



Exploring the frontiers of knowledge
Explorer les frontières du savoir

Living in the media spotlight

an opportunity to give science the voice it needs



Dr James Gillies, Head of Communications, CERN, 2 March 2012

The challenge....

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think of escaping

Shortcuts

The mother who never goes out without her daughters

A royal child's relationship with its parents is always going to be an intriguing one. Take Charles: a middle-aged man whose life purpose cannot commence until his mother pushes off, either off the throne or into the next dimension.

But it's Princesses Beatrice and Eugenie who provide the most fodder for thought on this account. These two young ladies, perfectly pleasant by all accounts, seem to have a relationship with their mother, the indefatigable Fergie, that is so close as to be downright stifling. The three are frequently photographed at parties and premieres together and this week Fergie and her ex-husband were photographed leaving a restaurant together. She did leave the girls at home but they were present in spirit, thanks to Fergie's Anya Hindmarch handbag, which was emblazoned with a picture of her daughters.

For New Year's Eve, Beatrice and Eugenie, 15 and 16 respectively, went to Thailand for the party where Pete Doherty sort-of-but-not-really married Kate Moss. Quite a good gig for two teenagers, you would think. Except that their mother went with them. Fergie has hooted in interviews about how she and Beatrice like to go "on the pull together" and Beatrice recently cooed that her ambition was to be "a mini-mummy (because) her behaviour is one I'd really like to follow". Ah toe-sucking-choo!

In this day of family breakdowns and the end of the nuclear unit, isn't it heartening to see two teenagers so happily close to their mother? Others have been spotted partying with their mothers, too: Moss herself was photographed at Manumission in Ibiza with her mum. None the less, we all remember what it was like to be 18: the idea of going to a party with one's mother was pretty much up there with joining the after-school physics club in terms of social humiliation. So either they are doing this under



Indescribable... Fergie with Beatrice and Eugenie and, left, her bag with their picture on it

In this day of family breakdowns, isn't it heartening to see two teenagers so close to their mother?

sufferance or, as has long been suspected, the royals don't have normal human reactions. This would explain how William and Harry continue to live day to day, seemingly unhampered by their father's once-professed wish to be a female sanitary product when most other people would have fled to Tanzania. But frankly, the thought of Fergie turning up in Manumission is enough to make you beg Beatrice and Eugenie to, please, take a stand now.

Hadley Freeman

PHOTOGRAPH: LARRY BUSBY/GETTY

2 The Guardian 18.01.07

“We all remember what it was like to be 18: the idea of going to a party with one’s mother was pretty much up there with joining the after school physics club in terms of social humiliation.



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Why does it matter?



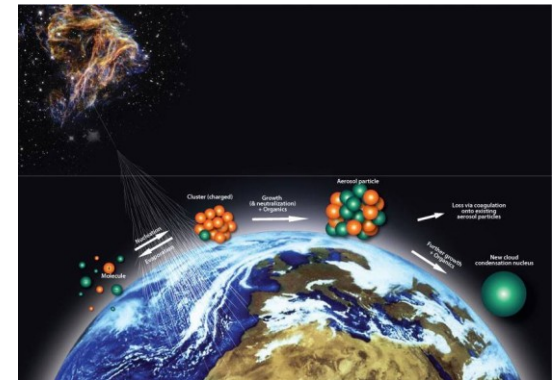
MMR...



Energy...



Mobile phones...



Climate change...

Science needs to re-engage

CERN's communications strategy



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Perception versus reality

What is CERN?

Perception

Socially humiliating

CERN is a nuclear lab

CERN does military research

CERN is secretive

CERN is closed

Reality

Really cool!

Particle physics

Forbidden

Publishes openly

Open to the public

Much of our intranet is accessible.
Our scientists are encouraged and enabled to communicate.



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Transparent, timely, honest: authoritative



- Be part of the conversation
- Gain trust
- No choice
- If it falls down, people will notice



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Market research shows

- People think basic science is worthwhile...
- But they realise it costs money...
- So they'd like to see an immediate ROI

Therefore CERN's communication has focused on four key messages:

Research
Education
Collaboration
Innovation

Collaborative research
Society and skills
Energy and Environment
Health and biomedical
Communications and new technologies



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Singing in harmony



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Member States Coordination:

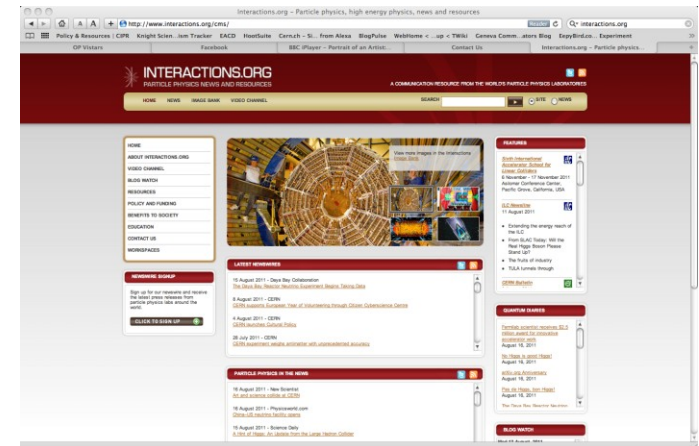
European particle physics communication network, established 2006



