



ECO@CERN

Ana Godinho

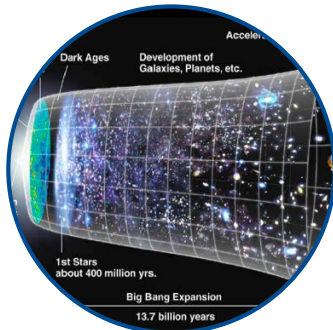
Head of Education, Communication and Outreach



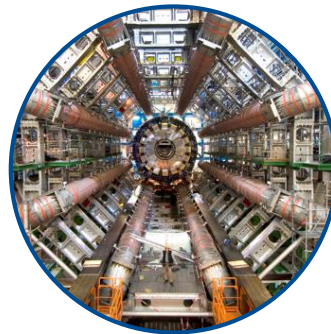
O que queremos alcançar?

- **Divulgação** do CERN e das suas atividades
- **Apoio** dos decisores políticos
- **Envolvimento** com os cidadãos
- **Educação e inspiração** para alunos e professores
- **Porta-estandarte** para Física de Partículas

O poder de atração do CERN



**CIÊNCIA DE
FRONTEIRA**



**TECNOLOGIA DE
PONTA**



**COMUNIDADE
CIENTÍFICA
INTERNACIONAL**

EDUCAÇÃO, COMUNICAÇÃO E OUTREACH

Os nossos públicos alvo

Comunidade(s) científica(s)

