

CERN

European Organization for Nuclear Research

Organisation Européenne pour la Recherche Nucléaire

We invented the Web.
20 years later we got Drupal.

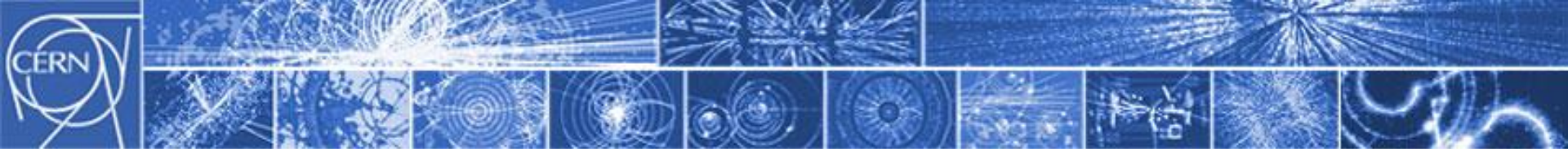
CERN's perspective on adopting Drupal
as a platform.

DrupalCon, London 2011



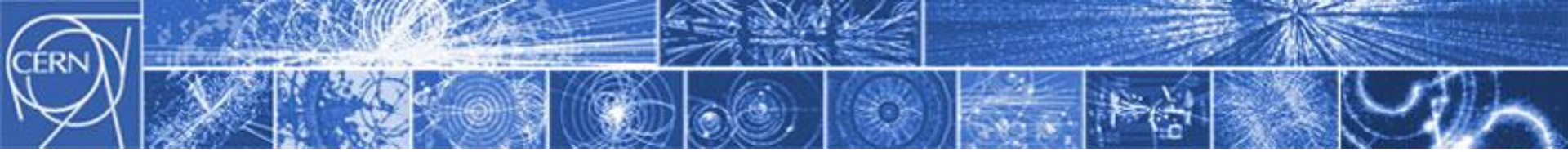
Cath Noble, CERN | Nicolas Bocquet, Linalis



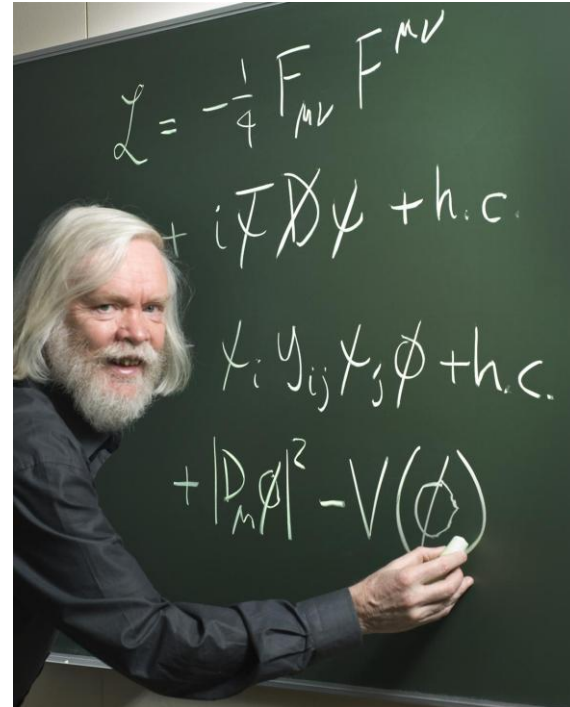


Today we'll look at....

- What is CERN?
- Challenges of the web at CERN
- Why Drupal
- Where are we now?
- Where are we going?

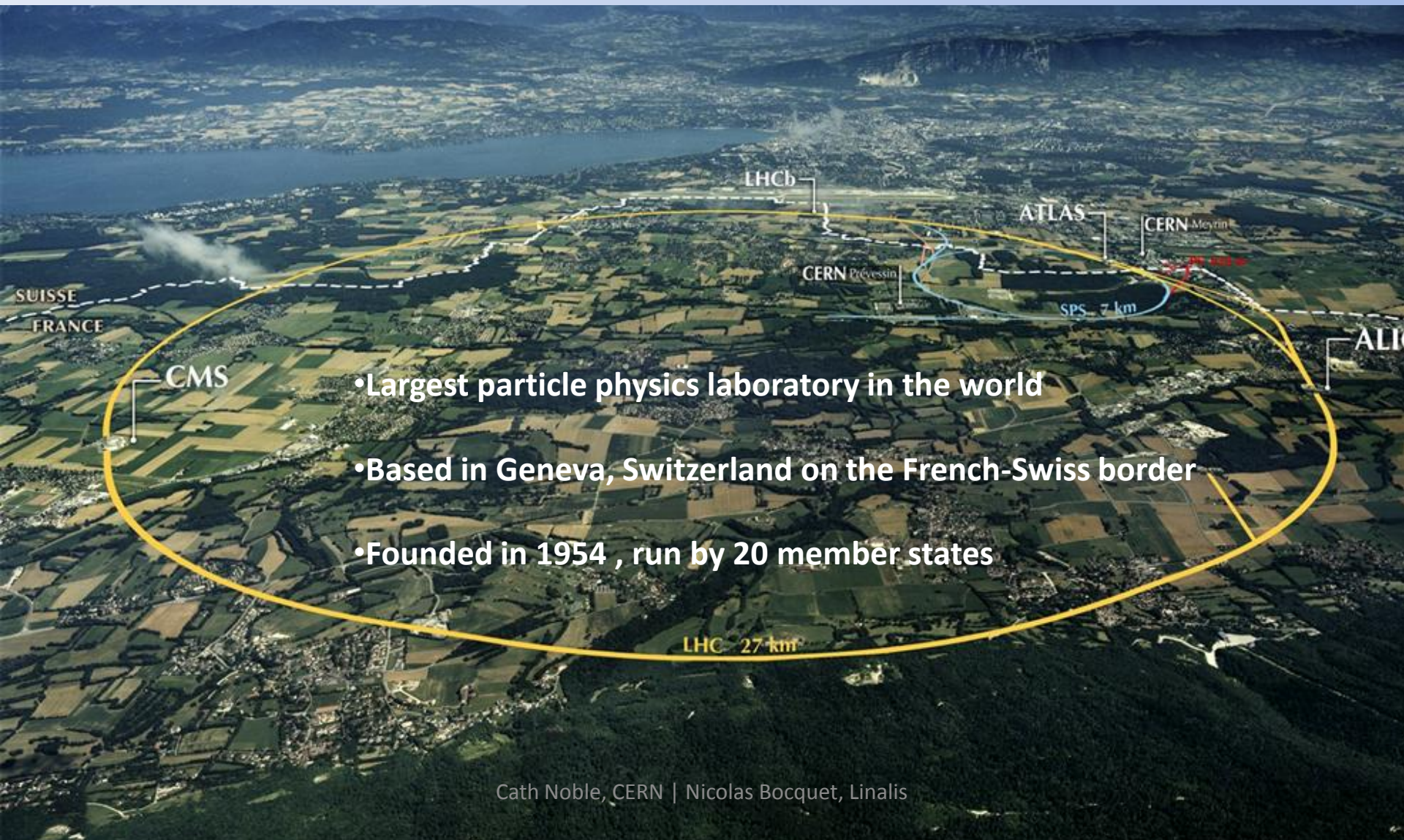


WHAT IS CERN?