Global Coordination:

InterAction Collaboration

www.interactions.org, established 2001

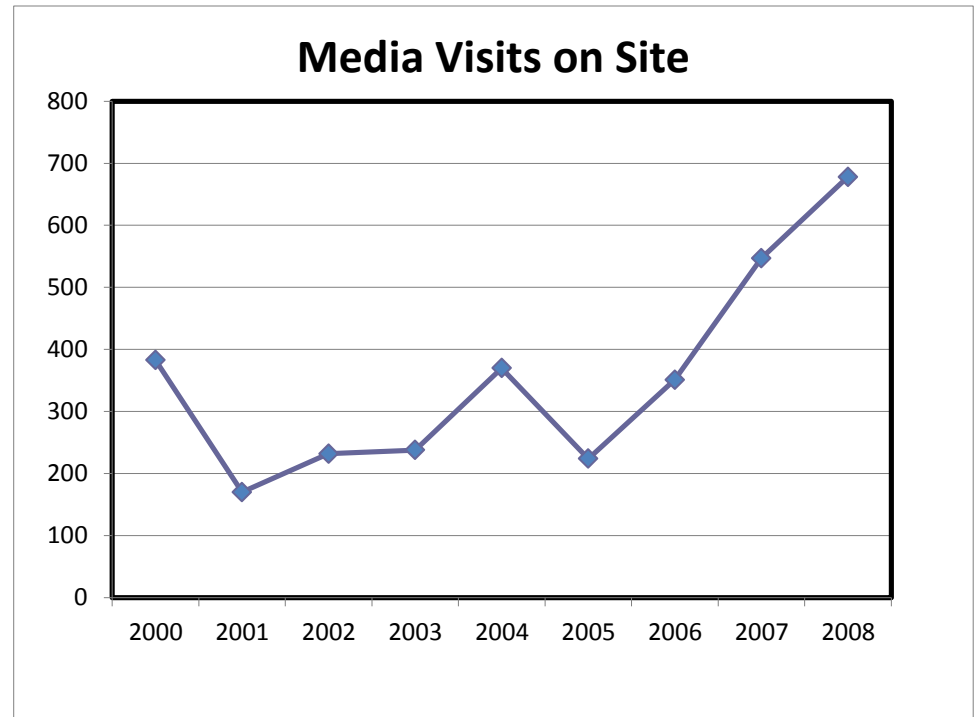


In house coordination: LHC outreach group, established 1990s



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Every stakeholder, everywhere is equally important to us

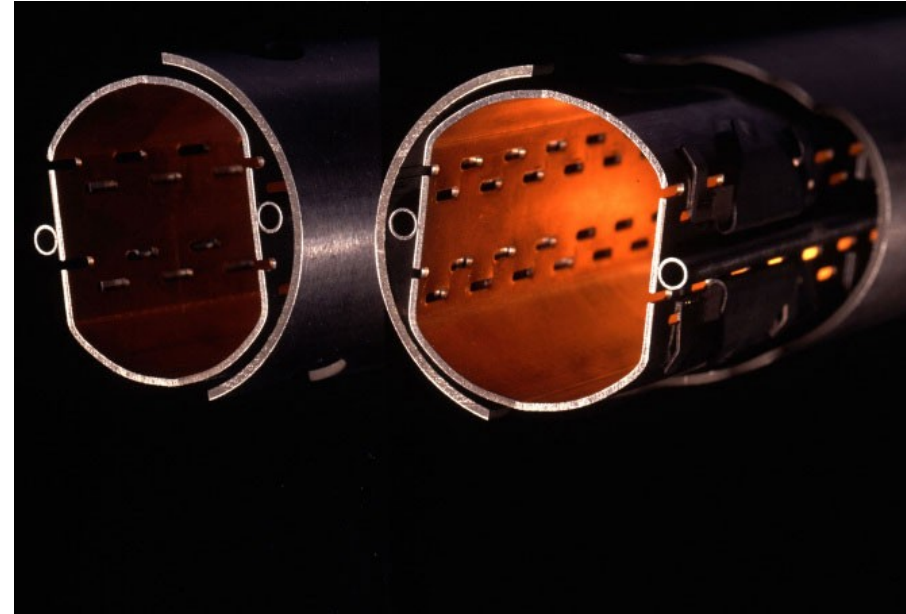
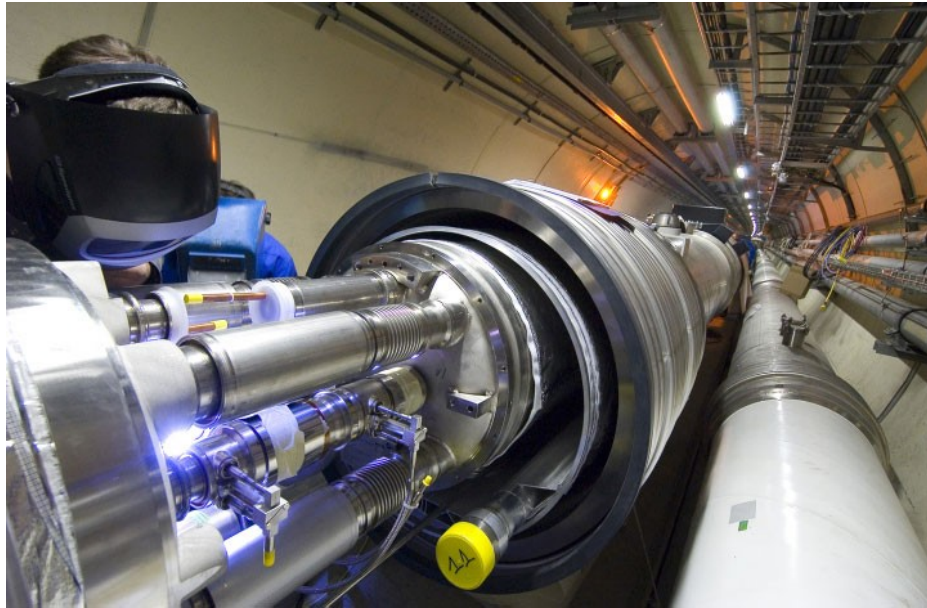