Decisores políticos

Indústria

Professores e estudantes

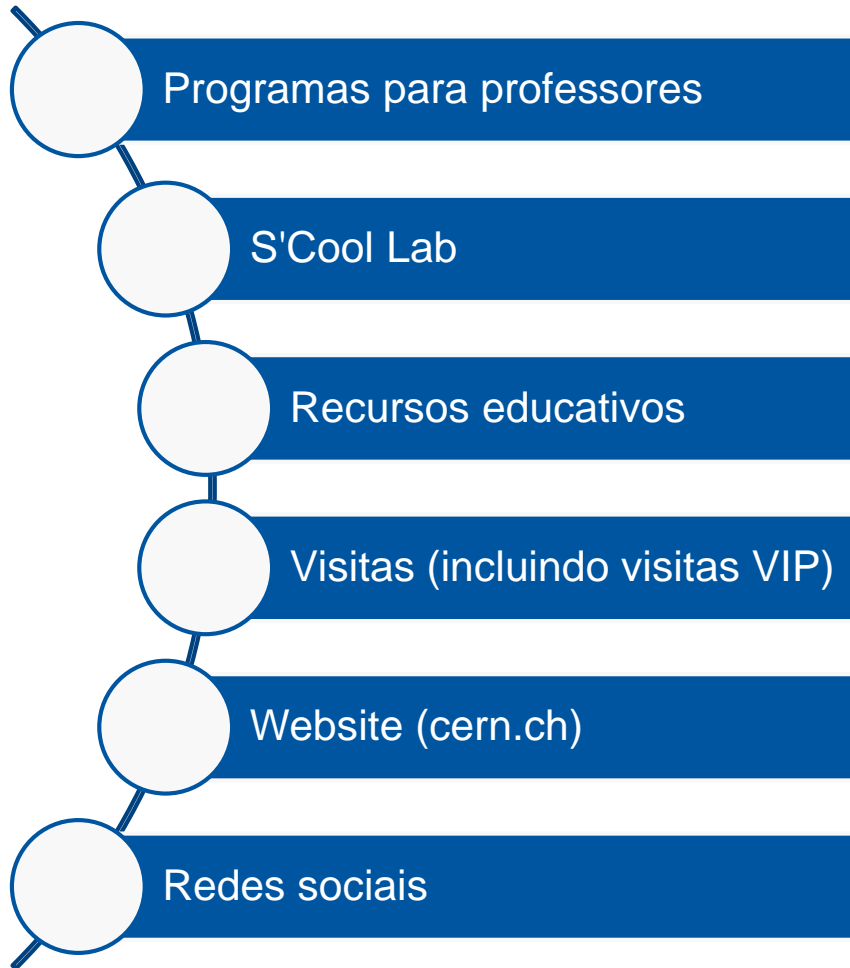
Comunidade local

Cidadãos

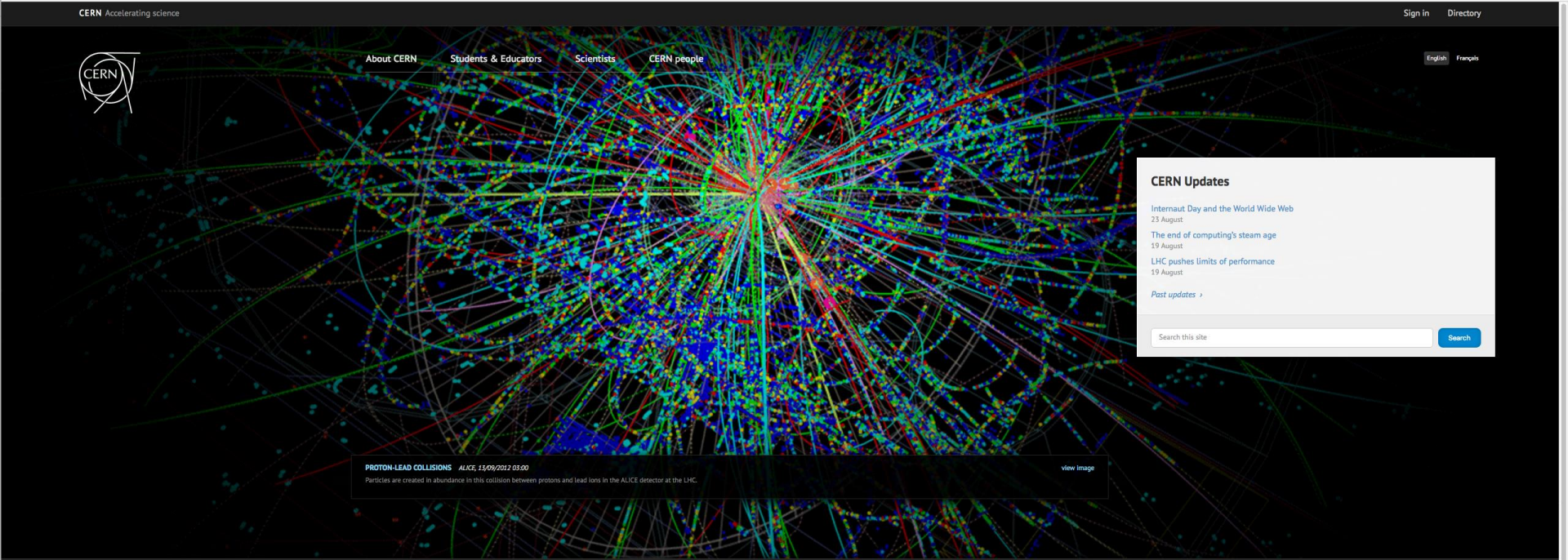
Media e *opinion-makers*

Comunidade CERN

O que fazemos? (slide cábula)



O que fazemos em mais detalhe



PROTON-LEAD COLLISIONS ALICE, 11/09/2012 03:00
Particles are created in abundance in this collision between protons and lead ions in the ALICE detector at the LHC. [view image](#)

CERN Updates

- [Internet Day and the World Wide Web](#)
23 August
- [The end of computing's steam age](#)
19 August
- [LHC pushes limits of performance](#)
19 August

[Past updates >](#)

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Comunidade CERN

CERN Bulletin

Issue No. 22-23/2016 - Monday 30 May 2016
More articles at: <http://bulletin.cern.ch>

LHC REPORT: FOCUS ON LUMINOSITY



A WORD FROM ECKHARD ELSEN

WHAT MAKES CERN'S RESEARCH GREAT

As a newcomer to CERN, I find myself both honoured and humbled to have had the role of Research Director confirmed in me for five years.

The intensity ramp-up of the LHC beams resumed last Friday after the main powering system of the PS accelerator was put back in service.



The image above shows the last twenty four hours of 2016/16 of the machine. The LHC operators managed the beams of the LHC in the machine for around 20 and a half hours.

Beams are back in the LHC. On Friday, the accelerator resumed the intensity ramp-up, reaching 1752 bunches per beam last week-end. The intensity ramp-up was interrupted on 20 May because of a problem with the PS main power supply (see box).

A steady increase in the total number of bunches per beam is required to check out all aspects of beam operation and make sure the LHC is fully safe before the nominal number of bunches per beam can be brought into collision.

At present, four intensity steps have been completed: 313, 601, 804, and 1177 bunches per beam. The qualification of the next step with 1752 bunches is in progress. At every step, more than 20 hours in stable beams

must be accumulated, as required for machine protection qualification. The last steps-up already showed signs of possible electron cloud effects, with the typical signature of beam-up bunches at the end of the train of 72 bunches. The beam and luminosity flatness was, however, very good the last LHC fill before the extended stop due to the PS powering system problem was with 1177 bunches per beam and stayed in Stable Beams for 35.5 hours. The peak luminosity at the beginning of Stable Beams was $3.6 \times 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$. The integrated luminosity, 272 inverse picobarns, is around a quarter of the total luminosity delivered by the LHC up to now in 2016.