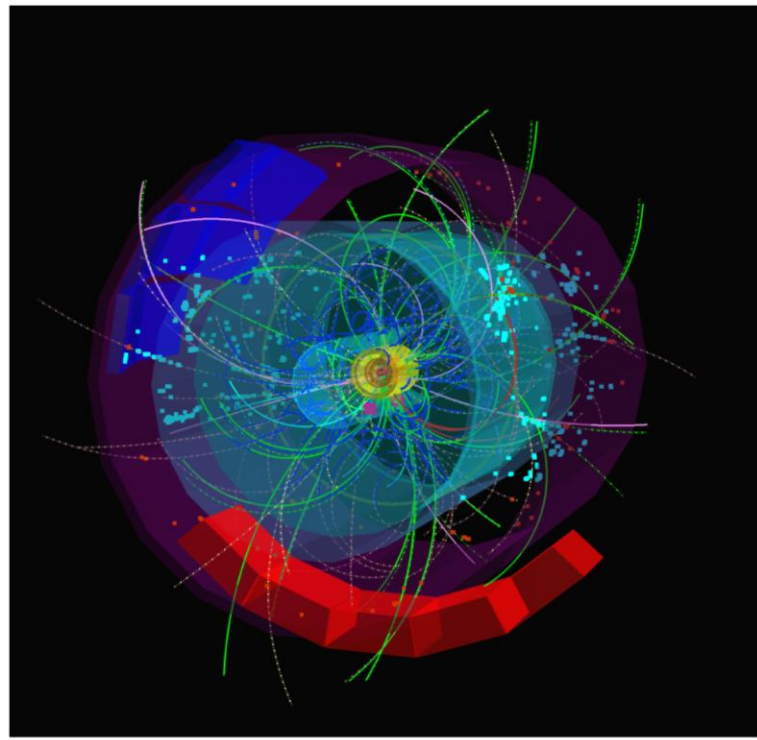
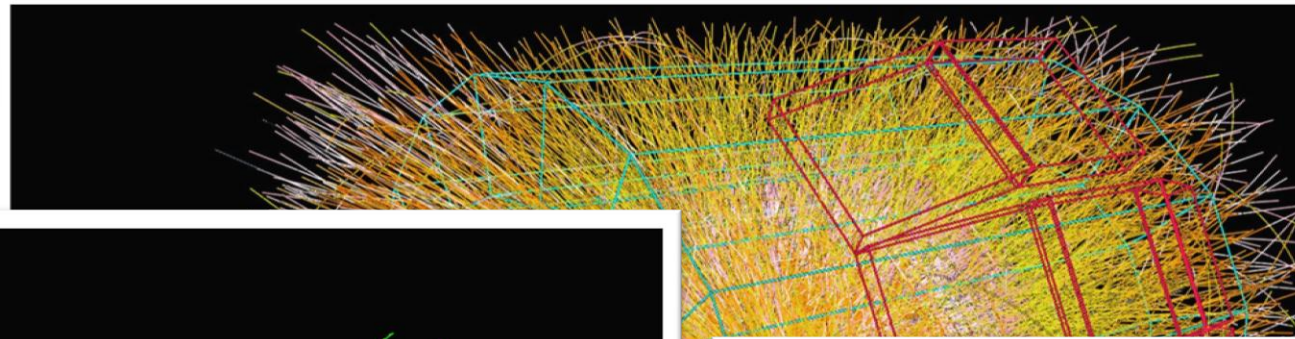
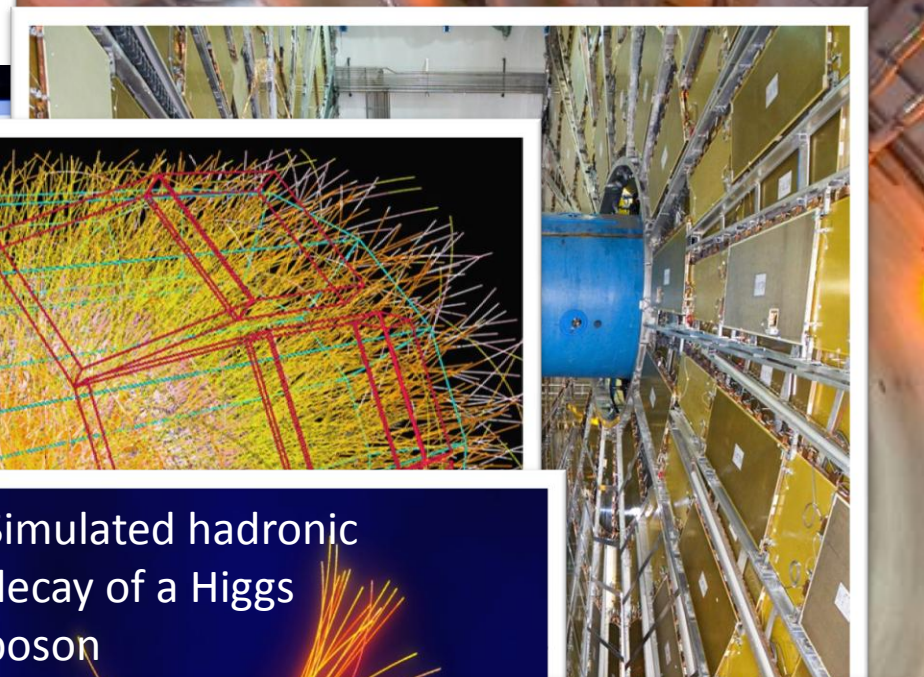
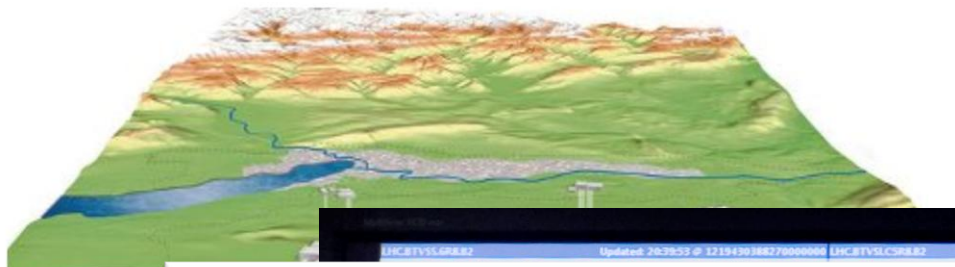