- Press release coordination
 - Media visit coordination
- Objectives: increase awareness, build trust



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Targeted events for key audiences



- 5-6 April 2008. Open days
- 10 September 2008. First beam
- 21 October 2008. Official inauguration
- 30 March 2010. First Physics
- 13 December 2011. Higgs update seminar

- Neighbours
- Media
- Political
- Media
- Media



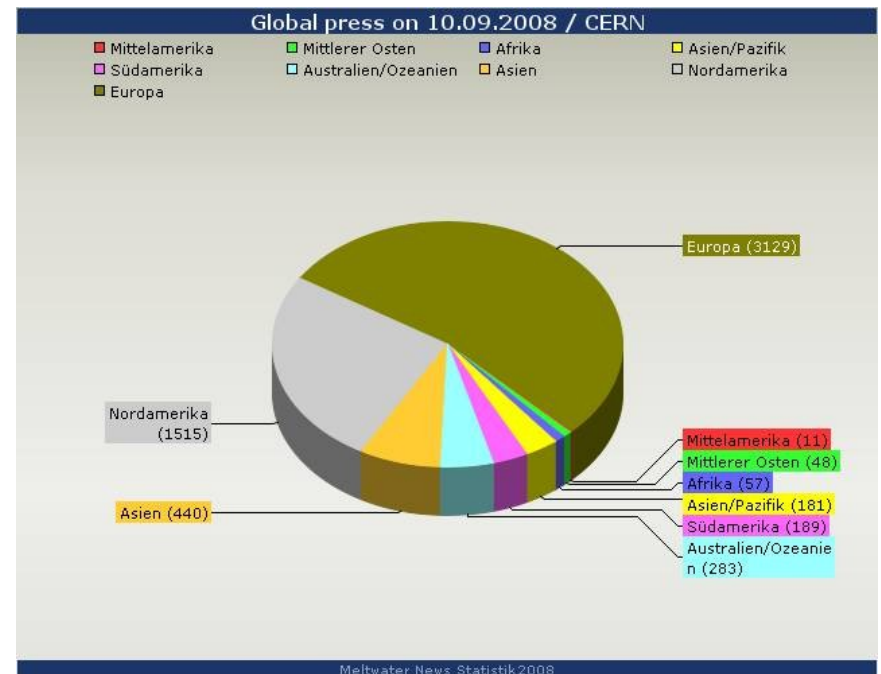
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LHC First Beam 10 September 2008

- 340 media outlets on site
- 450 broadcasters
- 2500 transmissions
- 91 stand-ups
- Audience in hundreds of millions



“CERN is the new NASA!”



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LHC First Physics 30 March 2010



- CERN's public homepage recorded 205,000 visitors (unique IPs) from 185 countries. Normal average 10,000 visitors per day
- The Press Office site recorded 154,000 visitors. Normal average 2,000 per day



- CERN went from 90,000 to 120,000 followers during the day
- Keywords "LHC", "CERN", "TeV" and "experiment" were all global trends on Twitter at some point during the day



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The big difference...



2008



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Higgs update seminar

Key Metrics – Overall (Global)

•Most Observed Message:

Scientists narrow search for Higgs boson - they are on the right track

•Most Observed Issue:

Data not yet conclusive but announcement in 2012 is likely

Most Negative Message:

Arguments over use of term 'The God particle'

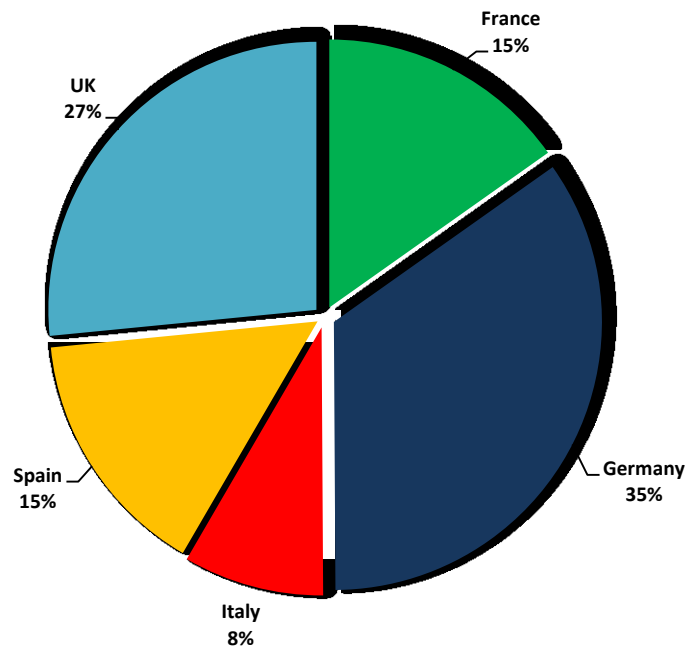
- Total Volume: 1910
- Very Positive: 10.41%
- Positive: 10.36%
- Neutral: 68.17%
- Poor: 6.49%
- Negative: 4.55%
- Circulation: 629,337,259
- AVE: €112,156,338



