Spokesperson Election

For the Term Sep 2016 – Sep 2018

Prof. Dr. Kerstin Borras
DESY, RWTH Aachen University

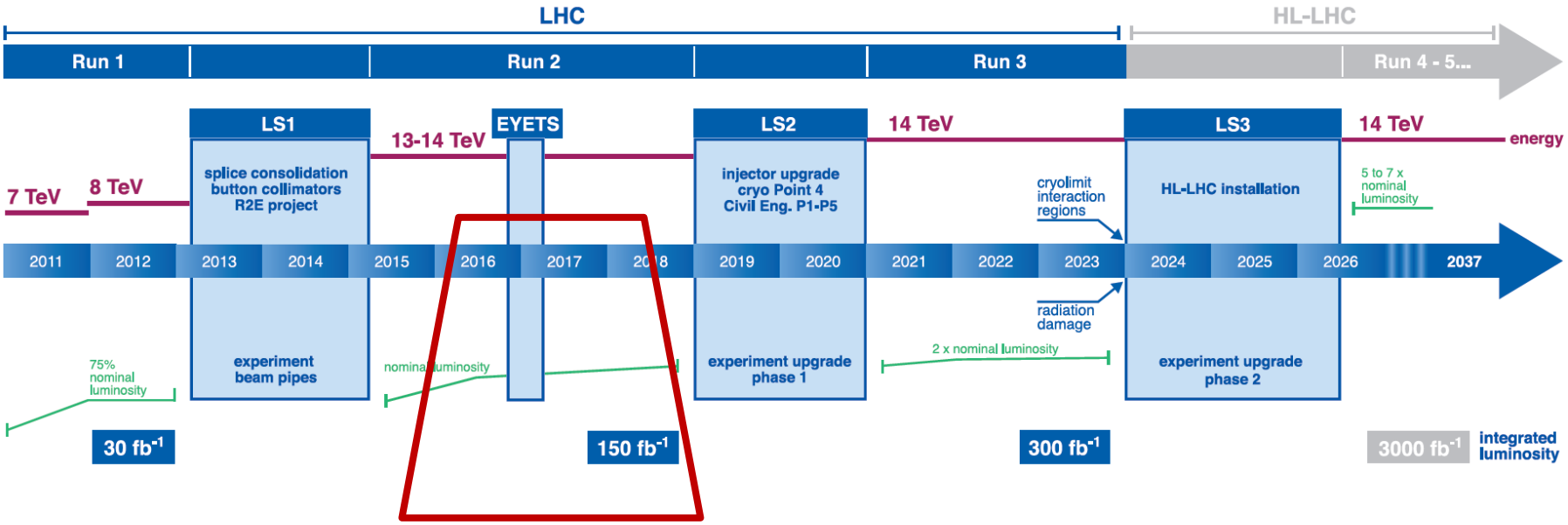
2015: Exciting and Successful

- **Emerged strong from the 2-years long LS1**
  - Our marvelous detector is better than ever
- **Exploring novel territory at 13 TeV**
  - Year-End-Jamboree: a firework of 33 magnificent results
- **Accomplished crucial milestones in upgrades**
  - Decision for an innovative endcap calorimeter
  - Phase I progressing well
  - Phase II becomes a project!
    - TP: approved with great honor
    - Scope Document: impressive details make the case
- **Obstacles mastered**
  - Major part of the delivered luminosity taken with B-field ON thanks to excellent teamwork between the Technical Coordination and CERN groups

What lies ahead for us?

