

How Many Marriages Last 10 Years? A tale of Industrial Relations for Accelerator and Experiment Controls at CERN

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CERN openlab in a nutshell

- A science – industry partnership to drive R&D and innovation
- Started in 2002, now in 10th year
- Evaluates state-of-the-art technologies in a very complex environment and improves them
- Test in a research environment today what will be used in industry tomorrow
- Training, Dissemination and Outreach



PARTNERS



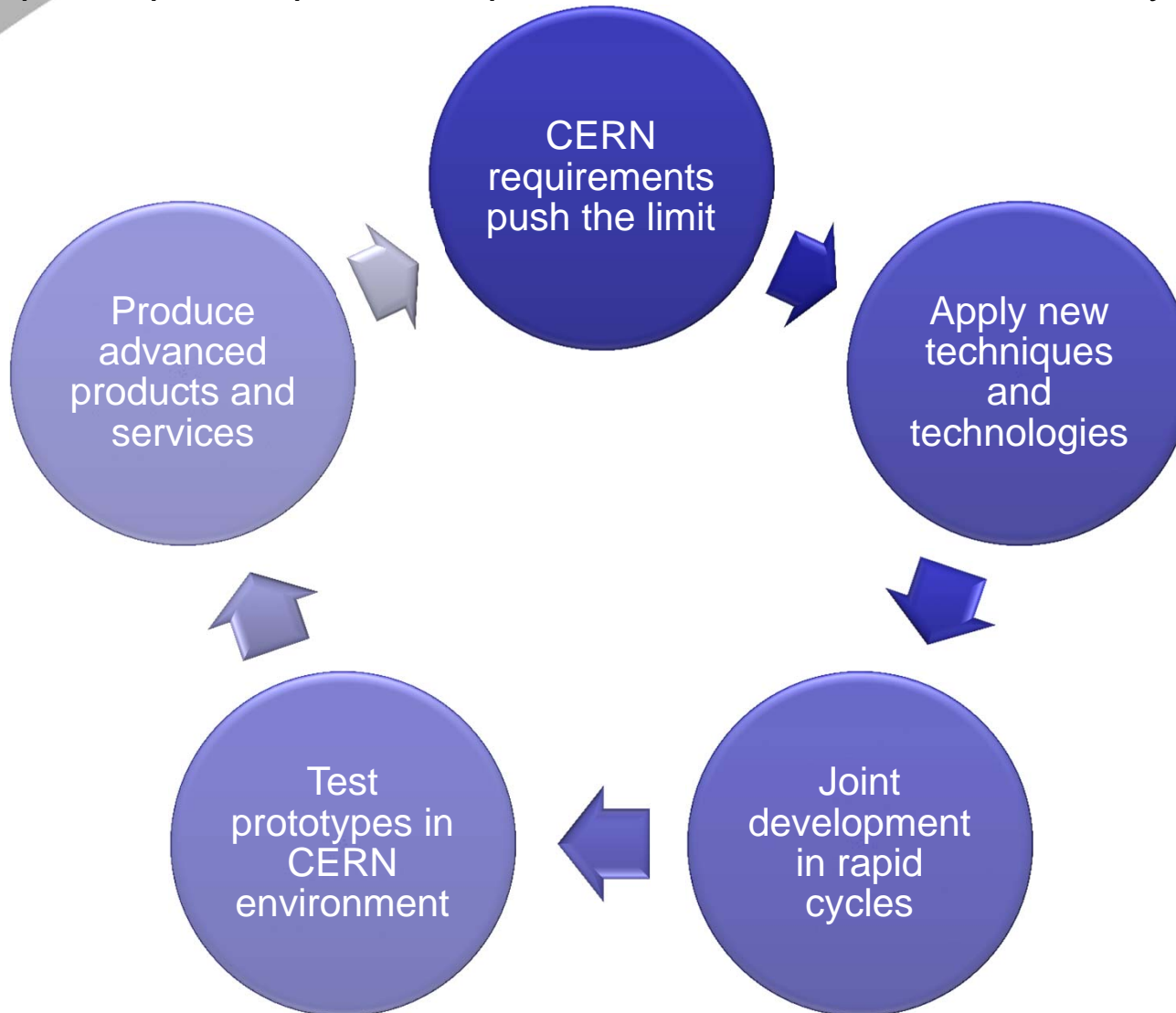
CONTRIBUTOR (2012)