Monday, 17 and Tuesday, 18 May were dedicated to measuring the absolute scale of the luminosity at 13 TeV. The luminosity of a

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Comunidade científica

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Cosmic collisions

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Estados membros

Annual Report 2014



f CERN

550 000 Gostos

CERN ✓
@cern

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68 000 assinantes

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Welcome to LHC season 2: new frontiers in physics at #13TeV
170,554 views · 1 year ago
Follow LHC physicists @CERN, as they share their thoughts about the new physics frontiers opening up when the LHC begins collisions at the higher energy of #13TeV.

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CERN CERN, the European Organization for Nuclear Research, is the world's largest particle physics laboratory. home.cern

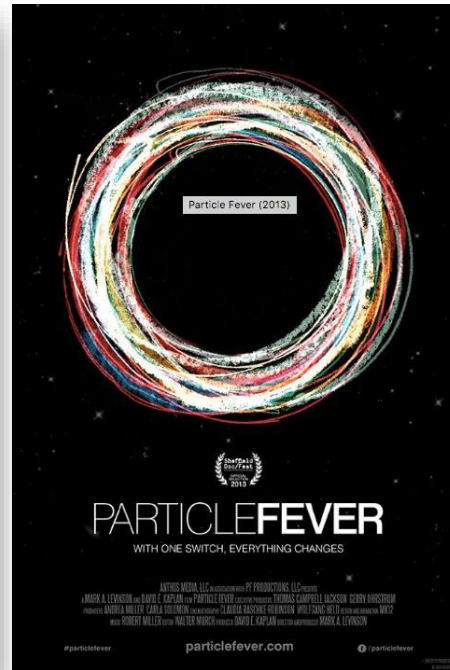
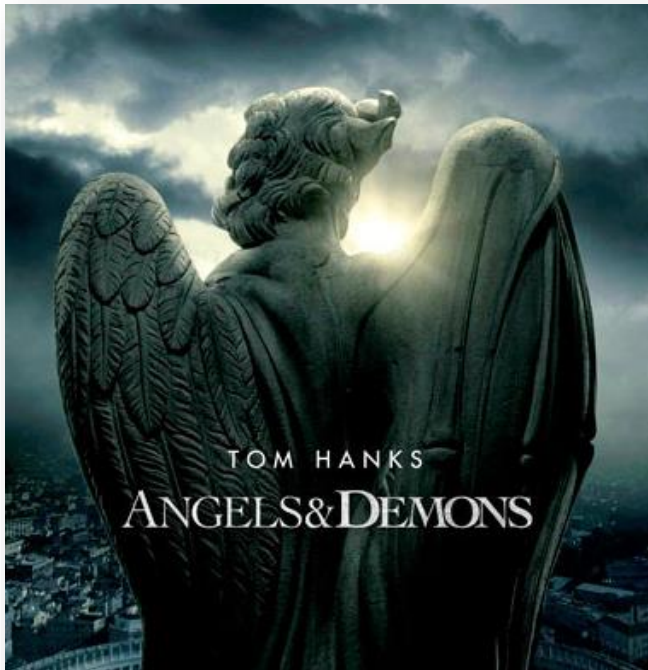
345 posts 87.7k followers 49 following



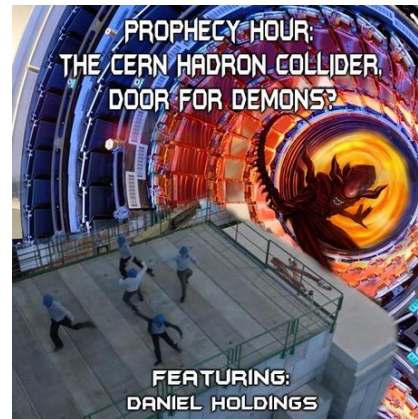
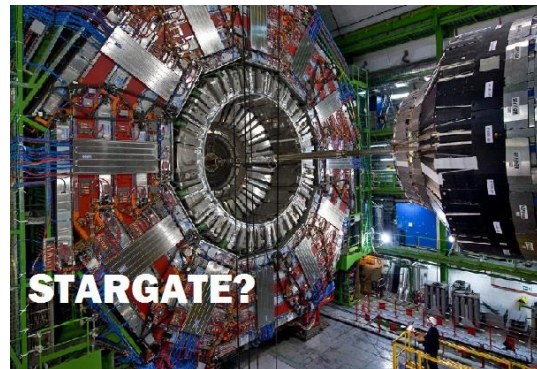
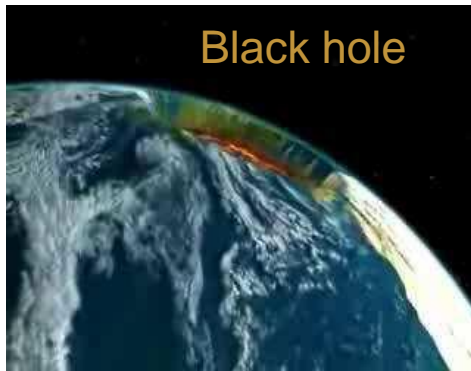
Em 2015:

