

What's going on

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Outline

- Nuclear Physics Review
- Financial Situation
- STFC Strategy
- Why our science matters more than ever



Nuclear Physics Review

Wakeham Review of Physics:

The Panel proposes that there be a careful examination of the research portfolio in nuclear physics and its impact of skills in nuclear science in the UK by an appropriately selected review group established by RCUK. The UK has reduced its expenditure on nuclear physics relative to some other countries. The country should determine what its nuclear physicists should concentrate upon in the future and then properly fund that work.



Terms of Reference of the Review

- review the scope of RCUK funded activity and training in nuclear physics and engineering in the UK
- identify the skills and expertise with relevance to future economic impact in related application areas
- comment on the ability of the scope and volume of the current nuclear physics and engineering activity to deliver these skills and expertise.
- identify any changes required in the scope or priorities of the nuclear physics and engineering activity in the UK.
- comment on UK competitiveness in skill and expertise provision.
- comment on any other issues relating to the provision of skills in nuclear physics and engineering
- report to RCUK Executive Group by Autumn 2009.





Financial Situation

Financial Situation

- Still possibility of a government stimulus for science
- Tough financial times globally
- Future pressures



Financial issues (1)

1. STFC's 3-year plan from the Programmatic Review
 - Managing the programme across the CSR period
 - Working with projects to control costs and underspends
2. The fall in the value of sterling (£) has forced all Research Councils to review planned expenditure with DIUS.
 - The final budget outcome not yet known
 - Higher cost of doing business overseas means we have to spread our budgets further.



Financial issues (2)

3. Future balance of the STFC programme needs to be considered

40% of budget for international subscriptions such as CERN, ESA, ILL etc

Rising cost of these subscriptions is eating into our budget for supporting UK scientists to use these facilities

Questions asked by communities themselves about the balance and direction of programme

Need to be responsive to global pressures and have appropriate focus on delivering “impact”



What to do

Prudent planning requires us to prepare for potential issues

1. Throttle back on new commitments until we know the situation better
2. Consult with PPAN, PALS and the Science Board to consider short term actions which might include:
 - Following though on more of the Programmatic Review recommendations
 - Delays, re-profilings and squeezes where we can do so without high impact



What else to do

3. Initiate a consultation with the community, using the advisory panels, the planned review of ground-based astronomy, and other channels.

Take a hard look at long-term structural issues in the programme, and at what options we can take later in the CSR period and beyond to re-balance the programme going forward

- Mid-Autumn
- Ongoing discussions across RCs and with communities



The plan

- We just went through a painful process to define a good programme for 2008-11
 - We don't want another painful exercise
- The world has changed since July 2008
 - Global financial crisis is impacting everyone – we need to acknowledge this and be prepared to work together to secure the best possible outcome for science

I/we will need your help, support and input





Science & Technology
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STFC Strategy

STFC strategy

- Draft strategy document on the web in December
 - Gave a broad overview of our programme
- Consensus of comments: Need something shorter, punchier and more focused
- We should also take the opportunity to position ourselves in the current debate on how science can help the economy



Strategy next steps (1)

- We will produce a glossy document which is in some sense a “manifesto” for STFC and its science – not aimed at scientists
 - Will emphasise that we will increasingly look to the **impact** of what we do
 - Positions ourselves as being “part of the solution” and as doing something new
 - Impact is defined very broadly – technology, inspiration, education
 - Not something to fear



Strategy next steps (2)

- On a timescale of the autumn we will produce a science strategy document which goes into more detail about our priority projects in each area
 - A document for scientists - something to guide proposals
 - Will incorporate inputs from Advisory Panels, PPAN, PALS, and Science Board





Science & Technology
Facilities Council

Why our science matters more than ever

Science: So What? So Everything.

- Why does a world in financial crisis need
 - Particle physicists, nuclear physicists or astronomers?
 - Big expensive science facilities?
- What does STFC do that makes us “part of the solution?”
 - We make strategic investments – long term, ambitious projects



Skills and training

- To weather a global recession demands an innovative and scientifically trained workforce
- The interlinked challenges of the 21st century – energy, global climate, new health and security concerns – demand scientific and technical innovation