Our program for 2016-2018

CMS Program: Operation



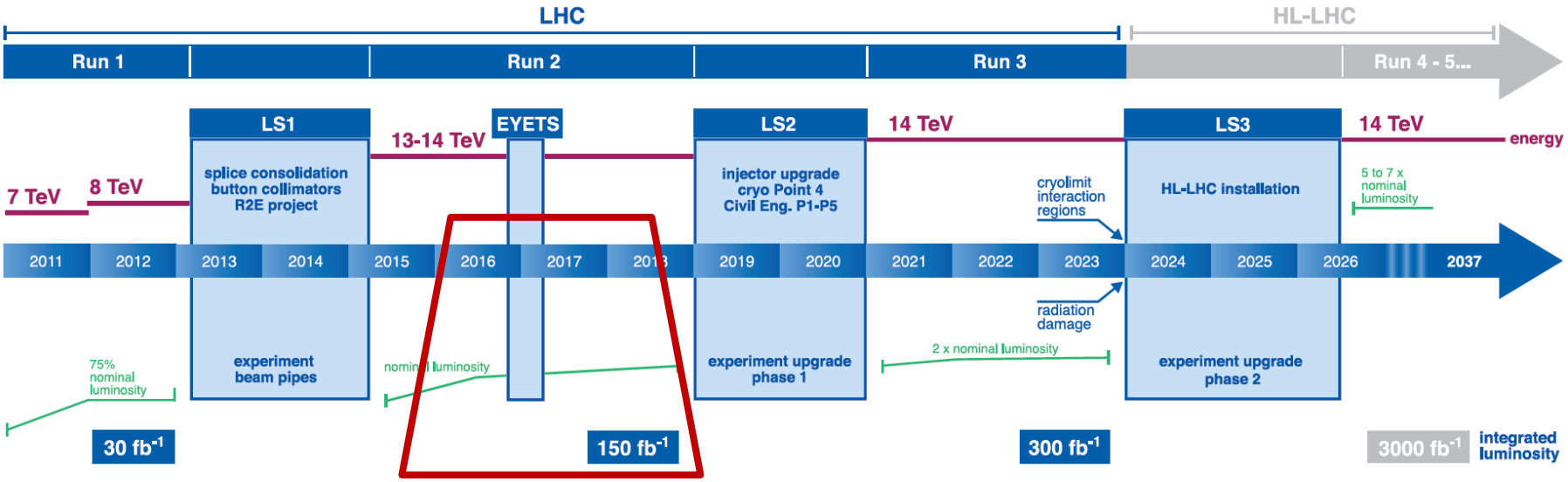
Increasing luminosity: expect up to 150 fb^{-1} until 2018

These data are the basis of our future physics output

Focal points of the Spokesperson:

- **Efficient operation is mandatory**
- **Close interplay between coordination areas is crucial to maximize the recorded data and to ensure an excellent quality with fast validation**

CMS Program: Physics



Fascinating & thrilling:

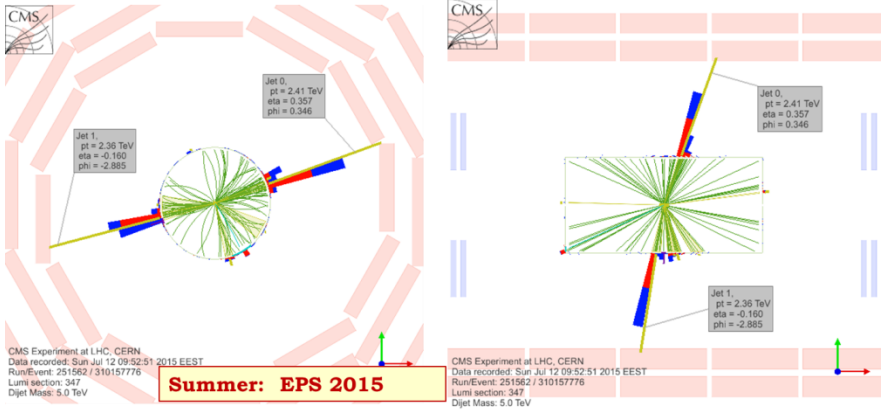
The world is watching us exploring the new territory

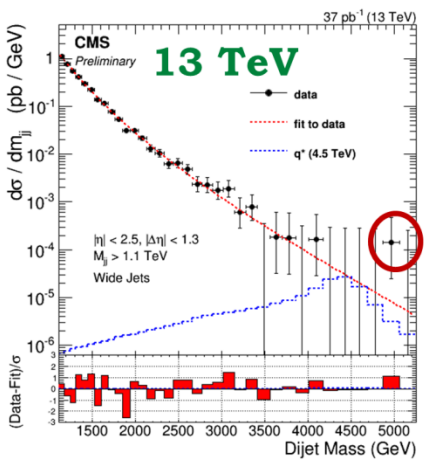
What is in store for us?