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Media Share (EU5)

Share by Volume for Higgs boson Announcement

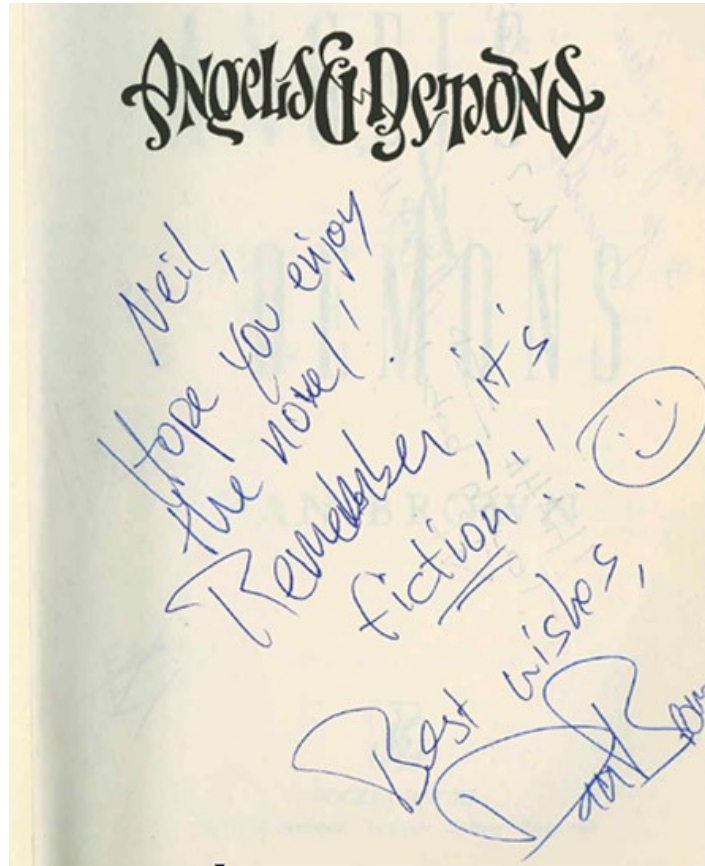


Dealing with what came our way...