- 367 visitas de OCS
- 22 PRs e 24 Media tips
- 4 conferências de imprensa (no CERN e fora)
- 4 100 seguidores no Twitter (@CERNpress)
- 1 milhão page views; 558 000 novos visitantes
- 150 notícias / dia

CERN no cinema, na TV e na literatura...



...e em teorias da conspiração



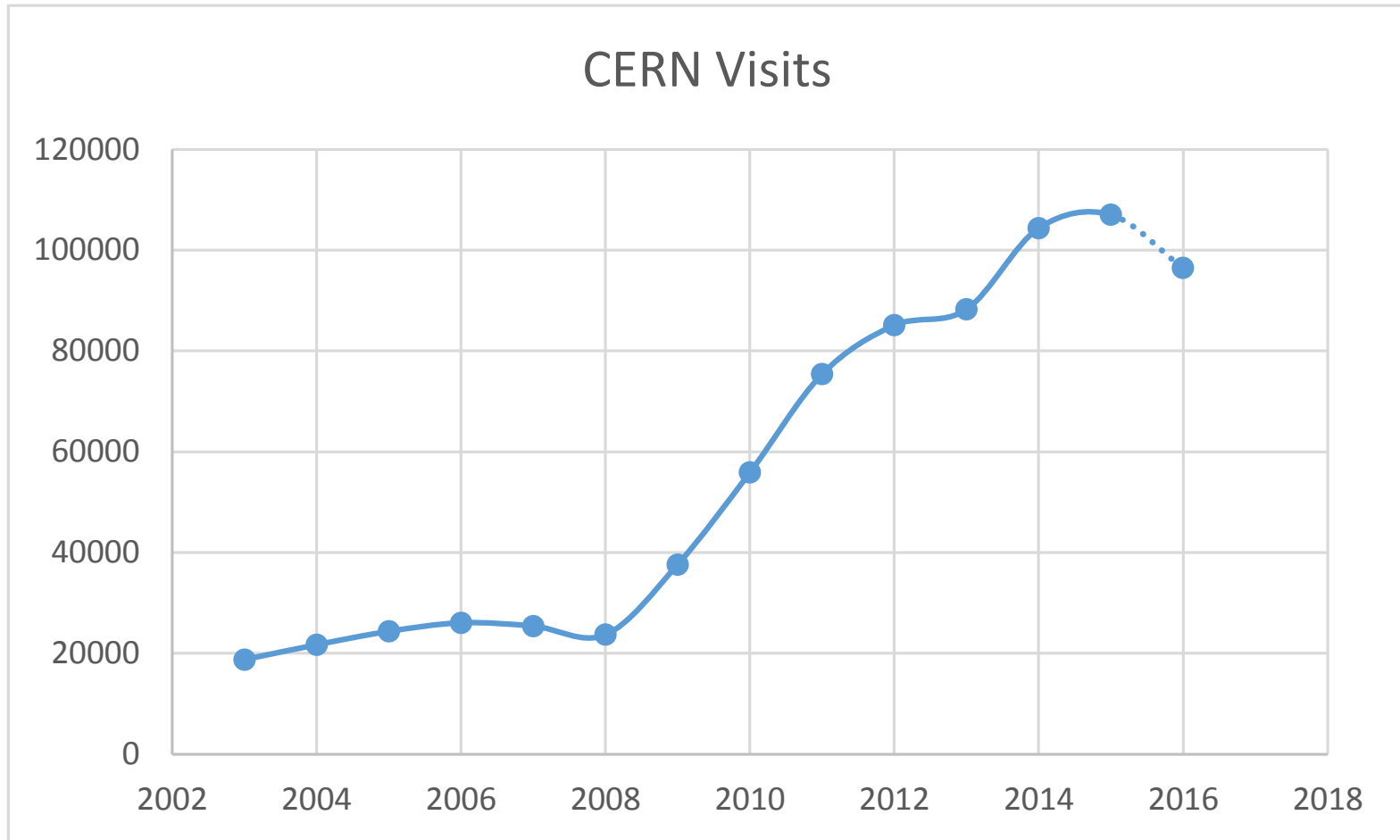
- + acidentes de aviação
- + terremotos
- + quedas na bolsa