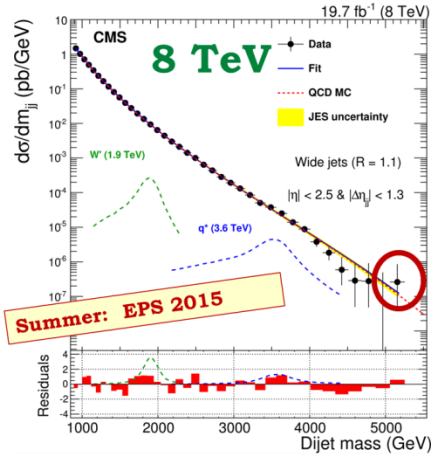
- **Gauging physics with novel precision measurements: Higgs, top, and SM with electro-weak, QCD, b-physics, HI, …**
- **Possible early discoveries: Dark Matter, SUSY, Exotica, BSM Higgs, …**
- **Stay tuned and adapt to new findings, EYETS review**

Focal point of the SP: adapt to physics priorities in consensus

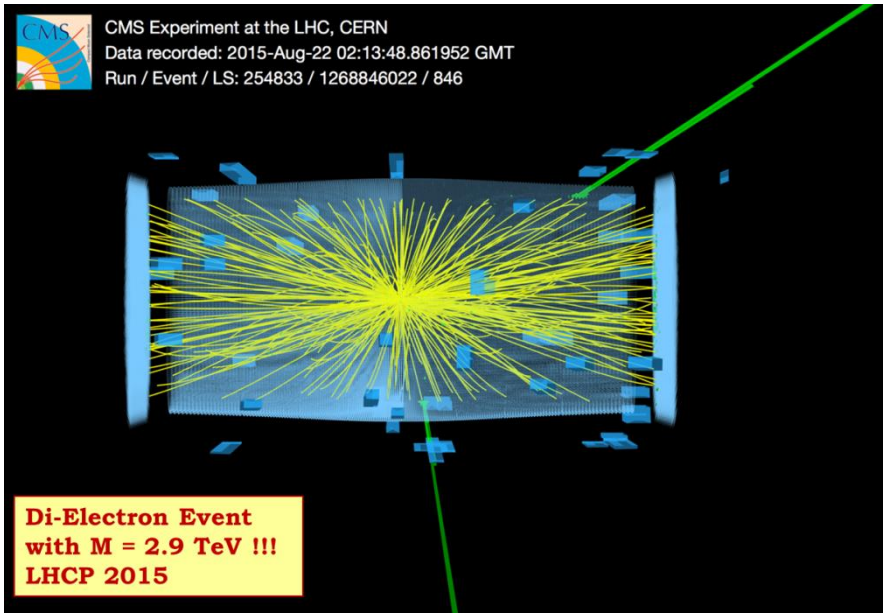
Exciting times: EPS → Jamboree

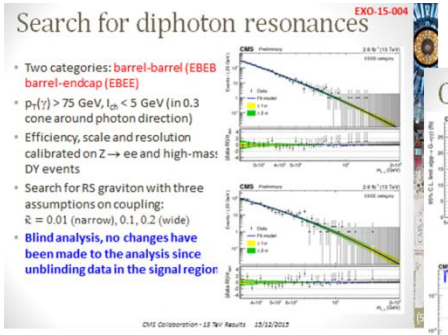




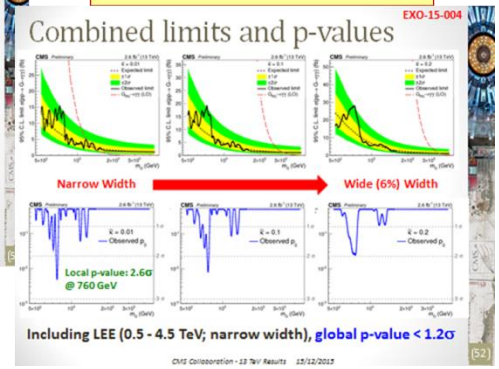


- 13 TeV: 37 pb-1, Mjj = 5 TeV, 8 TeV:19.7 fb-1, Mjj = 5.15 TeV
- Close to Run 1 limit → interesting times ahead of us ☺