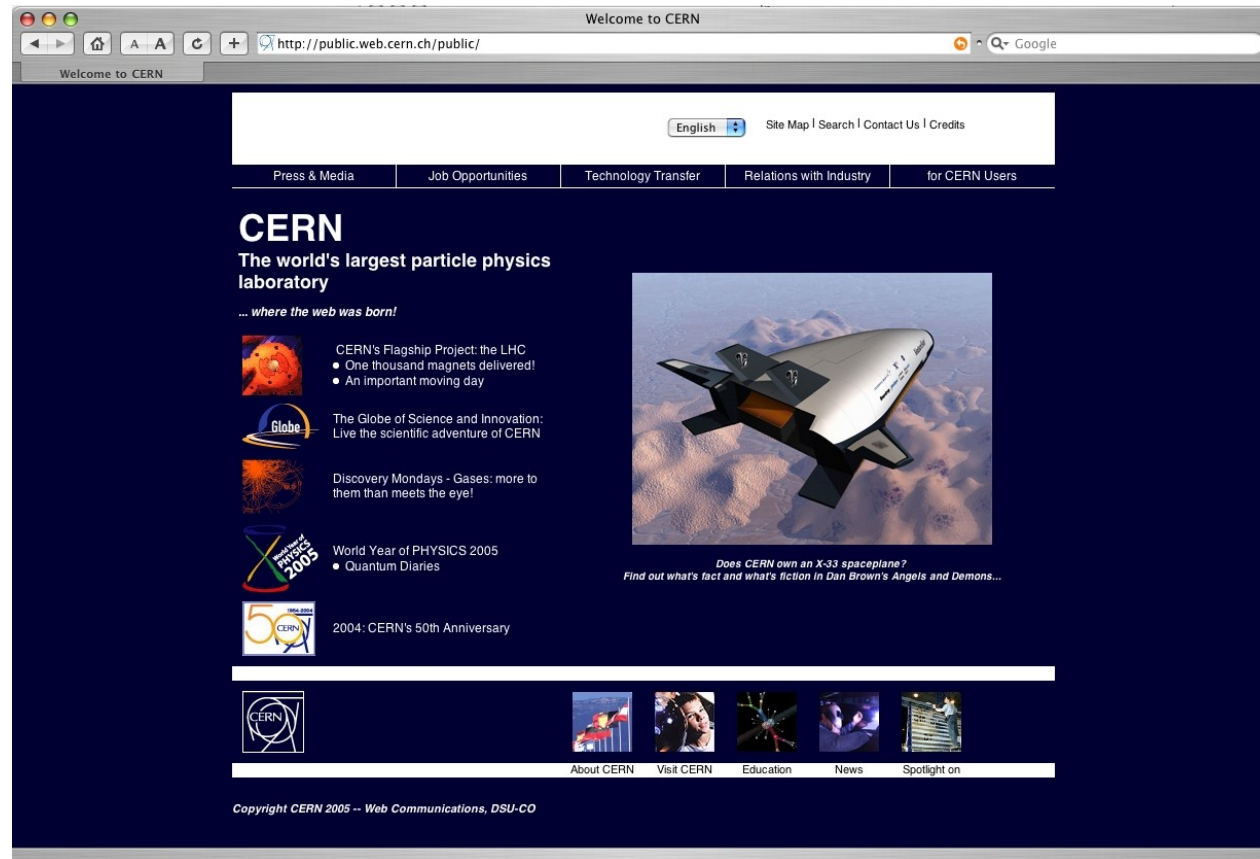


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... this landed on my desk in 2000



Time to act...



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True or false?

- | | |
|---|---|
| CERN has a space plane. | X |
| CERN makes antimatter. | ✓ |
| Georges Charpak played frisbee. | X |
| Antimatter could solve the energy crisis. | X |
| Antimatter is used in PET scanners. | ✓ |
| PET scanners are developed at CERN. | ✓ |



The media launch of Angels & Demons



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Earth eating Black Holes...



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- Why the LHC
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 - ALICE
 - ATLAS
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 - LHCb
 - TOTEM
 - LHCf
- Computing
- The safety of the LHC**
- Facts and figures
- LHC Milestones

The safety of the LHC

The Large Hadron Collider (LHC) can achieve an energy that no other particle accelerators have reached before, but Nature routinely produces higher energies in cosmic-ray collisions. Concerns about the safety of whatever may be created in such high-energy particle collisions have been addressed for many years. In the light of new experimental data and theoretical understanding, the LHC Safety Assessment Group (LSAG) has updated a review of the analysis made in 2003 by the LHC Safety Study Group, a group of independent scientists.

LSAG reaffirms and extends the conclusions of the 2003 report that LHC collisions present no danger and that there are no reasons for concern. Whatever the LHC will do, Nature has already done many times over during the lifetime of the Earth and other astronomical bodies. The LSAG report has been reviewed and endorsed by CERN's Scientific Policy Committee, a group of external scientists that advises CERN's governing body, its Council.

The following summarizes the main arguments given in the [LSAG report](#). Anyone interested in more details is encouraged to consult it directly, and the technical scientific papers to which it refers.

We played it low key...



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At least at first...

Daily Show Does CERN

 Stumble! Like? 

If you watch the Daily Show, you know the ~~inane~~ humor of John Oliver, one of the regular "correspondents" on the show. My colleagues at CERN tell me that he's visiting CERN now, filming one of his inimitable segments on the LHC and the experiments, to be aired "some time after April 21". Personally, I can't wait to see it - he is always funny and usually pretty sharply barbed. He apparently rode an LHC dipole magnet like Slim Pickens rode the bomb in Dr. Strangelove, and asked one of our guys "is there anything you do here that's not boring?" His video spots are always edited tightly to get the maximum laugh quotient. Anyway, here he is in the CMS cavern, earlier today (thanks to my student Matt Searle for the photo!)



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April 8th, 2009 by John in [Miscellany](#), [Science and the Media](#) | [14 comments](#) | [RSS feed](#) | [Trackback >](#)

50/50



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The Lion, the Witch and the Black Hole

“Once we stop these guys at CERN then we have to ban wardrobes. We shouldn't be taking the chance of people ending up in Narnia!”

Blog post, 30 March 2008



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The perilous world of the wardrobe

Last spring a man called Walter Wagner claimed that if you can conceive of two possible outcomes to an event, then the probability of each one happening is 50:50. His pronouncement came in an episode of *The Daily Show*, a US satirical news TV programme, but he was not trying to be funny. Wagner, a plaintiff in a 2008 court case in Hawaii that tried to prevent CERN from switching on the Large Hadron Collider (LHC), has long believed that experiments at the collider could cause the world to go up in a puff of smoke. And the probability of this happening, as conceived by Wagner, is one in two. Scary.

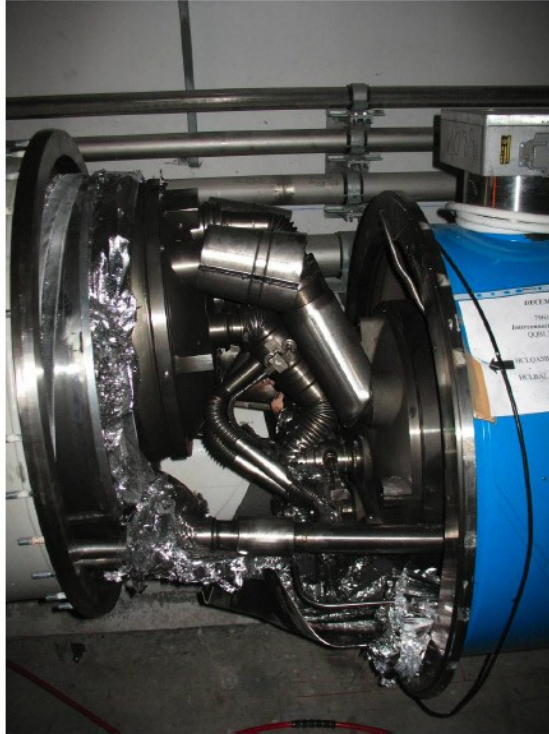
Happily for the continued existence of the world, statistics is not so simple a science as Wagner's interpretation would suggest. True, if you flip a coin, the chances that it will land on heads or tails are indeed 50:50, unless the coin is loaded. But what about the LHC? What are the real chances of it creating a world-eating black hole?