A importância da transparência total

Assegurar apoio de decisores políticos



Ver “Big science” a acontecer



12 locais para absorver ambiente CERN



Combinação de ambiente real com efeitos especiais



Imersão e admiração no *Universe of Particles*



- Atração nº2 de Genebra (Fonte: Dept. Turismo)
- 65 000 visitantes / ano (desde julho 2010)

Microcosm - Como e quem faz o CERN



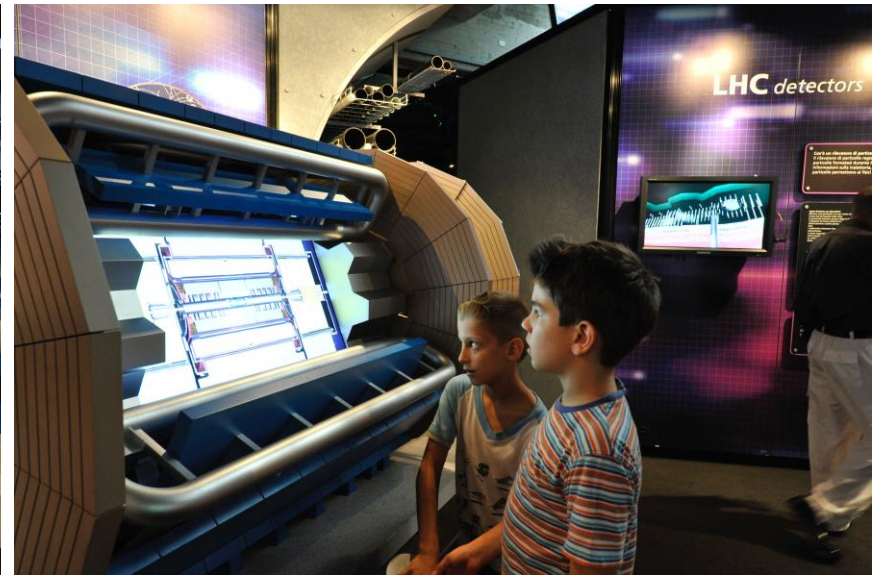
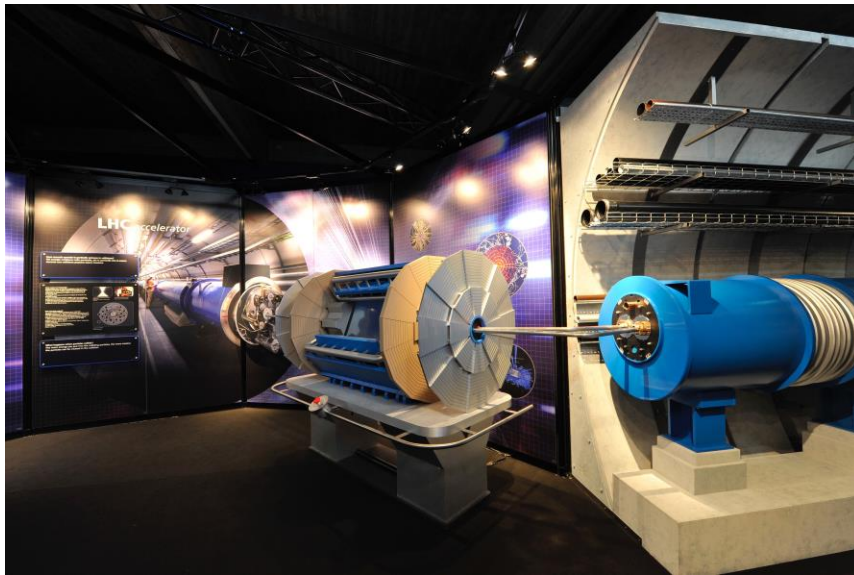
Exposições itinerantes