These are long term issues – *young people* are the answer

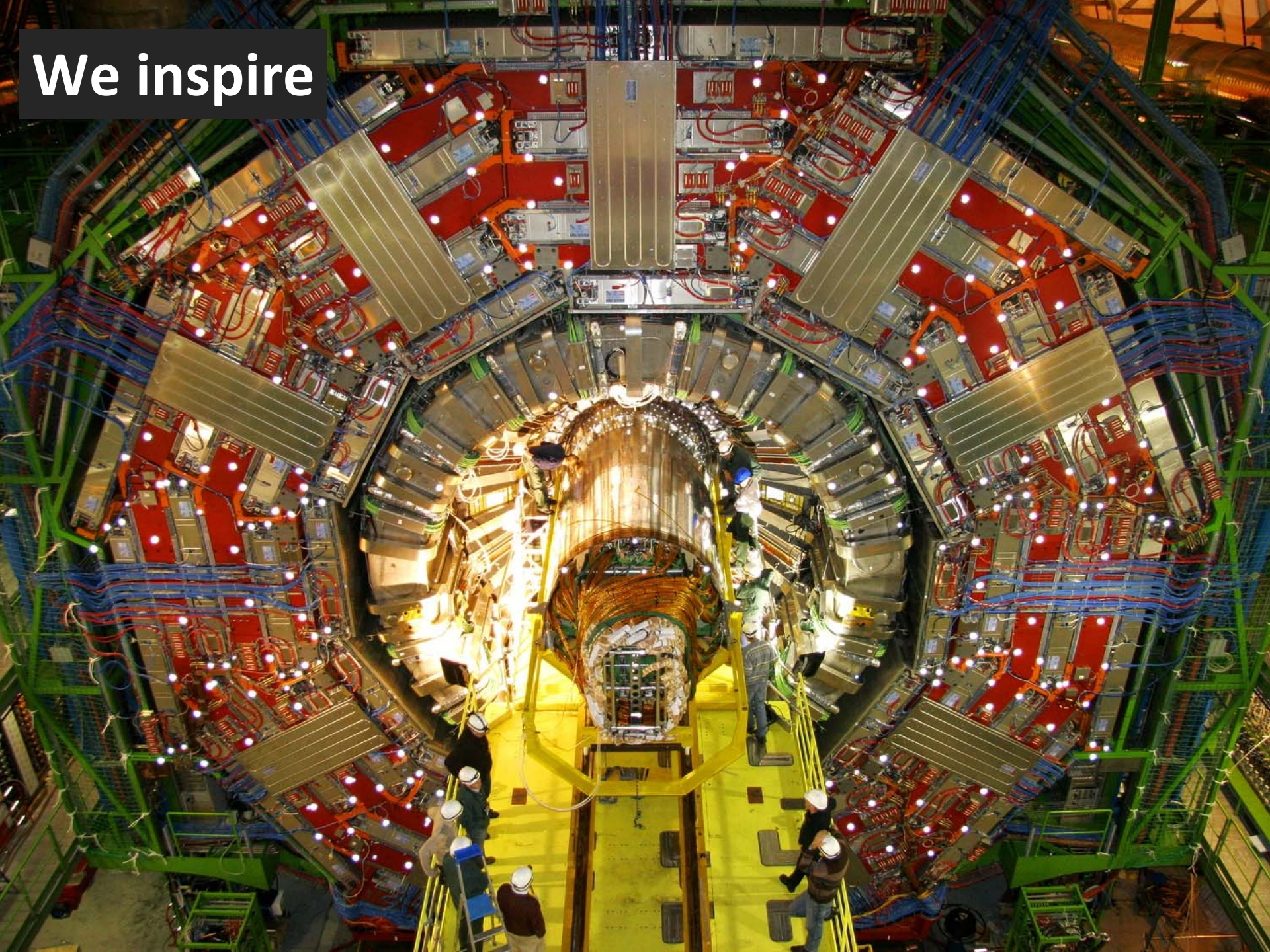
How do we attract them?





We excite

We inspire



What is fundamental science for?

- In some sense our astronomy, particle and nuclear physics programmes are only 20-30%* about understanding the universe - **Impact on science**
 - They are 70-80% about inspiring young people towards science, technology, engineering - **Impact on the economy and society**
 - The US Census Bureau estimates that a science PhD is worth an additional **\$2.2M** to the economy over their lifetime
- * *the rough fraction of students who go on to become astronomers or particle or nuclear physicists*



Driving innovation

- The sheer ambition of our projects attracts and inspires
 - It also drives technological innovation

How do we make that technology available to industry and society?



Technology gateways

- In the 20th century, big science problems demanded the creation and application of a dedicated workforce in national facilities
- In the 21st century, the challenges are more complex, more interdisciplinary and more inter-related
- We will find the solutions to our problems by *working with* the national facilities, and not purely by *work within* the national facilities
- Hence our development of the national science and innovation campuses, gateway centres and futures programmes



SKA and all that...



Let's take a trip to the Northern Cape











Conclusions

- We are in a different world from a year ago
 - Financial Situation is unclear
 - Committed to consultation
- STFC Strategy
 - Think impact
- Yes, our science matters more than ever



Any comments? john.womersley@stfc.ac.uk