS in January 2010 for funding through the SIF mechanism.

Goals for Interaction with TSB and Other Agencies

- *To secure support from the TSB towards commercialisation of technologies and to promote and support academic and industrial users of the technology centres; Review progress against criteria to be agreed as part of the business plan, and initiate mid-course corrections if needed.* Individual cases continue to be presented to TSB for consideration, for example CubeSat and Gateway Centres. A consolidated STFC approach will be developed in the implementation of the STFC Strategic Plan and the EB Stakeholder Management initiative in 2010/11.

Education and Skills Training

- *Attract funding partners (RCs, HEFCE, RDAs and private sector) for the Science and Innovation Resource Centre concept at HSIC and DSIC.* A partnership, including 3 FE colleges, 2 employers and 3 private training providers, has been established and is currently in the process of becoming incorporated as a charity to take forward the development of the SIRC. A business case will be developed and funding will be sought for this activity. The SIRC office is now situated on the Harwell Science and Innovation Campus.

STFC Shareholder Facilities

- *Review performance with UKTI and UKAEA and agree new programme.* Following the resignation of the staff member delivering this programme, outline agreement was obtained from UKTI to recruit staff to fill the vacancy. The delay in STFC recruitment approval meant that this has not been progressed, but interim arrangements are ensuring that contract return is still being addressed. We expect to recruit a new staff member 2010/11.

Public Engagement

- *Co-ordinate public engagement at Harwell and Daresbury by creating site forums, in collaboration with Diamond Light Source.* Collaborations with Diamond include inviting them to STFC communications meetings, and including them in an STFC-led meeting of beamline users interested in public engagement.
- *Develop public engagement with Exploration/Aurora programme.* On hold due to creation of UK Space Agency.

Organisational Change

- *Implement the STFC restructuring programme; Complete eight projects within the 1st phase of the Blueprint programme.* The Blueprint programme is being refreshed to reflect the new vision and strategy, and EB priorities for 2010/11.
- *Participate in the Shared Services Centre at a level of £11.2 million.* STFC is now taking services from RCUK SSC Ltd for HR and Payroll, and we are working towards migration of Finance in April/May 2010, and Grants in summer 2010.

Abandoned

Particle Astrophysics

- *To decide on future level of support for, and role of, the Boulby infrastructure.* The outcome of the prioritisation has resulted in no planned science programme located in the Boulby

infrastructure. Discussions with the owners of the labs and the mine owners are underway on the implications.

STFC innovations Ltd

- *Explore options for STFC Innovations Ltd to support a wider range of PSRE partners (CLIK2).* STFC Innovations Ltd will concentrate on STFC work, and is not currently looking to develop a role with other PSRE partners. This deliverable is therefore no longer relevant.

Summary financial table - provisional

STFC Outturn 2009/10

RESOURCE DEL	YTD Outturn £k	Full-Year Budget* £k	Over / Under £k
Income			
Receipts for goods and services	-51,652	-48,947	-2,705
Interest Receivable	-14	-200	186
EU receipts	-5,319	-4,513	-806
Grants from other bodies	-5,216	-4,765	-451
Net expenditure (cash)			
Pay costs	85,044	86,370	-1,326
Payment for goods and services	111,774	103,808	7,966
Current Grants			
Current grants	156,734	160,406	-3,672
Current grants - overseas	190,921	190,740	181
TOTAL NEAR-CASH	**482,272**	**482,899**	**-627**
Non Cash Costs			
Cost of Capital charges	28,759	28,759	0
Change in provisions	-5,144	-9,263	4,119
Depreciation on tangibles	39,441	39,965	-524
Write-offs/Write downs (Impairments)	17,755	15,739	2,016
TOTAL NON-CASH	**80,811**	**75,200**	**5,611**
TOTAL RESOURCE	**563,083**	**558,099**	**4,984**
DEL CAPITAL			
Additions – land and buildings	18,511	11,463	7,048
Additions - other assets	53,875	56,324	-2,449
Capital Grants	70,286	70,052	234
Book value on sale of land & buildings	0	0	0
Book value on sale of other assets	0	0	0
Grants from other bodies	-18,367	-15,437	-2,930
EU receipts	0	0	0
Loss on disposal of other assets	-304	-138	-166
Additions - DLS Ltd shares	19,367	24,910	-5,543
TOTAL CAPITAL	**143,368**	**147,174**	**-3,806**

***Note**
The Full-Year Budget figures include agreed draw-down of End Year Flexibility.
The figures have not yet been audited, and are therefore subject to alteration.

Science and Technology Facilities Council
Polaris House
North Star Avenue
Swindon SN2 1SZ
UK

Tel: +44 (0)1793 442000
Email: publications@stfc.ac.uk

www.scitech.ac.uk

For further information contact:

publications@stfc.ac.uk

Telephone: +44 (0)1235 445994

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