2010-2014: 500 000 visitantes em 16 países

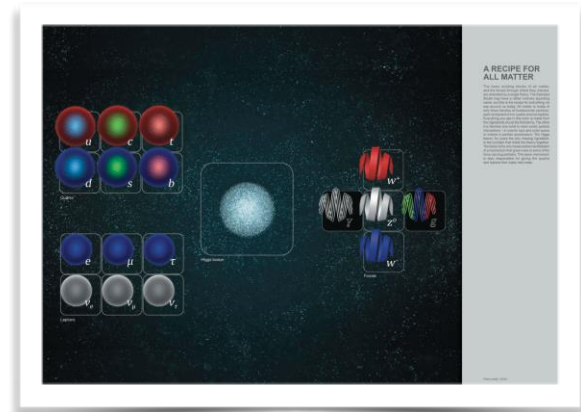
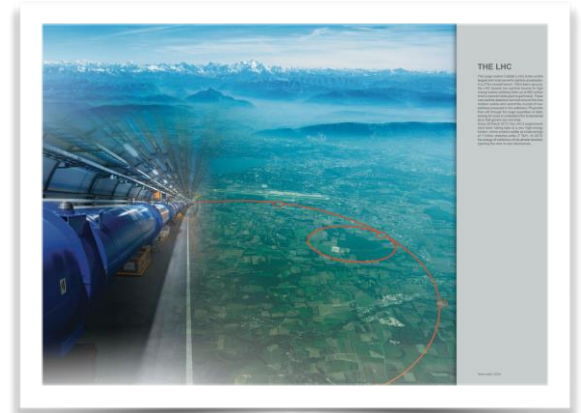


Accelerating science

450m², em 2-3 países / ano



Exposições em 100m²





Construa a sua própria exposição

CERN 60 > Multimedia > [CERN exhibitions content](#)

CERN60 RESOURCES

CERN EXHIBITION CONTENTS

- Overview
- Physics
- LHC Accelerators
- Experiments
- Computing
- Knowledge Transfer
- History

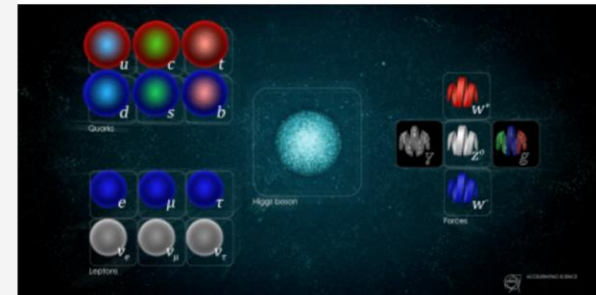
CERN exhibitions content

Overview



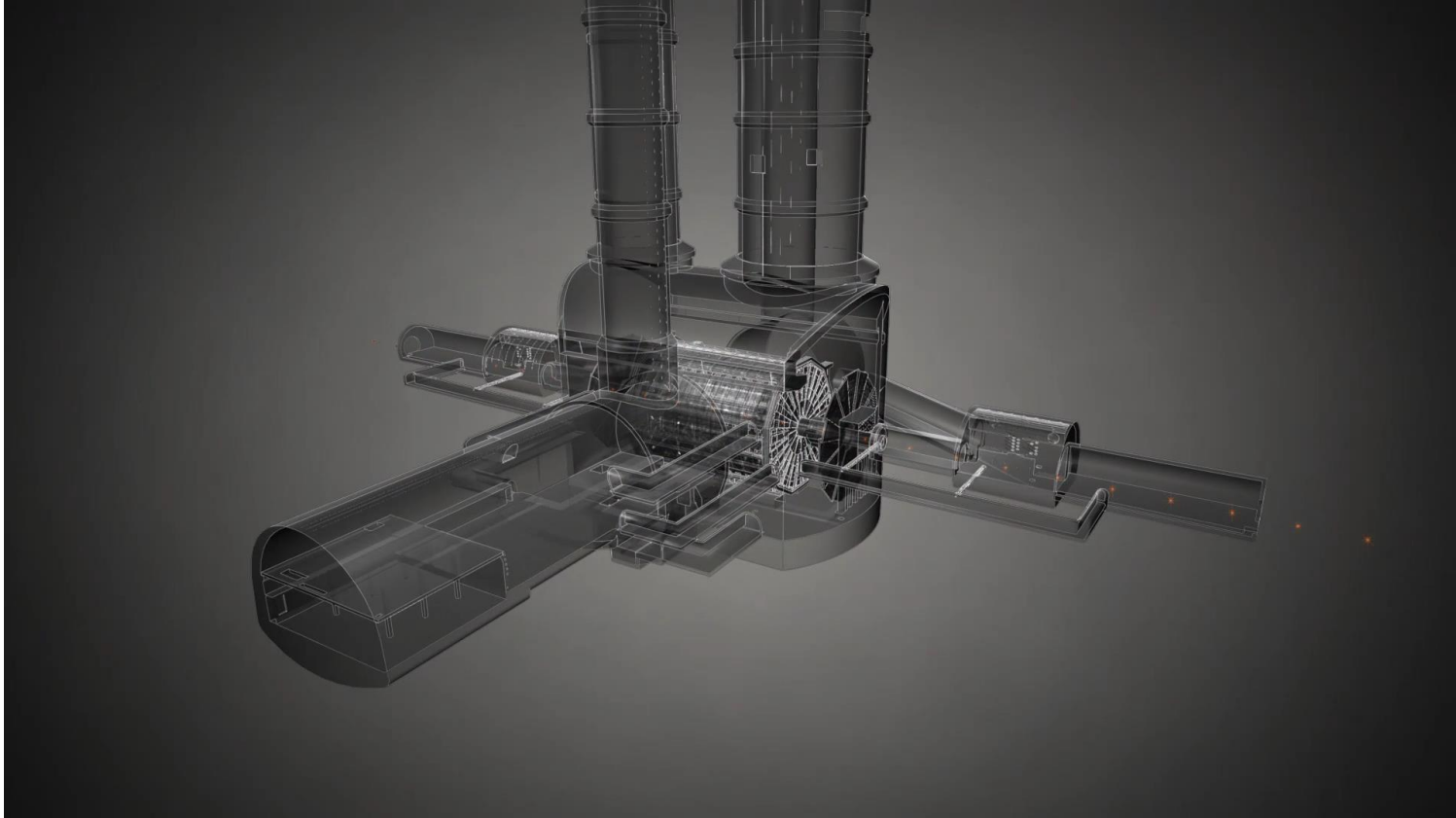
[VIEW CONTENT >](#)