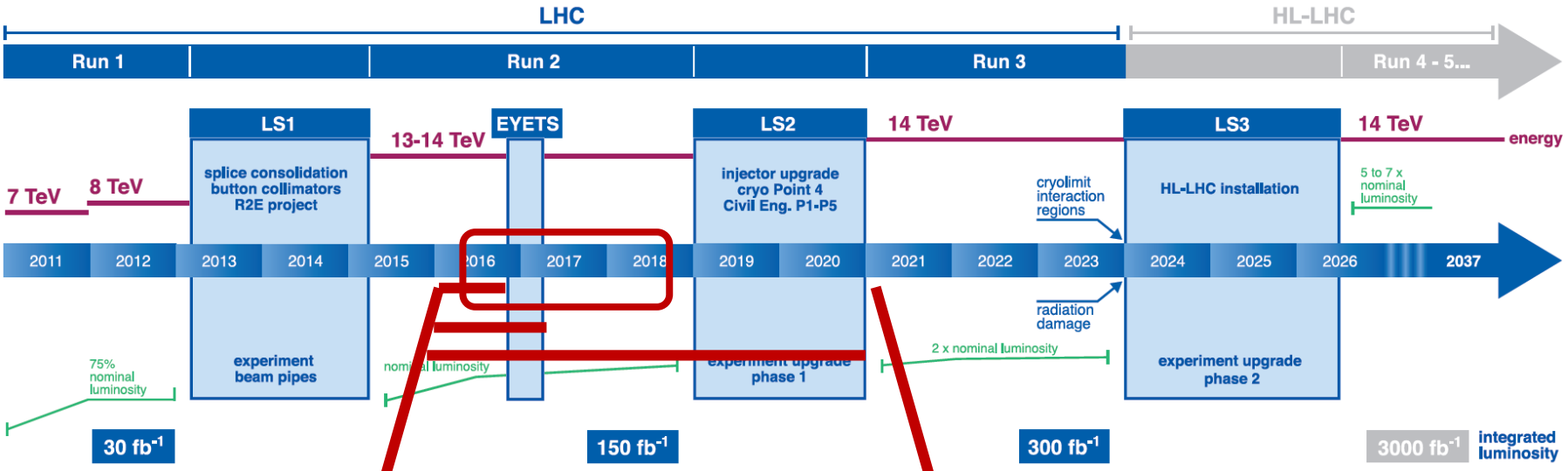




Di-Photon resonances CERN Jamboree 2015



CMS Program: Phase I Upgrades



Phase I Upgrades

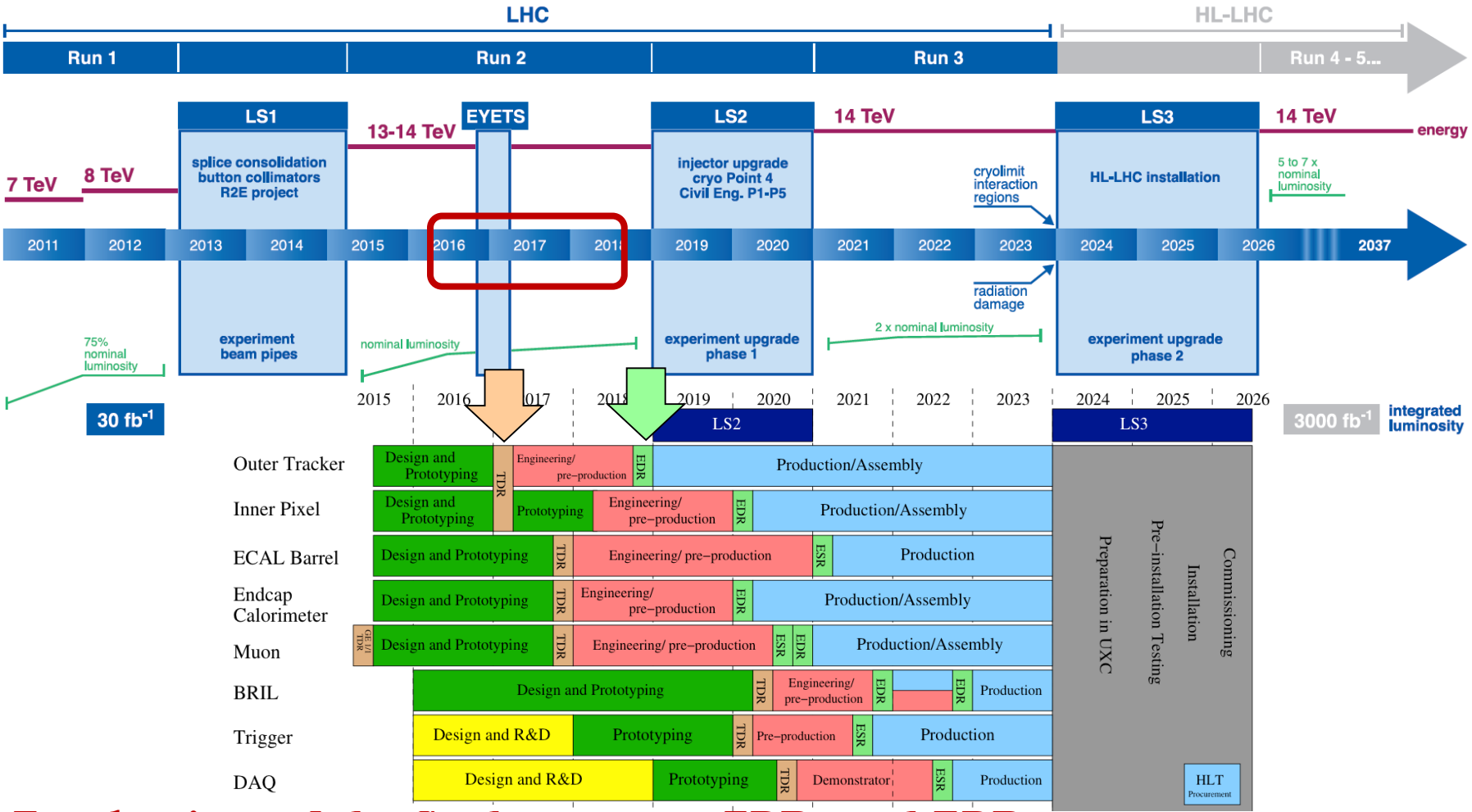
Phase 1 upgrades: Prepare for 1.6×10^{34} Hz/cm^2, <PU> ~40, ≤ 200 fb^{-1} by LS2

Prepare for 2.5×10^{34} Hz/cm^2, <PU> ~ 60, ≤ 500 fb^{-1} by LS3

- New L1-trigger system ready for 2016 data taking
- New Pixels ready for installation in 2016/17 Year End Technical Stop (YETS)
- Install new HCAL photodetectors and electronics in 2015 YETS and LS2

Focal point of the SP: CMS should benefit as early as possible by ensuring that the detectors work right from the beginning

CMS Program: Phase II Upgrades



Focal points of the Spokesperson: TDRs and EDRs
feasibility, cost effectiveness, decisions on technology,
MoU negotiations with the Funding Agencies for funds and manpower

Our Program 2016-2018

Top Target:

Continue to be a leader in Particle Physics

➔sustain and refine excellent performance

- **Efficient detector operation and data taking**
- **High performance analyses**
  for searches, discoveries and precision physics
- **Finalize & exploit Phase I Upgrades**
- **Produce the TDRs and prepare EDRs**
- **Negotiate MoUs with Funding Agencies to secure funding and manpower for Phase II Upgrades**