First, let's consider a truly dangerous object: wardrobes. Yes, wardrobes. I am not thinking of the dangers of being trapped by falling furniture, which are undoubtedly real,



Photolibrary

When things go wrong...



Tell it all, tell it fast, tell the truth...

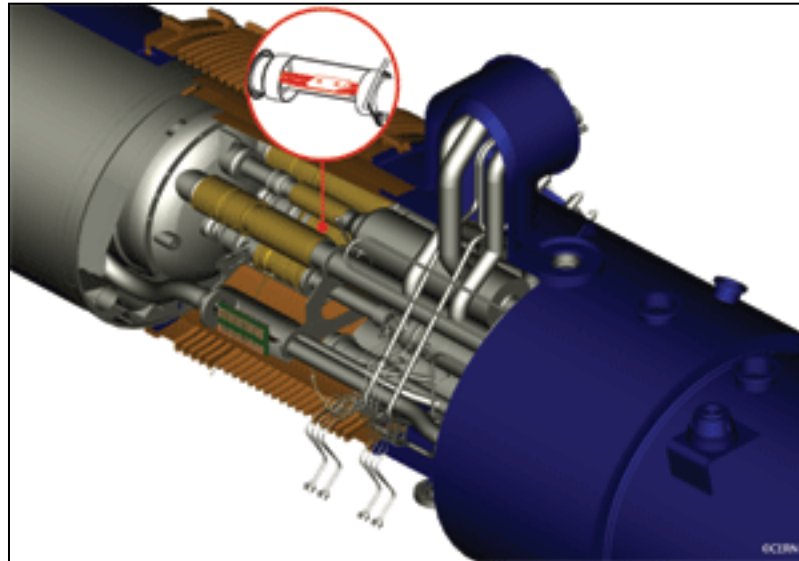


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What we did...

Timeline...

- 10 September 2008: First Beam
- 19 September 2008: Breakdown
- 20 September 2008: First communication of breakdown: Incident in LHC sector 3-4
- 23 September 2008: LHC restart scheduled for 2009
- 16 October 2008: CERN releases analysis of LHC incident
- 5 December 2008: LHC to restart in 2009



The LHC repairs in detail

14 quadrupole magnets replaced

1



39 dipole magnets replaced

2



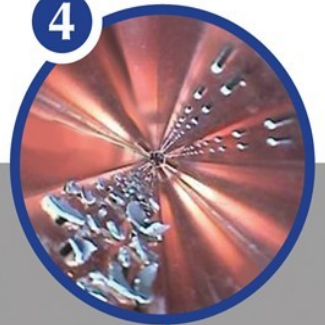
54 electrical interconnections fully repaired. 150 more needing only partial repairs