Virtuous Cycle



A public-private partnership between the research community and industry



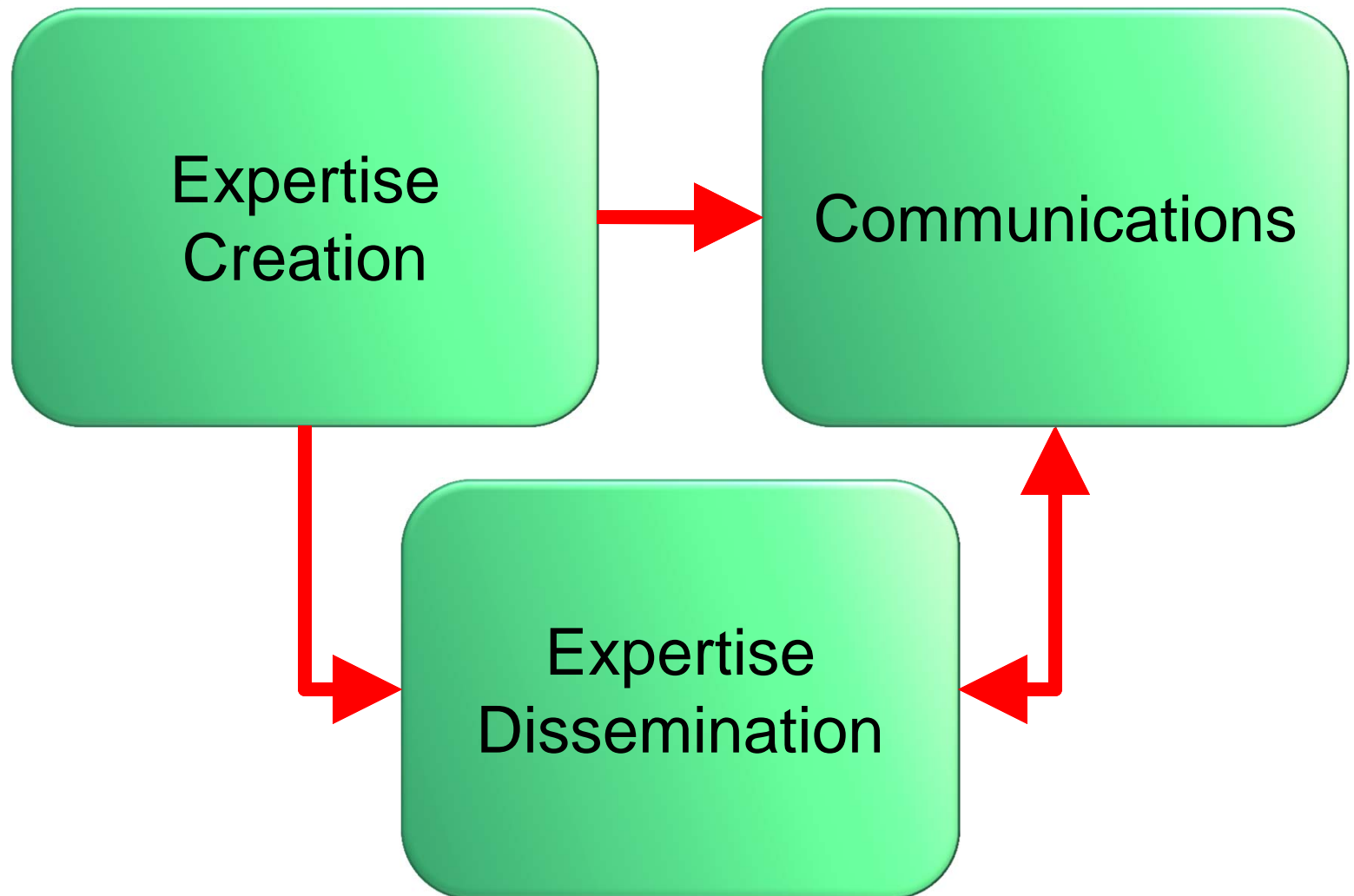
- **From Partners / Contributors**
 - Mix of
 - in cash for hiring young personnel
 - in kind for carrying out R&D activities