Physics



[VIEW CONTENT >](#)

<http://cern60.web.cern.ch/en/cern-exhibitions-content>

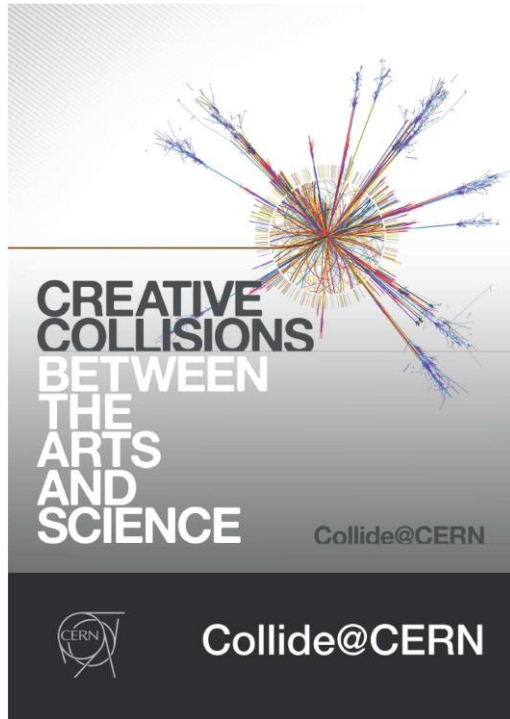


LHC e colisões no detetor ATLAS



Produção e decaimento do bóson de Higgs

Arts@CERN



COLLIDE - residências de artistas por 3 meses

ACCELERATE - investigação nas artes, residências de 1 mês

Programa de Artistas convidados – visitas de 1-2 dias

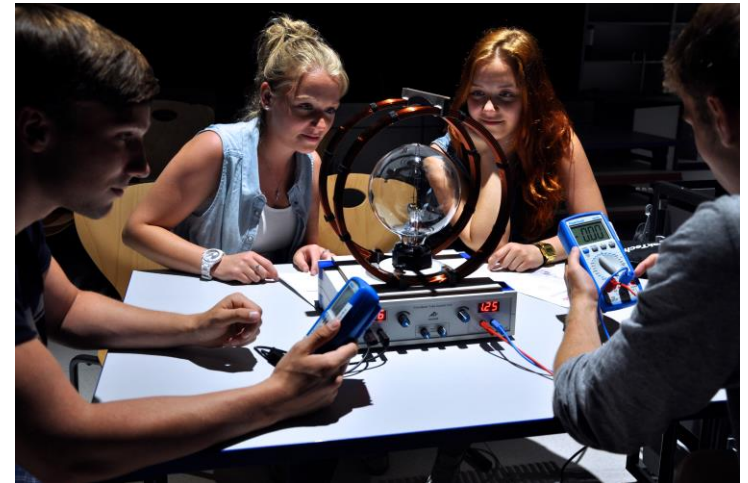
Professores e alunos @ CERN

Professores



2006-2015: 9500 school teachers
from 81 countries

Alunos



45,000 per year (CERN visits)
4,000 per year (S'cool lab)