Maintaining Leadership

A huge workload for the whole Collaboration

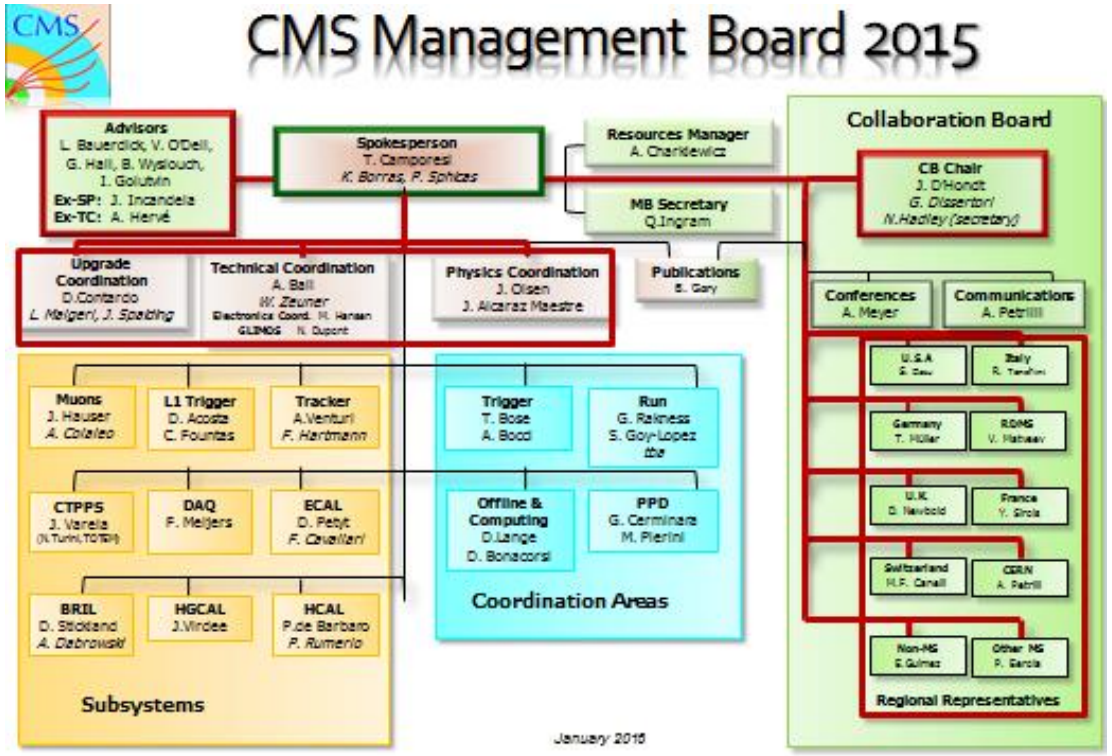
The success of our experiment relies completely on ourselves !

Commonly defined goals and taking ownership in the accomplishments are key to promoting dedication, motivation and enthusiasm, the major prerequisites for maintaining our leadership position.

Deep Engagement of the Collaboration

Democratic strategy planning and transparent decisions with wide consultation

- On my initiative the MB organization chart has been revised.
- Stimulate communication lines in daily life via regular discussions with higher management & CB Team & Advisors & Regional Representatives.
- Prepare proposals in a timely fashion to facilitate discussions & consensus.
- Inform the Collaboration regularly and openly
  → create involvement by intensified communication internally and externally.
- Reserve time for thinking ahead to develop sustainable long-term strategies while balancing the effort.



Our Diversity is our Strength

Employing all our diversity in thinking means realization of our full potential

→ Fair share of responsibilities and duties

- Award leading roles, responsibilities and reviewer positions in an adequate share to all our regions.
- Identify talented colleagues and, if needed, train them for the job → enhance the involvement of all regions.
- Distribute the load and duties in work and cost evenly to our authors; EPR is adjusted, next step is to ensure a fair share of M&O B.
- Remote contributions are crucial and should to be opened as much as possible.

Efficient Organization for Success

Regular reviews and the role of the IB

- Our sub-detector projects profit a lot from regular readiness reviews for data taking or upgrade projects. In addition, they regularly receive input and guidance from their institution boards.
- Coordination areas would also profit from regular reviews of their performance and their preparation of the immediate and the long-term evolution. The Collaboration Board, or a dedicated part of it, should take over the role of the institution board, giving regularly advice and guidance.

Meetings:

- Meeting schedules might need to be revised and possibly reduced to the necessary minimum.
- Efficient preparation with a clear scope, a focused agenda, a strict time budget, and minutes that include further action items with responsibility and timelines, is a necessary standard that needs to be encouraged.