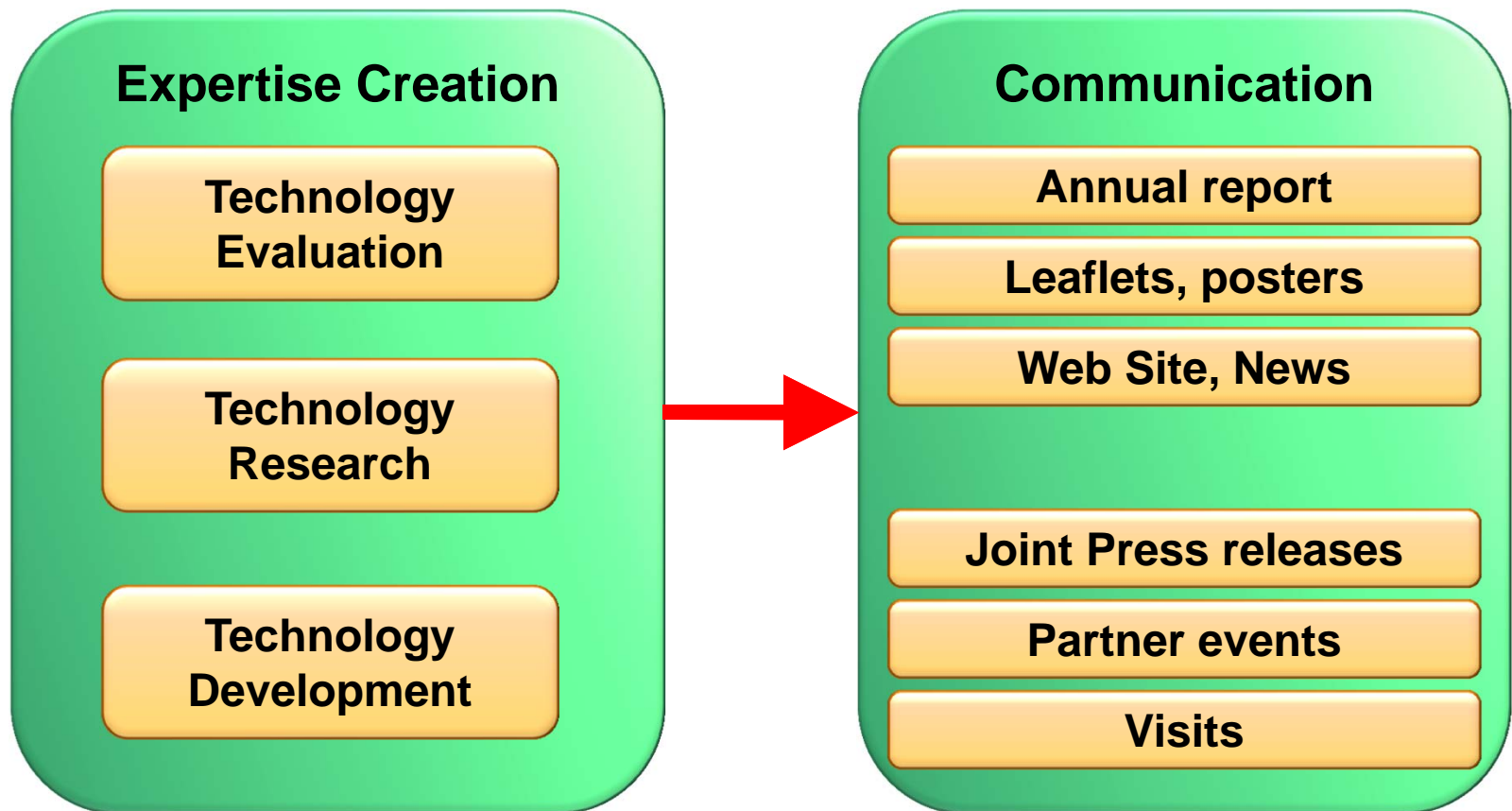


- From Partners
- From CERN
 - Technical environment
 - Technical manpower
 - Technical supervision
 - Management resources
 - Communication resources