European Organisation for Nuclear Research



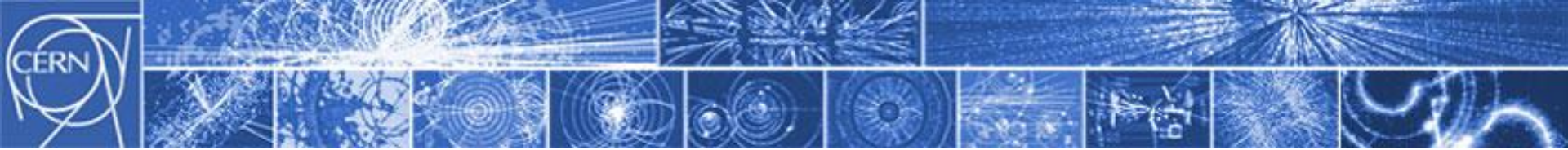
- Largest particle physics laboratory in the world
- Based in Geneva, Switzerland on the French-Swiss border
- Founded in 1954 , run by 20 member states



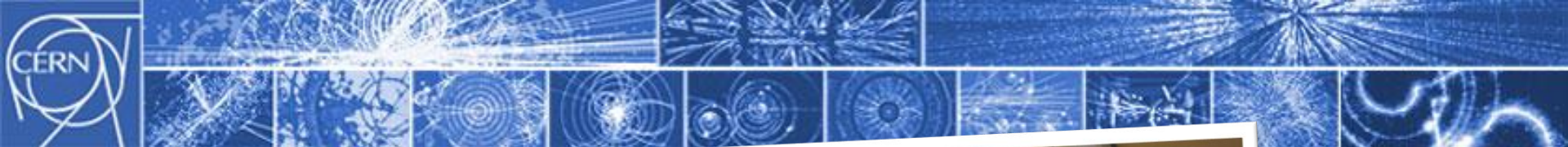
Simulated hadronic
decay of a Higgs
boson



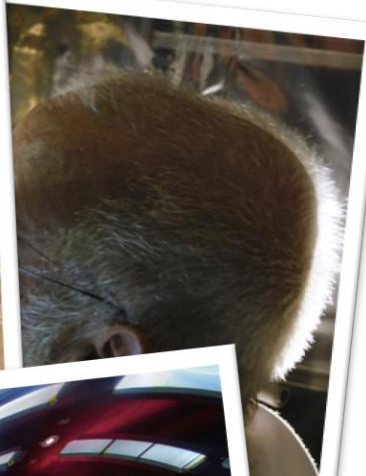
Large Hadron Collider



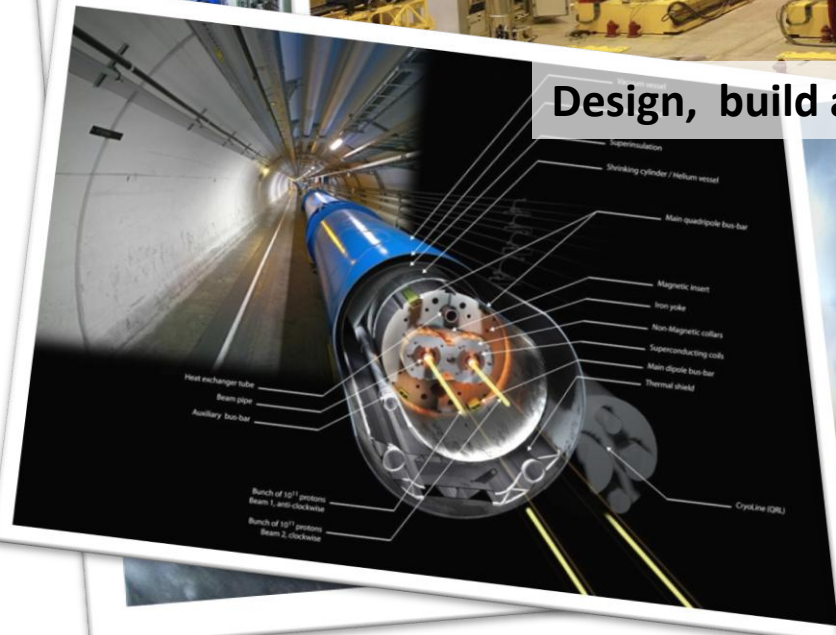
CERN IS MORE THAN PHYSICS...

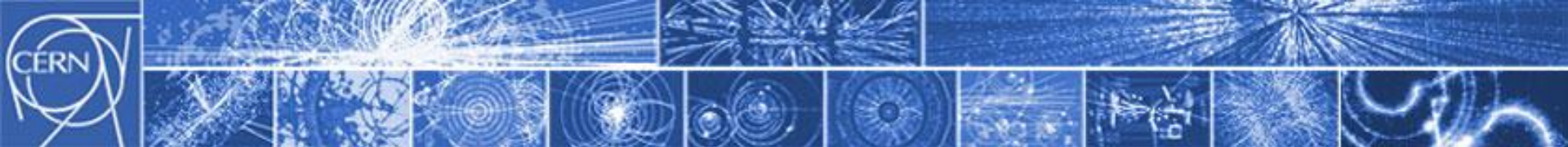


Coldest place



Design, build and test...





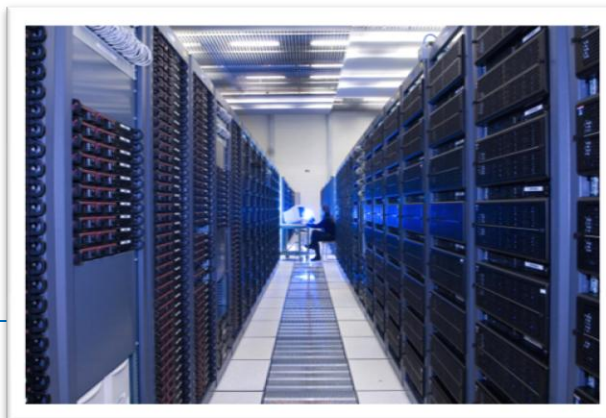
Computing

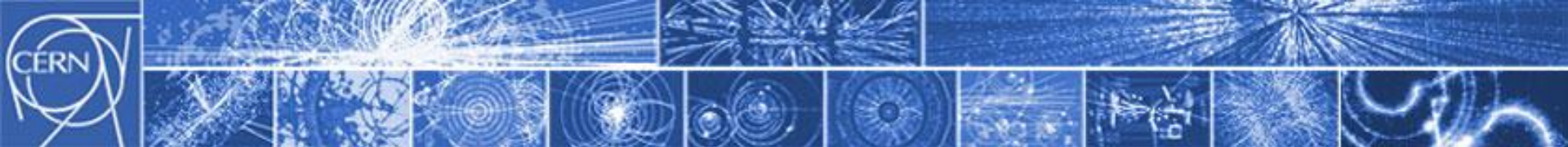


WLCG
Worldwide LHC Computing Grid



- Industry collaboration with HP, Intel, Oracle, Siemens
- Early access to technologies years from the general computing market
- Pushing new technologies to their limits and testing ground for high performance computing