3



Over 4 km of vacuum beam tube cleaned

4

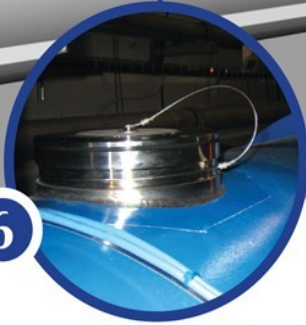


5



A new longitudinal restraining system is being fitted to 50 quadrupole magnets

6

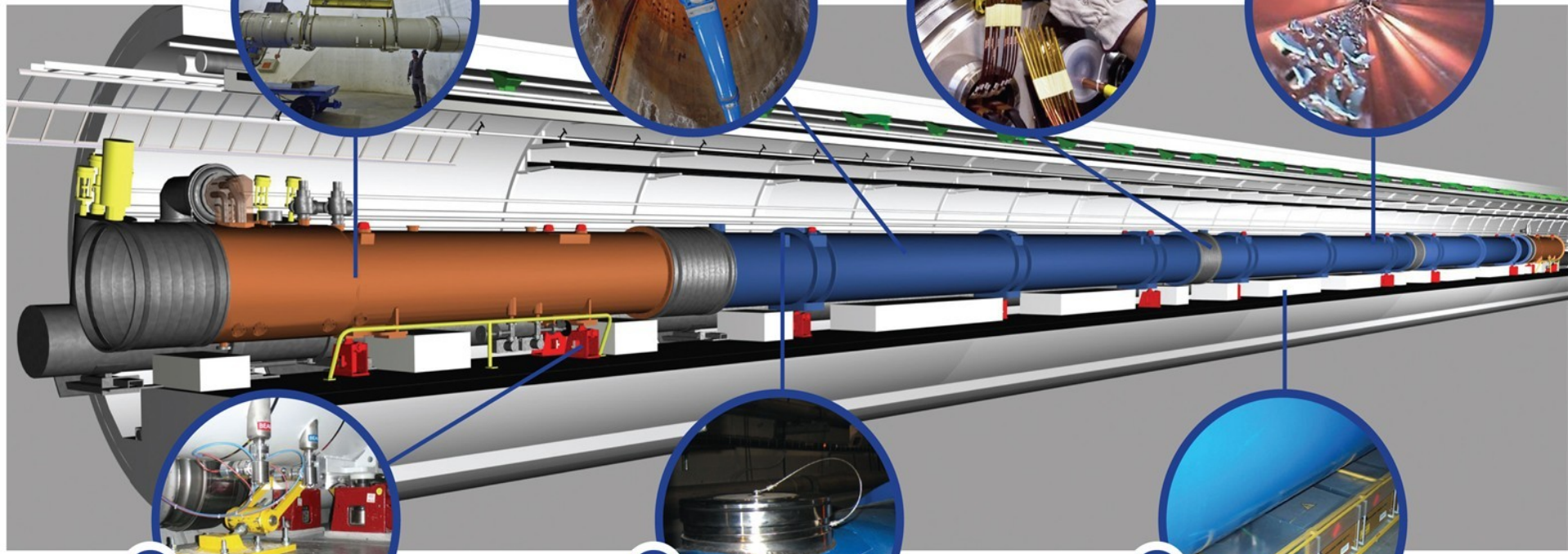


Nearly 900 new helium pressure release ports are being installed around the machine

7



6500 new detectors are being added to the magnet protection system, requiring 250 km of cables to be laid

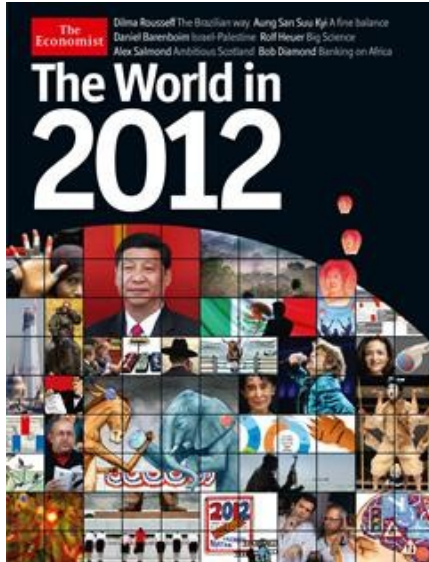


Where has all this got us?



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Increased voice



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about Science & Technology on
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Media covering the process of science



Statistics of a 'discovery'

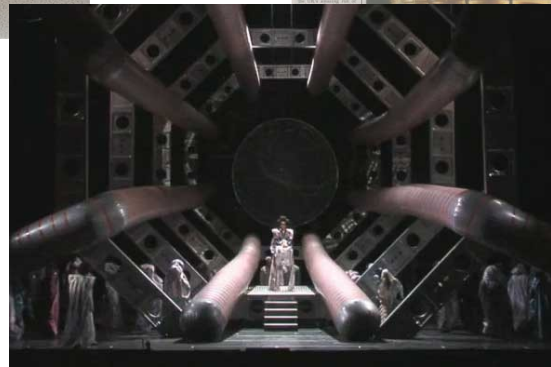
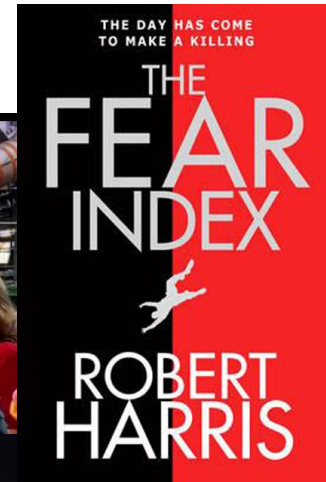
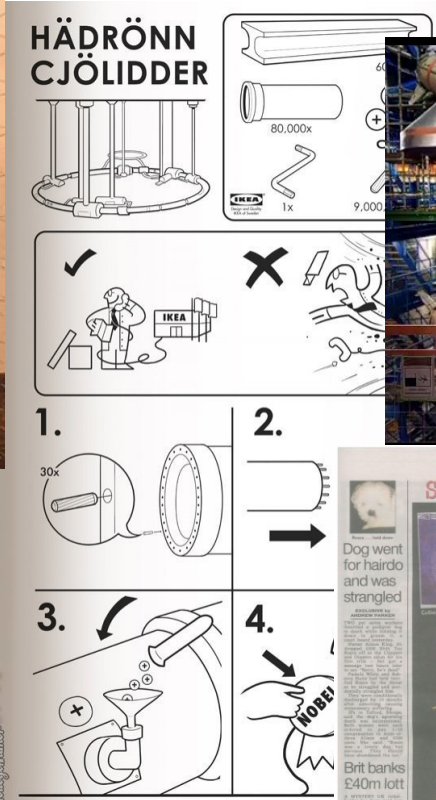


- Particle physics has an accepted definition for a "discovery": a five-sigma level of certainty
- The number of standard deviations, or sigmas, is a measure of how unlikely it is that an experimental result is simply down to chance rather than a real effect
- Similarly, tossing a coin and getting a number of heads in a row may just be chance, rather than a sign of a "loaded" coin
- The "three sigma" level represents about the same likelihood as tossing more than eight heads in a row
- Five sigma, on the other hand, would correspond to tossing more than 20 in a row
- With independent confirmation by other experiments, five-sigma findings become accepted discoveries



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Greater penetration across society




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Is this all for the good?