The three openlab dimensions







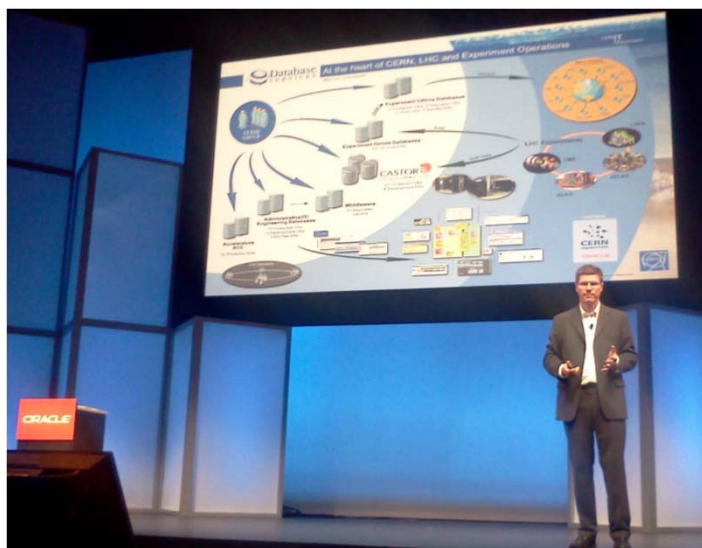
Communication

Intel Developer Forum, San Francisco, Sept. 2011

IDF 2011
Justin Rattner

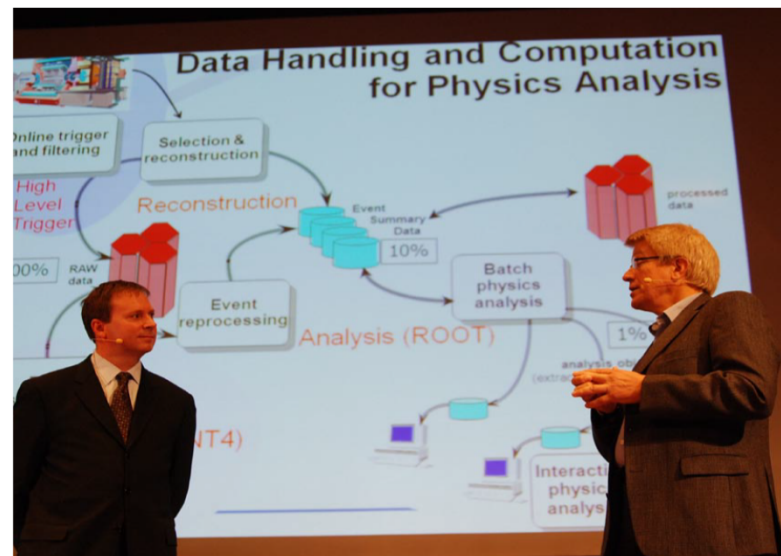


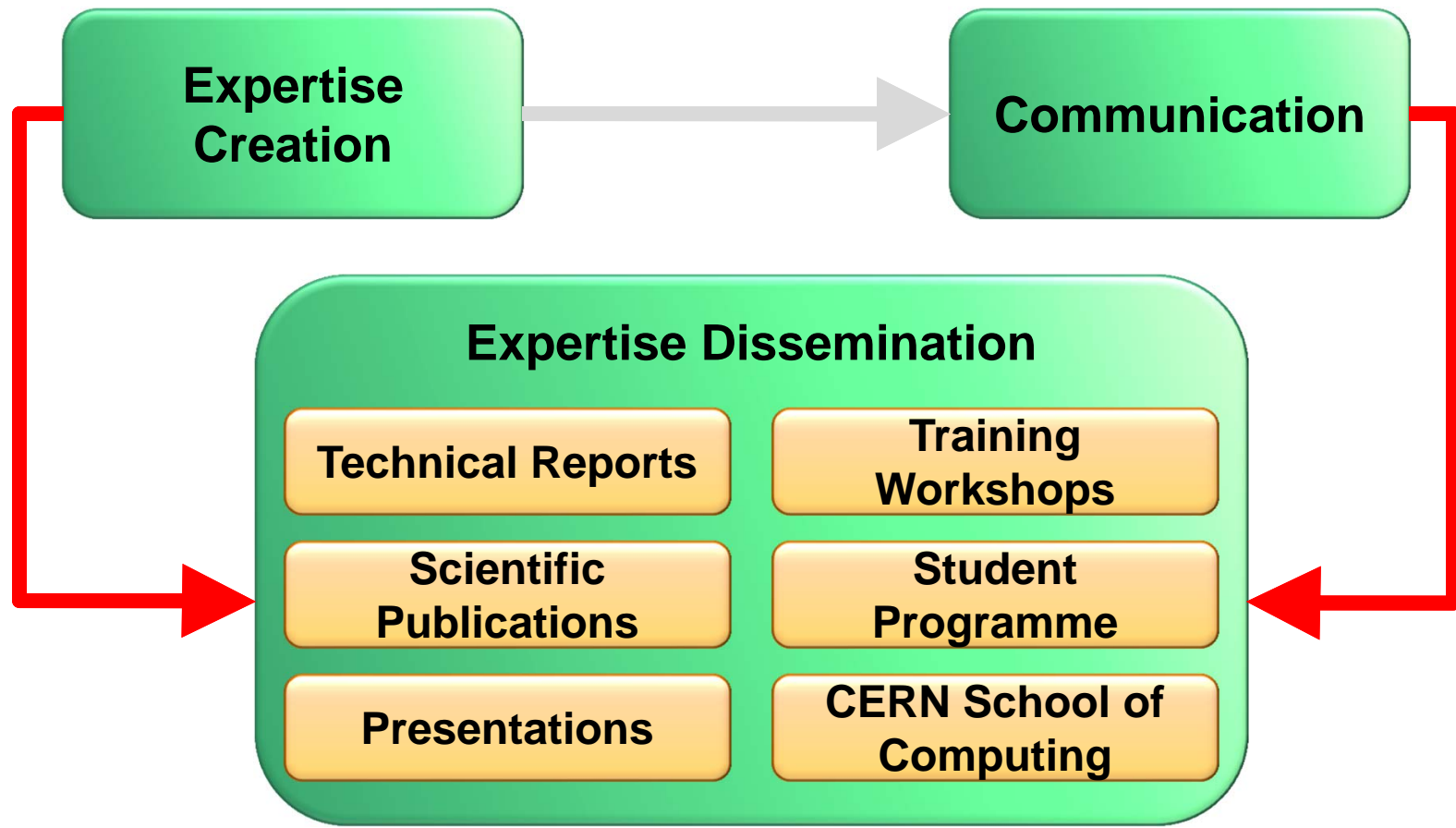
http://intelstudios.edgesuite.net/idf/2011/sf/keynote/110915_jr/110915_jr_fl/index.htm