CERN Computer Centre

Service information

full name: **Computer Centre By Numbers**

short name: CCBYNUM

group: IT-CF-FPP

site: CERN

email: 

manager: 

Service availability [\(more\)](#)

availability: 

percentage: 100%

status: **available**

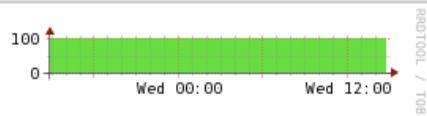
last update: 14:40:42, 17 Aug 2011
(4 minutes ago)

expires after: 1440 minutes



rss feed with status
changes

availability in the last 24 hours [\(more\)](#):



Additional service information [\(more\)](#)

Number of processors: 15,047

Number of cores: 62,328

Memory capacity (TiB): 154

Memory modules: 53,920

Raw HDD capacity (TiB): 62,782

Number of HDD's: 62,743

Number of systems: 11,873

Number of RAID controllers: 3,633

Number of enclosures: 1,558

SPEC CPU2006: 467,069

Number of racks: 813

Number of virtual machines: 2,375

Number of Fibre channel ports: 740

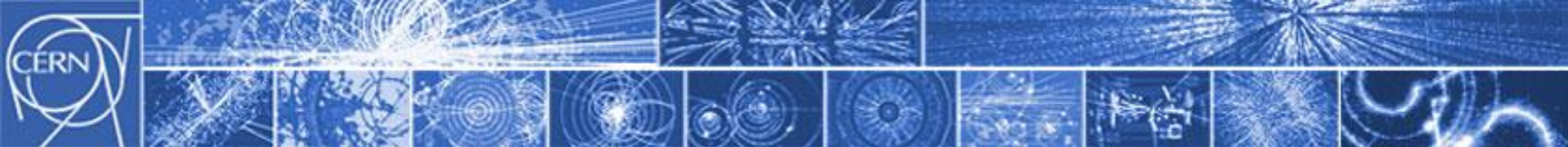
Number of 1G ports: 16,452

Number of 10G ports: 556

Current power consumption (kW): 2,311

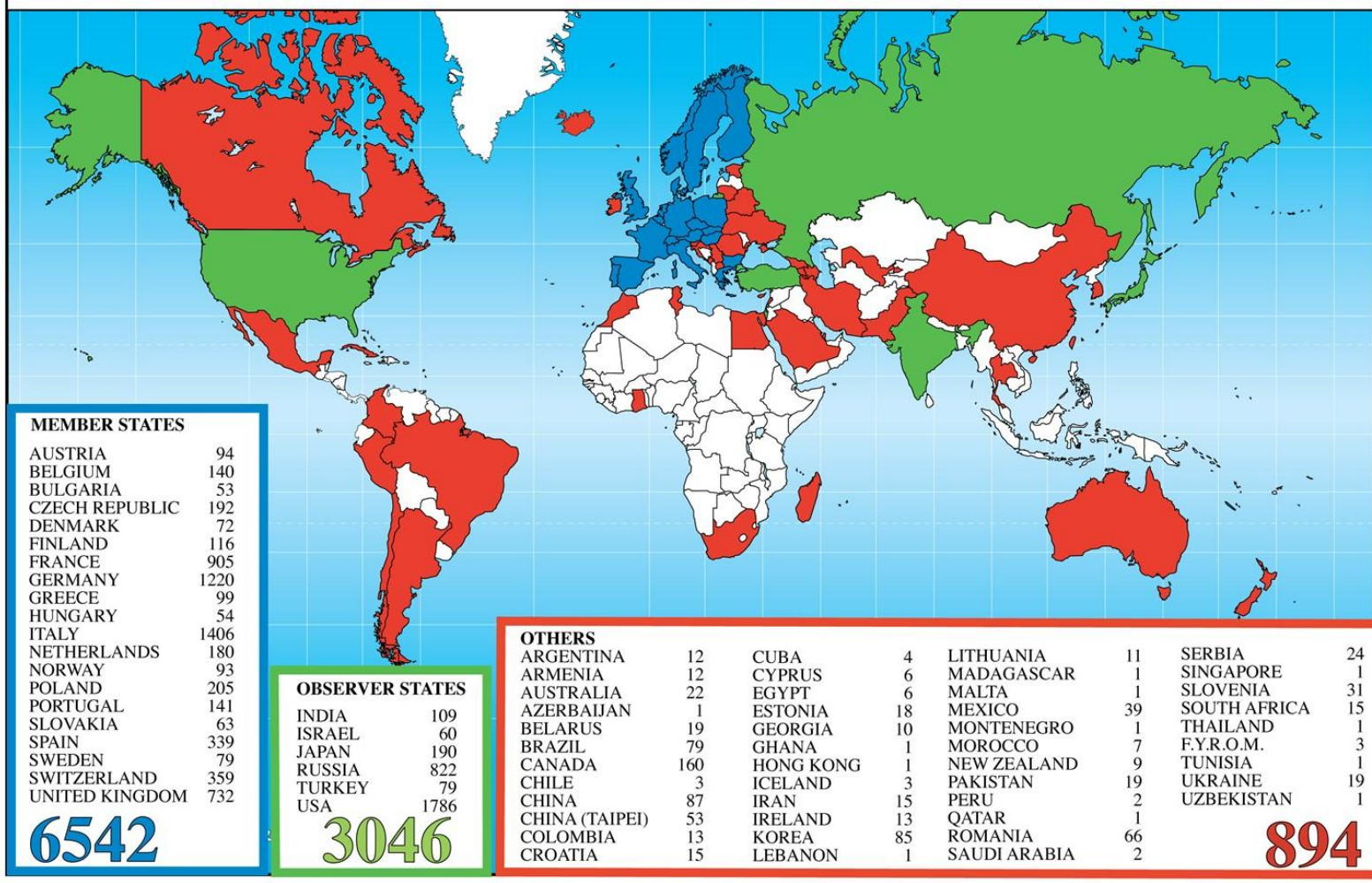
Current power consumption (kVA): 2,436

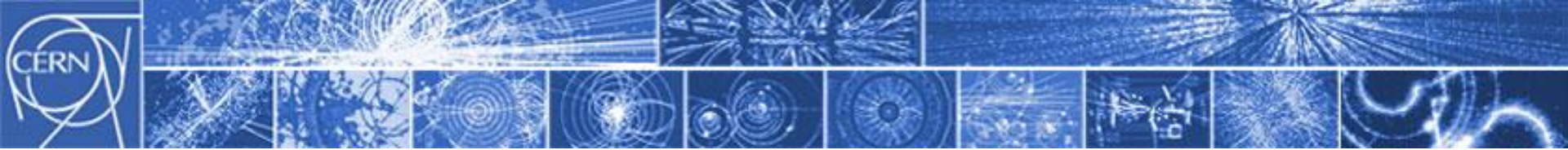




Community collaboration on an international scale

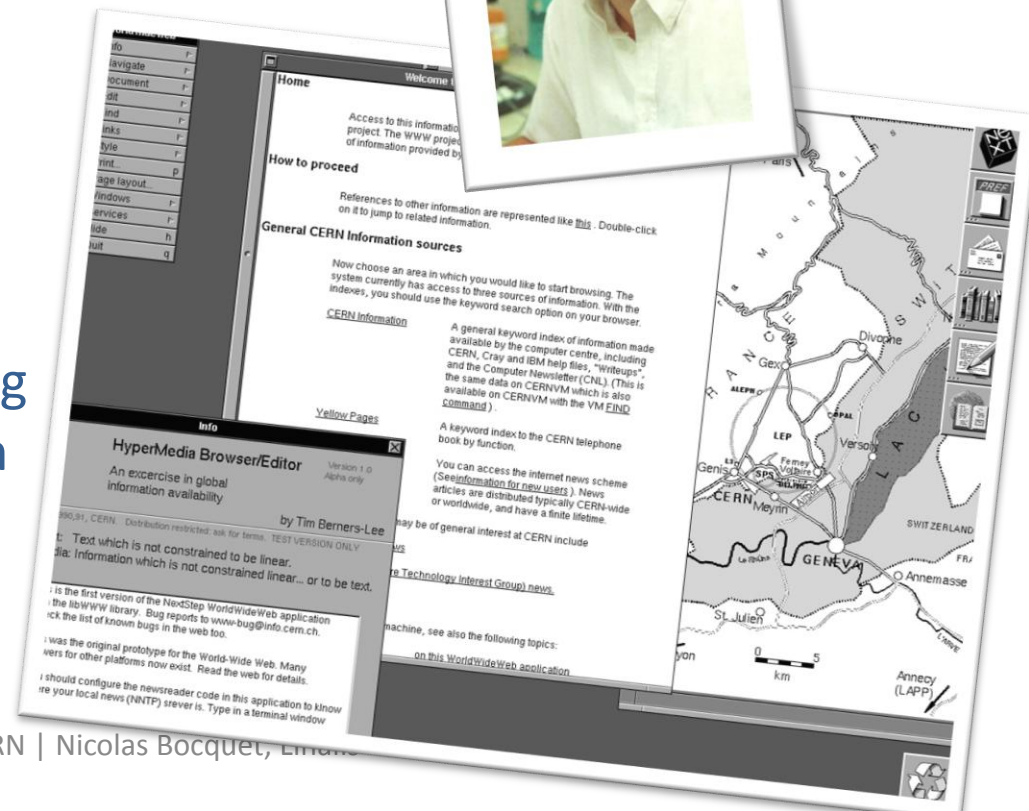
Distribution of All CERN Users by Nation of Institute on 27 June 2011

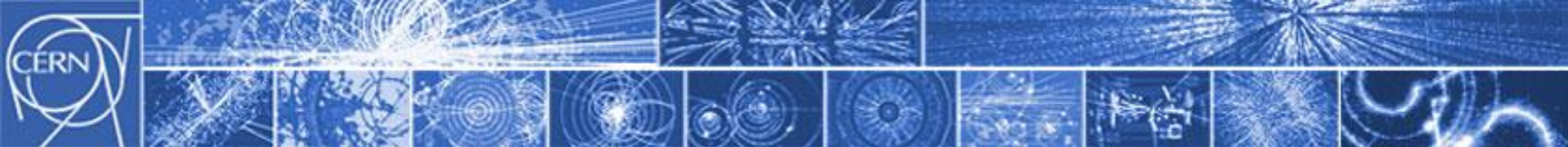




Home of the World Wide Web

- Tim Berners-Lee, a scientist at CERN, invented the World Wide Web (WWW) in 1989.
- The Web was originally conceived and developed to meet the demand for automatic information sharing between scientists working in different universities and institutes all over the world.





Vague but exciting ...