- The bigger they are, the harder they fall...
- A bigger brand needs closer management...
- A cautionary tale...



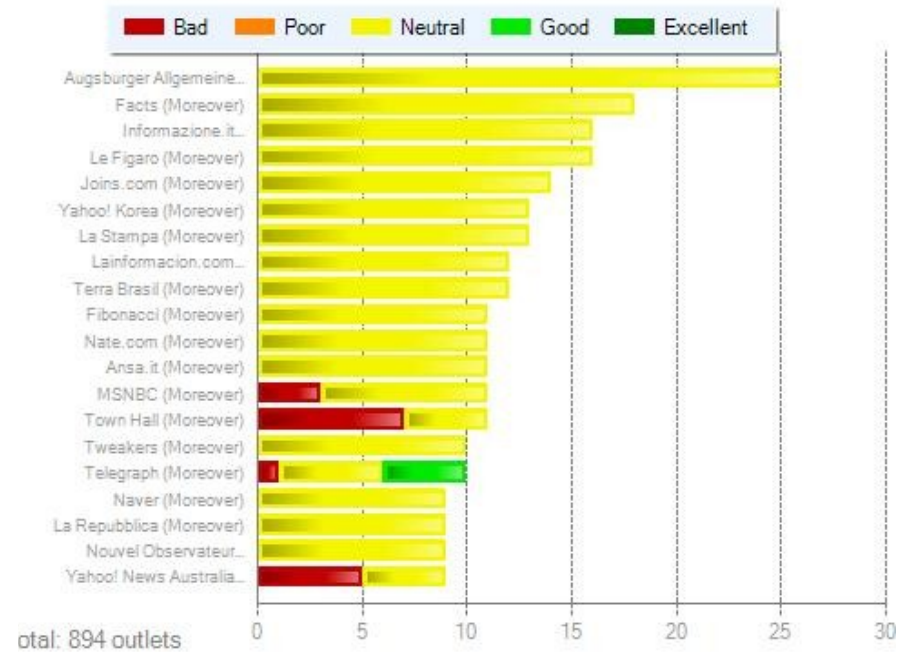
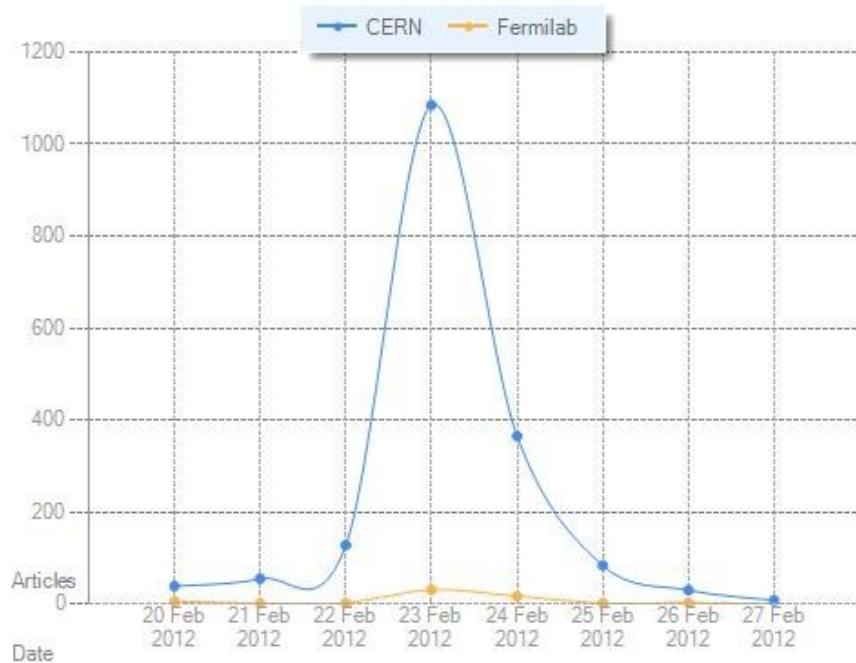
A neutrino walked into a bar...

16 September	CERN agrees to host seminar on 23 September
19 September	Tommaso Dorigo blogs, post later pulled. CERN press office starts to receive calls.
22 September day	Il Giornale runs interview with Antonino Zichichi. Story starts to appear in other outlets. CERN briefs newswires.
22 September evening	Story appears on El Pais, Reuters, BBC... everywhere
23 September morning	Paper published on arXiv CERN issues statement, webcasts seminar
24 September	 <p>Peak in applications for CERN jobs</p>



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...and said “who turned the lights out?”



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What role for the gatekeepers?

- Traditionally, people like me have been the gatekeepers.
- The gate is now well and truly open.

- Engagement is vital in a science based age.
- We aim to achieve that through:
broad engagement;
open, timely and honest communications;
making our stories relevant to all stakeholders everywhere.
- The alternative is to allow gossip to become the favoured source of news.
- Don' t forget – science journalists are often advocates for science.



Thank you!



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