Oracle Open World, San Francisco, Oct 2011

International Super Computing, Hamburg, May 2011

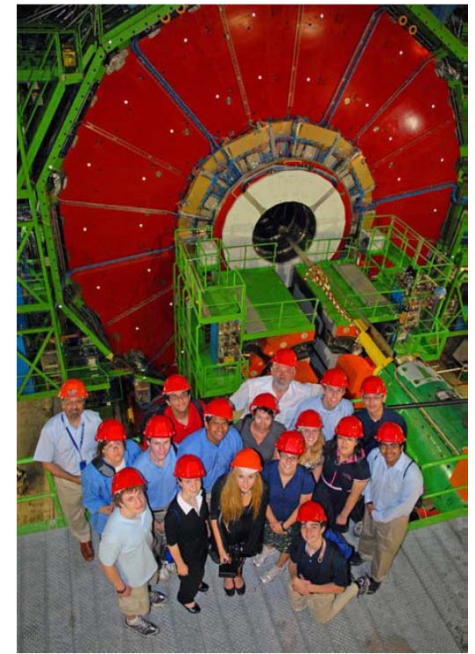


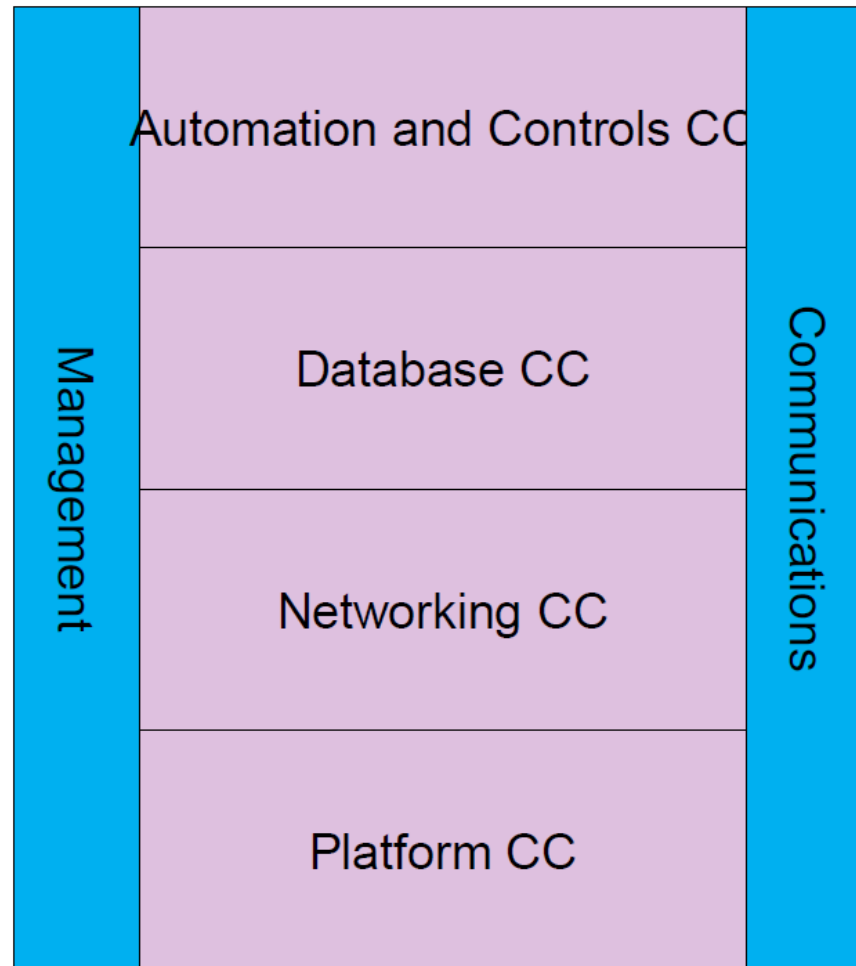


Summer student programme



Intel ISEF students
visiting CMS experiment



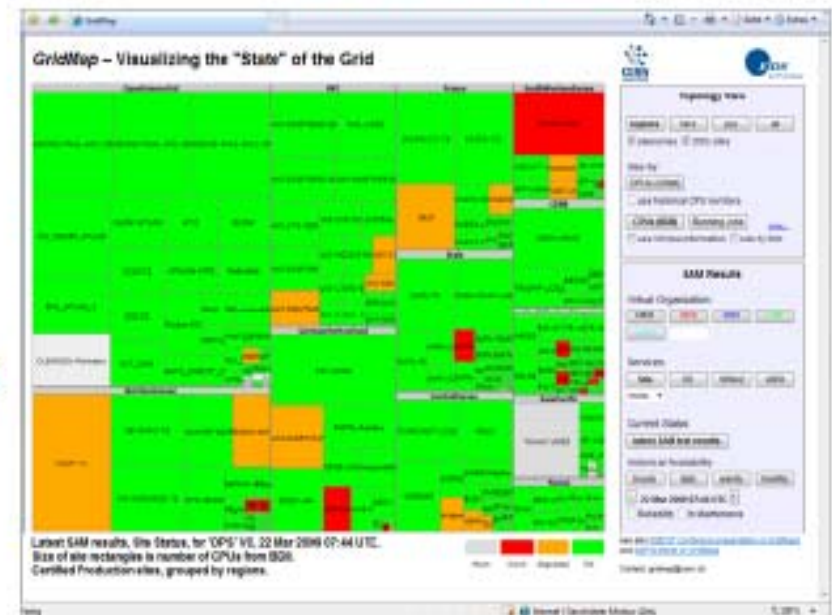


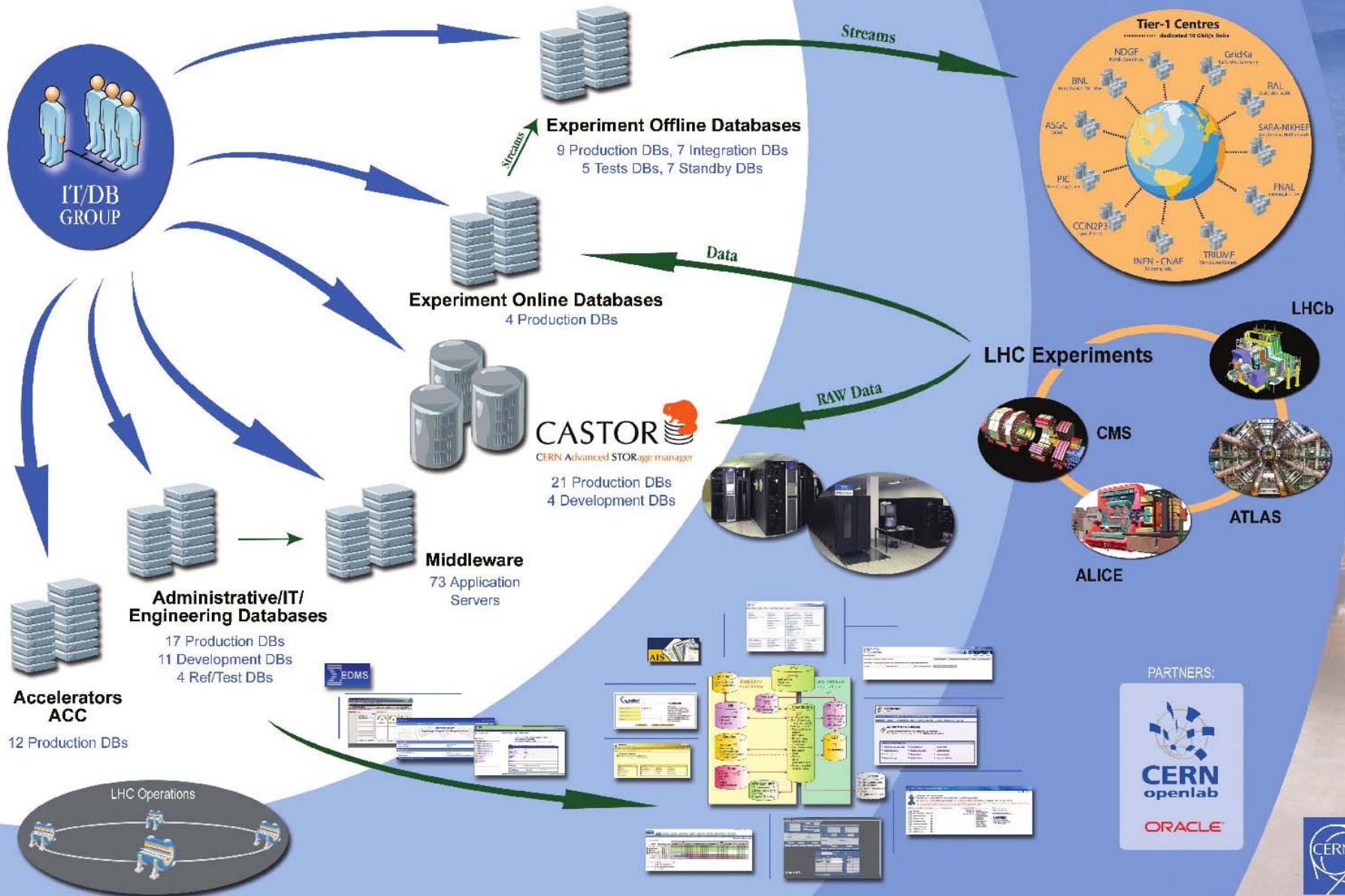
GridMap

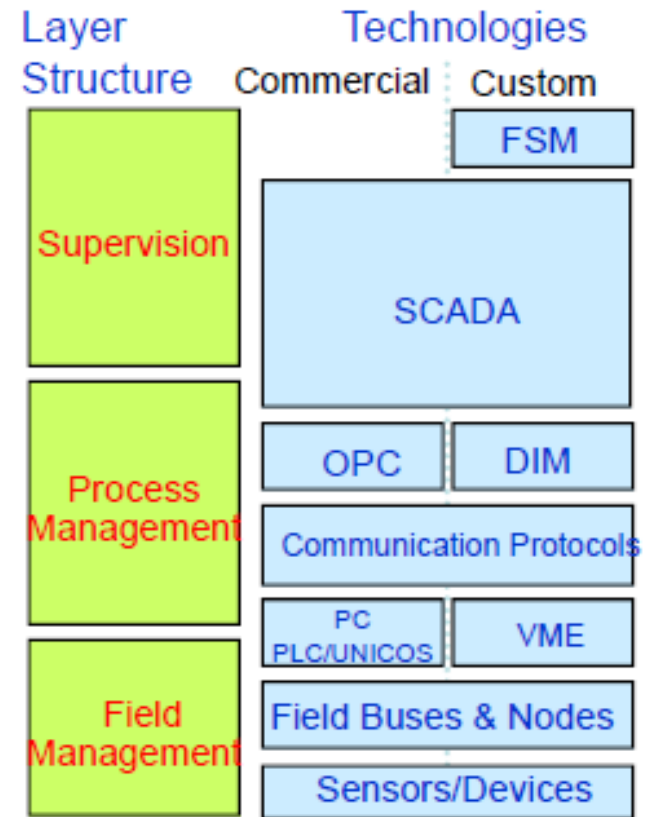