CERN DD/OC

Tim Berners-Lee, CERN/DD

Information Management: A Proposal

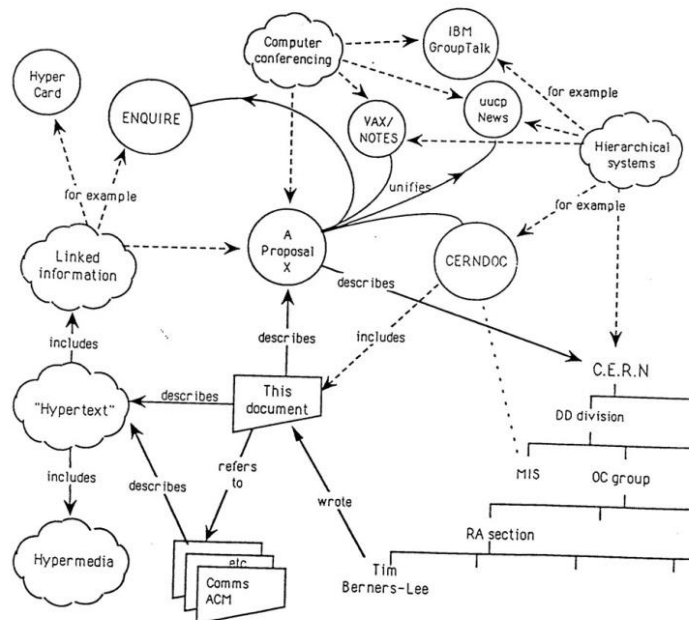
March 1989

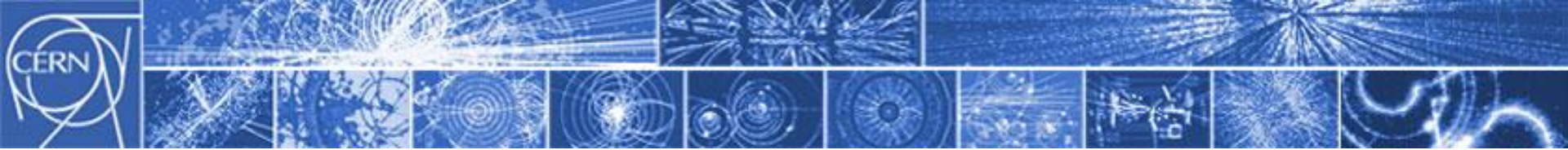
Information Management: A Proposal

Abstract

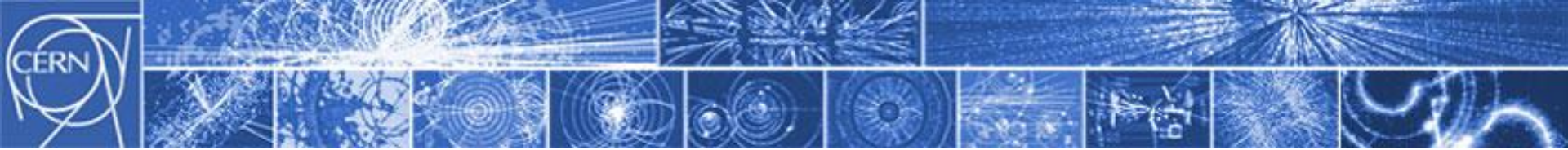
This proposal concerns the management of general information about accelerators and experiments at CERN. It discusses the problems of loss of information about complex evolving systems and derives a solution based on a distributed hypertext system.

Keywords: Hypertext, Computer conferencing, Document retrieval, Information management, Project control



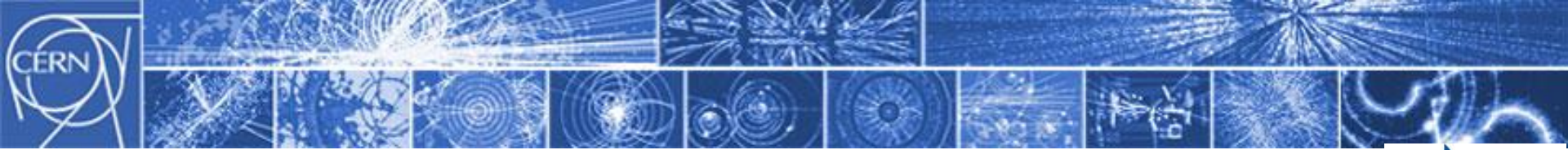


CHALLENGES OF THE WEB AT CERN



Challenges of the web at CERN -1

- All the things that CERN is... also create some of its biggest challenges
- Over the last decade the CERN website has broken the news of **some of the most globally significant scientific breakthroughs of the modern era.**
 - In that time our websites has grown and evolved as new departments, discoveries and experiments have taken form.
- Lot of **incredible** content created but
 - Inconsistencies
 - Duplication or out-of-date



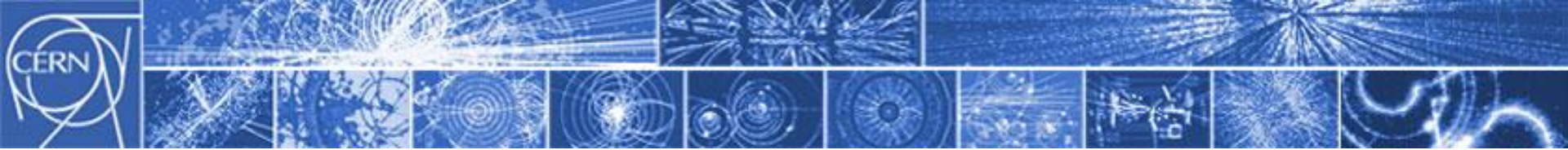
Challenge - International collaboration

- CERN is a **complicated place**.
 - Multi-cultural, multi-lingual
 - People who work here but are employed by another institution.
 - Huge, multinational collaborations that are **entities in their own right** that operate at CERN.
 - ALICE, ATLAS, CMS, LHCb, openlab, UNOSAT
 - At CERN, associated with CERN, use CERN services, but not of CERN
 - Distinct departments, services, applications that have their own 'brand'
 - Eg. AIS, their bespoke applications



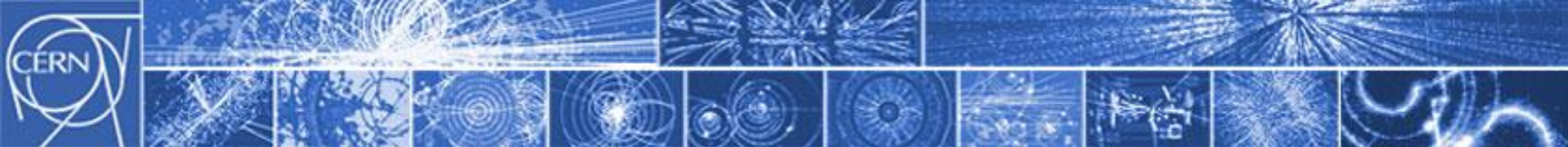
unitar

United Nations Institute for Training and Research



Challenge – academic freedom




- **Anyone based at CERN can create their own website(s) without any central control from CERN**
- Undesirable and almost impossible to police content or branding within the cern.ch domain
- Security risks!
- Host ~10,500 websites under cern.ch

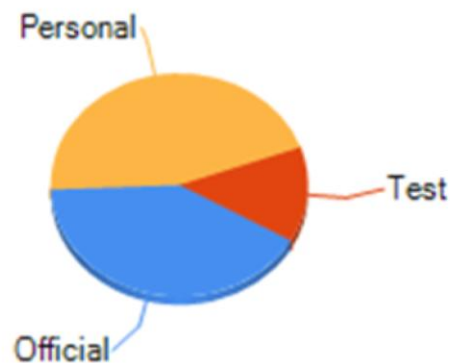


Web Site Statistics (Updated on 2011-08-16 14:20:41)










[Show details](#)

