



Science & Technology
Facilities Council

Remarks from STFC

John Womersley

Super-B Workshop

Oxford

May 2011



HM Government & HM TREASURY



BIS | Department for
Business Innovation & Skills



Arts & Humanities
Research Council



**Science & Technology
Facilities Council**

Making the case for STFC's science in the 2010 comprehensive spending review

- UK research is world leading
- Knowledge economy
 - STEM skills
- Inspirational power of STFC science areas
 - 90% of undergraduate physics students . . .
- Quantifiable value of PhD students to economy



Impact through inspiration



- Our science also drives technological innovation:
 - optics, detectors, signal processing, wi-fi
 - data intensive e-science ...

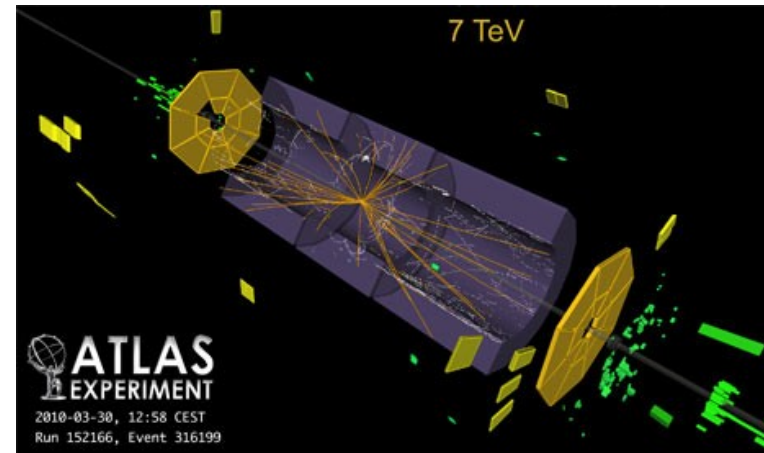


Outcome of the 2010 Comprehensive Spending Review

- Overall the settlement was a good one for STFC
 - Especially compared to what we were led to expect earlier in 2010
- Essentially a flat cash outcome with full support of our international subscriptions
 - However, challenging reductions to our capital allocation
- Will not require any cuts to our programme or to our grants or studentships compared with our 2009 plans
 - However, the 2009 prioritised programme was already quite narrow, and the CSR settlement does not provide any headroom to add new initiatives

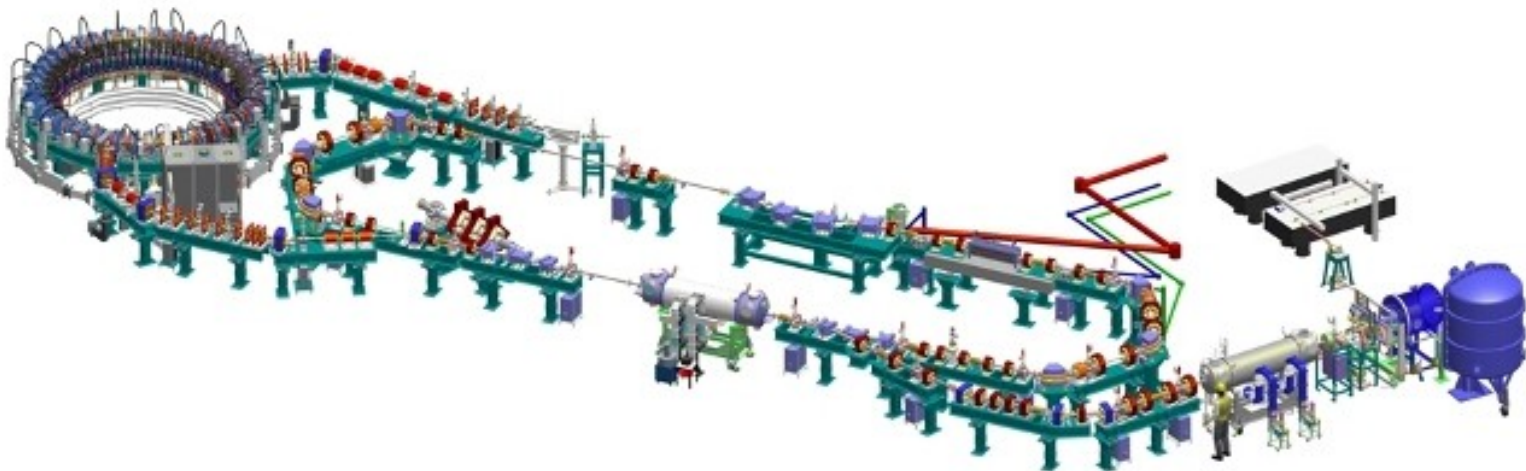
Particle Physics

- Our highest priority in particle physics is the exploitation of the **Large Hadron Collider** at CERN. The LHC will reveal how nature operates at energy scales where the standard model of particle physics breaks down and will transform our understanding of the fundamental rules of the universe
- Exploring neutrino mass and mixing with **MINOS, T2K** and **SuperNEMO**



Accelerator R&D

- Our new Accelerator Strategy Board provides strategic programme advice
 - Set out the programme and future funding level for electron, laser-plasma and proton accelerator R&D
 - Will be reviewing future funding for John Adams Institute and High Power Proton Accelerator work this summer, along with a mid-term review of the Cockcroft Institute later this year



What could the UK bring to Super-B? (1)

- Broad variety of relevant expertise in accelerator science and technology:
 - Large scale electron storage rings
 - Diamond
 - Test facilities
 - ALICE
 - In the universities and accelerator Institutes
 - MDI, FF, optics ...

What could the UK bring to Super-B? (2)

- World class detector capabilities especially in silicon tracking and vertex detectors
 - In RAL and in the university groups
- Leading flavour physics community with a great deal of highly relevant experience in BaBar

Potential hurdles to participation

- Funding landscape is tight
 - Essentially no headroom for next 3-4 years:
new projects depend on slippages and squeezes in the programme
 - Need to leverage existing effort
 - Need to share R&D with other projects where possible
- Is the level of community interest increasing, now that Super-B is moving towards realisation?

Areas of collaboration?

Already contributed significantly to design studies

Possible future contributions

- Collaboration on the accelerator
- A substantial contribution to the pixel vertex detector has been suggested
 - O(£5-10M)

Conclusions

- Over the next four years, we have to find ways to maintain our scientific position on essentially flat funding while protecting our long term vision and prospects
- **We need scientifically excellent projects that are imaginative, affordable, and relevant**
Is Super-B one of them?

Key questions:

Science excellence

Affordability

Level of community interest

Questions