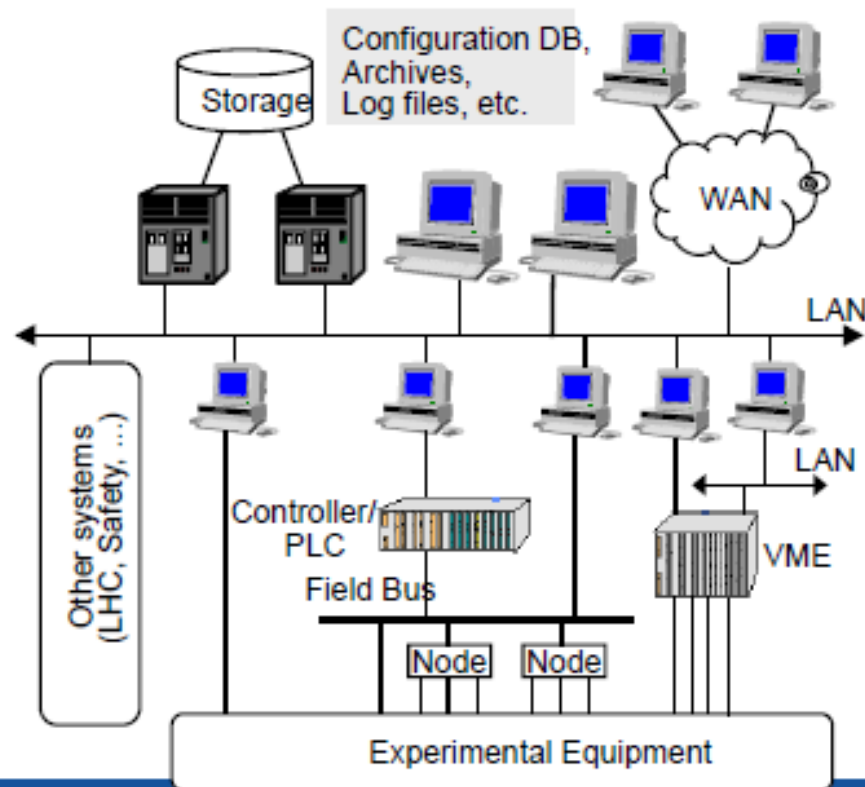
- Interactive new monitoring visualization of the Grid
 - Introduced at EGEE'07 (Oct'07), v2 in Feb'08, v3 in Mar'09
 - Visual correlation of *importance* and *availability status*
 - Top-level live management views of EGEE and WLCG grids
 - Integrated with OSG sites

<http://gridmap.cern.ch>

- Used in production by CERN to help manage the Grid
- Technology is reused for other applications at CERN and EDS
- Influential in other communities e.g. D4science project







Why are we at Openlab ?

Our commitment to Innovation

- CERNOpenlab is an innovative IT high-tech lab
- Can help us to investigate and implement new technology
- Going to become another valuable partner in the global R&D-Network

Siemens products ... here at CERN !