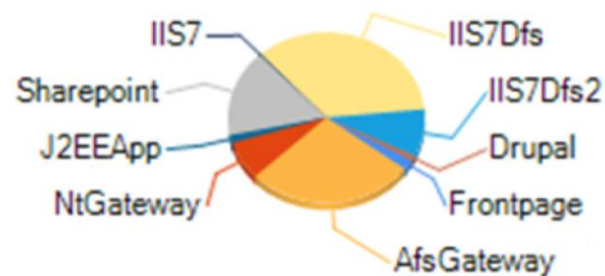
Website Categories

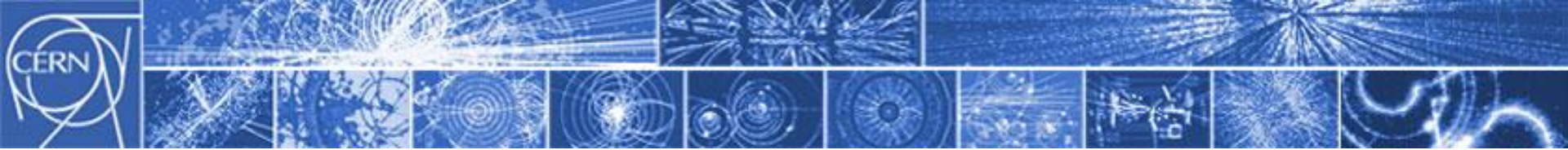
Name	Color	Total
Official		4328
Personal		4766
Test		1458
Total		10552



Website Types

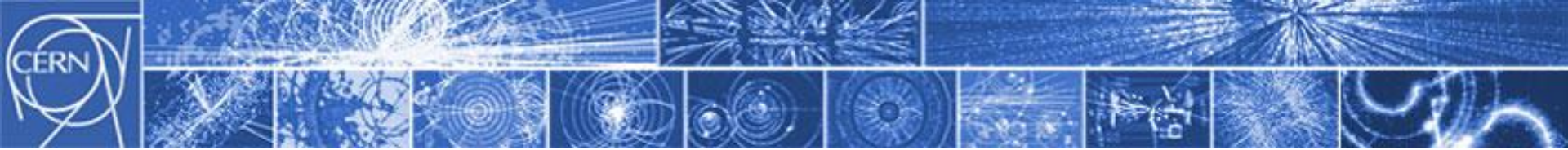
Name	Color	Total
Frontpage		207
AfsGateway		2906
NtGateway		779
J2EEApp		154
Sharepoint		1733
IIS7		24
IIS7Dfs		3707
IIS7Dfs2		943
Drupal		99
Total		10552





648,955 people in 228 countries* speaking 181 languages power Drupal.

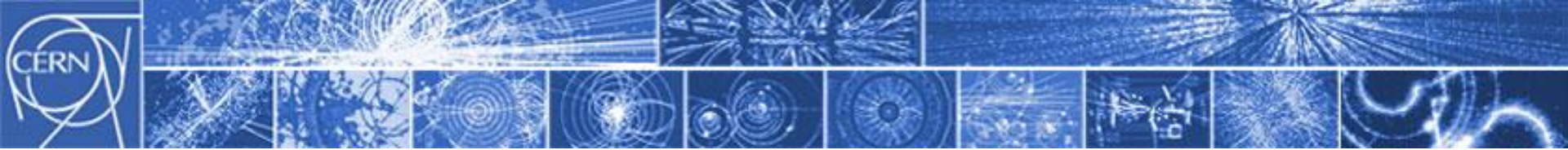
WHY DRUPAL?



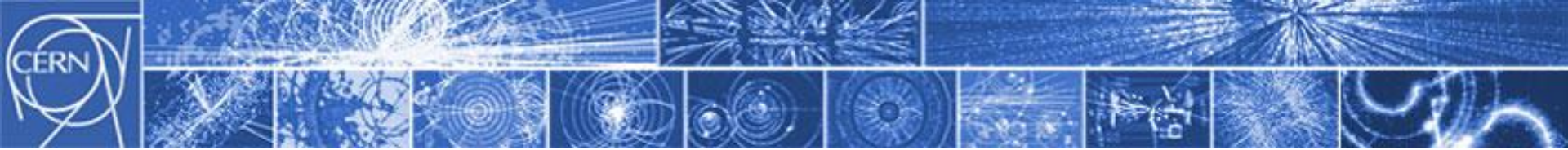
Why Drupal?



- CERN always offered two solutions:
 - **SIMPLE:** out-of the box offering for people with little/no programming desire/experience -> Sharepoint Collaboration
 - **COMPLEX:** for programming ninjas -> .NET, java, C#
- But **no middle ground** for people with some technical competence but who don't want to get involved in a programming environment.
- **Wanted:**
 - A programmable, customizable infrastructure
 - Doesn't require expertise
 - Known, tried and tested
- With Drupal...
 - Provides acceptable middle-ground tool that can be supported as a service by CERN
 - Minimises our exposure to web-induced risk
 - We get a standardised technology with a massive community support

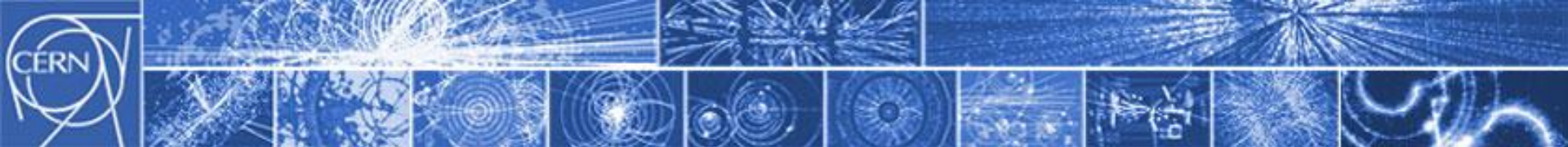


WHERE ARE WE NOW?