“Education is not the filling of a pail, but the lighting of a fire”, W.B. Yeats

S'Cool LAB



Concurso *Beamline for Schools*

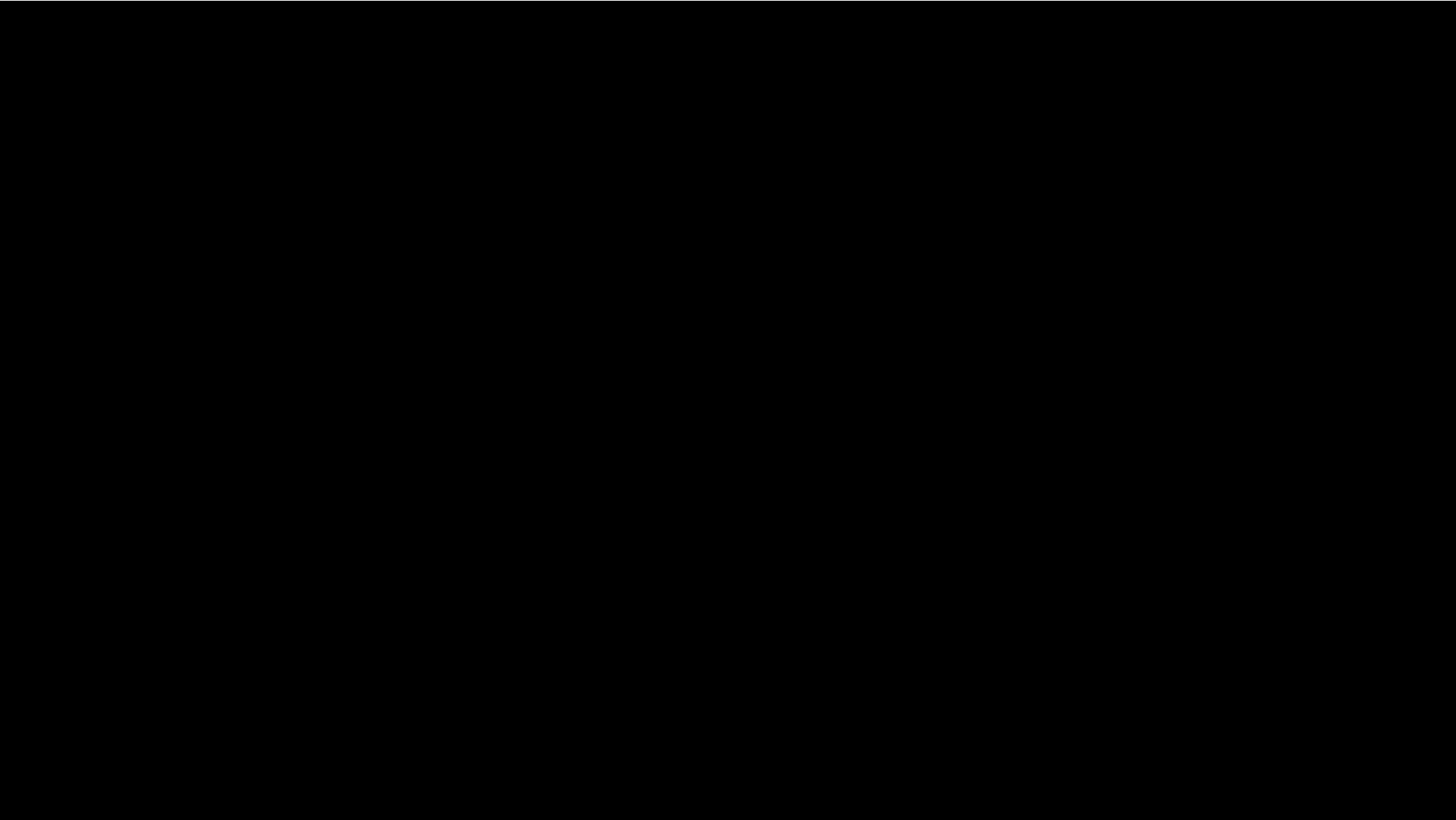


Concurso internacional

- Alunos propõe e realizam experiêcncia no beamline T9
- Processo de avaliação por painel científico
- Em 2016:
 - 151 equipas
 - 1260 alunos
 - $\frac{1}{3}$ raparigas
 - $\frac{1}{3}$ estados não-membros
 - 2 equipas vencedoras

Assegurar a “marca” CERN

Design and Visual Identity Service



Imagens valem mil palavras

Audiovisual Production Service



Quem somos? (Quantos)



Onde podemos melhorar?

Dêem-nos as vossas opiniões como professores e cidadãos



www.cern.ch