PVSS[®]

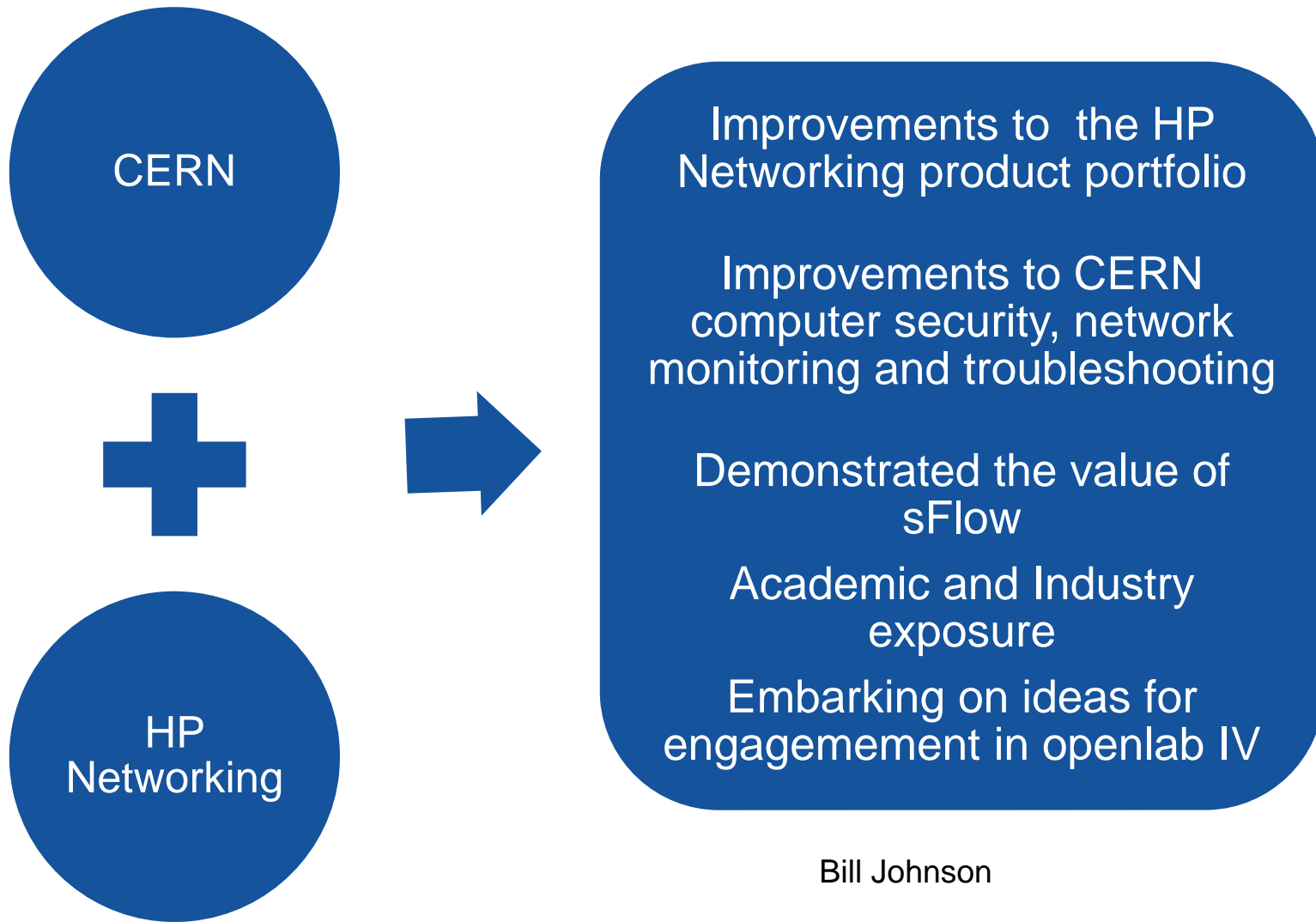


- Hundreds of S7 PLCs and PvSS SCADA Systems
- A very large scale application, we can learn from
- An excellent reference system
- We're eager to see LHC be restarted and running

SIMATIC S7



CERN/HP – A Successful Collaboration



Bill Johnson

Sr. Director HPN Research and Development



openlab recipe – key ingredients

- The extreme demands from CERN's scientific programme
- The alignment of goals between partners
- Trust
- Young researchers with their talents, expertise and energy
- Efficient and lightweight structure
- Regular checkpoints/reviews
- Outreach/communications

- CERN openlab activity is decoupled from CERN's procurement process for goods and services
- Non Disclosure Agreements (NDR) signed by CERN
- A separate collaboration agreement is signed between CERN and each partner/contributor

- A separate collaboration agreement is signed between CERN and each partner
 - Covers scope of work and commitments of resources by each party
 - Flexibility to deal with specific IPR on a case-by-case basis but within the standard rules and practices at CERN

- A win-win public-private partnership between research and industry
- Proven track record of success for partner companies and CERN
- Excellent future prospects
 - CERN's ambitious scientific programme
 - Greater use of commercial components