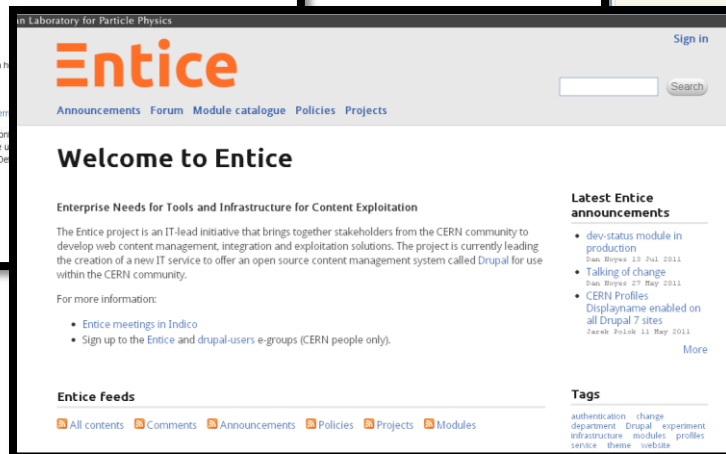
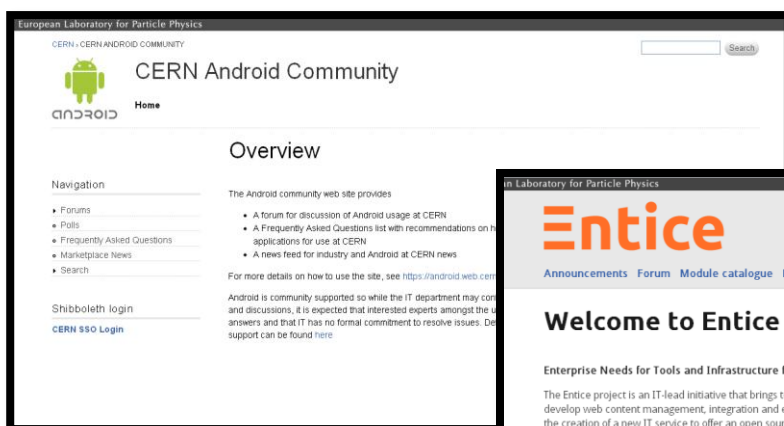
Where are we now?

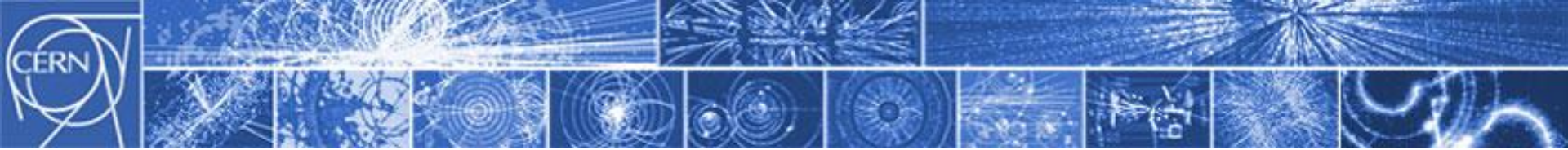
- Drupal 7 early Adopter
- Consolidated official support for SharePoint and Drupal
 - SharePoint for Collaboration
 - **Providing Drupal as a Platform As A Service (PAAS)**
- Real services provided by IT for internal users
 - Reduction exposure to security risks
 - No Administrative task to end-Users
 - Base theme provided (CERN_default), ready for subtheming
- Drupal Module Management
 - Internal Central Repository
 - Authoring our own modules
 - Shibboleth id, modules to interface with our bespoke applications



...Where are we now?

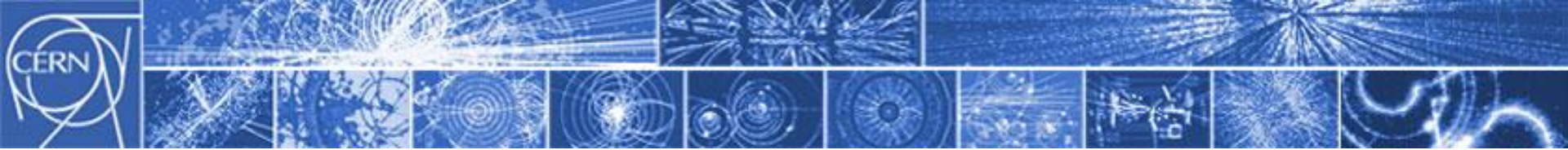
- On the ground...
 - ~100 sites built using Drupal
 - Expect around 200 by end of the year, growing more and more popular



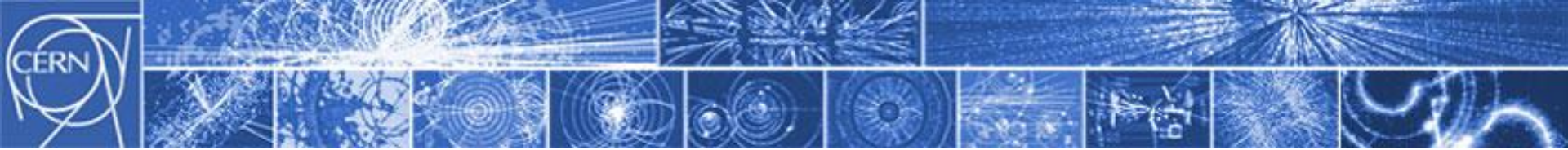


...Where are we now?

- Working with commercial partners:
 - Initial consultation with ZIVTECH to help us set up Drupal environment
 - MARK BOULTON DESIGN working on re-design of CERN website
 - Staff Drupal training in conjunction with LINALIS
 - Through LINALIS, CERN has access to ACQUIA's high-level consultation and support

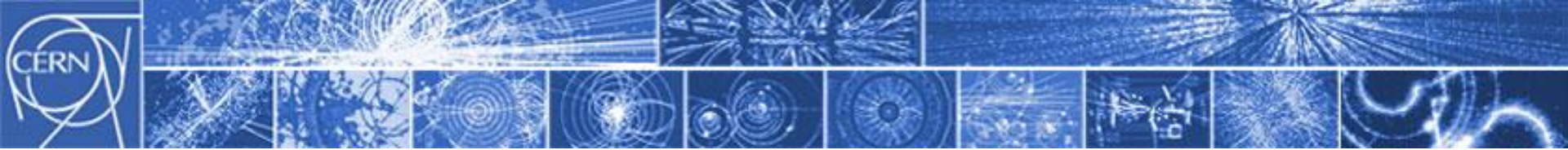


WHERE ARE WE GOING?



Where are we going?

- Official CERN website will be moving to Drupal
- Training program established for interested people at CERN
- Confirming our active presence in the Drupal community
 - Contributing to module development and fixes
 - Large-scale bespoke measures could be released to the community in the future
- Drupal Support team is well-established and well-experienced now in managing the Drupal service
 - Almost 2 years involvement in background set-up and testing for CERN



Thank you for listening!

Any Questions?

CERN

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Linalis

Nicolas Bocquet

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Drupal™ Business Summit

Geneva



Drupal Business Summit

in Spring 2012 at CERN, Geneva

The CERN Drupal Business Summit will provide a platform for those on the business side of Drupal. Attendees expected: NGO, business owners, project managers & directors, marketing and social media, graphic design.

What's in it for you ? An understanding of how other organizations have been leveraging Drupal, new connections with peers and industry experts get knowledge of how other businesses evaluated Drupal solutions, and insight from actual peers on what to expect when undergoing an enterprise-level implementation, hearing use cases from actual adopters of Drupal.

For further information, please get in touch with us at info@linalis.com !

CATH NOBLE, CERN | NICOLAS BOCQUET, LINALIS