Growing the Collaboration

Attract new institutes and new members

- team-working with the international committee
- take up suggestions from colleagues
- start own initiatives
- create a fruitful atmosphere for operation and analysis, and word-of-mouth advertising the perfect conditions for doing thrilling physics will draw the attention.

New members through new 3rd party funds

- collect information about potential support programs
- advertise the open possibilities
- help institutes and individuals on all levels in their applications for funds for new manpower and investments.

Growing the Youth and the Seniors

- **Grow the experts of the future**
  - Enable early responsibility for talented young physicists
  - Train our young (and not so young) scientists in professional management aiming at highest efficiency (time planning, meetings)
  - Foster individual mentoring on all student levels
  - Give them the opportunity to shine: Organize presentations in the WGM, CMS Weeks and conference talks….
- **Acknowledge and enable ownership**
  - Acknowledgement and recognition of deep engagements and achievements, especially in more technical work as in hardware or DPGs, POGs and PAGs, is needed
  - Reference letters usually praise physics analysis accomplishments: technical achievements are very important and should also be praised.
  - We should open our Organization Charts to the public, so that they can be referenced in CVs
- **Raise the recognition of technical work by Funding Agencies**
  - Base Funds should include a fair fraction of operation needs
  - Third party fund applications should also acknowledge technical work and contributions for running the experiment

SP Competence and Skills

My Scientific Competence and Personal Skills

Scientific Career before CMS

- **H1 @ HERA**
  - LAr Calorimeter: design, construction, installation, commissioning, operation
  - Run Coordinator
  - Coordinator of all Calorimeters in H1 (1y, then 1y parental leave)
  - First HERA data on diffraction → publication on hadron production (2y)
  - Head of the Dortmund University Group at DESY (4y)
- **CDF @ Tevatron**
  - Fellow of Max Kade (1y) and employee at The Rockefeller University (1y)
  - Diffraction with Roman Pots and Rapidity Gaps:
    → establish Factorization breaking between HERA and Tevatron
    → unambiguous observation of Double Pomeron Exchange
  - Studies for CDF Miniplugs
- **ZEUS @ HERA**
  - Coordinator of the Hadron-Electron-Separator (7y): upgrade project, $20m^2$ of 20000 Si-Pads, major challenge: complete removal/repair/re-installation due to serious water leaks, implementation in standard reconstruction & physics
  - ZEUS Calorimeter Co-Coordinator (2y)
  - Co-Convener for the ZEUS Working Group on Diffraction, Vector Meson and small-x physics (4y): initiating novel analyses towards publication
  - Deputy Head of the DESY-ZEUS Group (4y)

Contributions to CMS (selected)

- **Head of the DESY Group** (6y)
  - Growing and guiding all activities to take over leading roles in CMS; increasing the 38-member group to more than 100 members
  - Physics: SUSY, Higgs, Top, Forward Physics
  - Operation: DQM, Alignment, Computing, BCM, CASTOR
  - Upgrade: Pixel Phase I, Tracker Phase II, HCAL
- **Conference Committee Chair** (2y + 2y as deputy)
  - Adapting the guidelines for fair and transparent speaker selection
- **Deputy Spokesperson**

- **Long-term MB and FB membership** (since 2008)
- **Management Board of the LPC @ Fermilab** (since 2013)

- **Co-Project Leader of the CASTOR Calorimeter** (4y)
  - Funding, construction, commissioning, physics
- **HCAL & MUON (& L1 Trigger)** (since 2009)
  - Synergy: SiPMs for HO → Common Trigger-link → MTT project
  - Micro-TCA for HCAL

- **Chair and member of many ARCs for Forward Physics analyses**

Personal Skills

- **In-depth competence in leading large and small groups**
  - Strong motivator → create deep engagement
  - Profound guiding skills → everybody is included in all processes
  - Excellent organizer for enabling and pursuing synergy effects by introducing novel technologies
  - Even-tempered → no friction
- **Profound competence in detectors**
  - Basis to master the challenges in Phase I and II upgrades
  - Familiar with all phases of a project: from design to publication
- **Long-term experience in leading a physics group**
  - Personal favorite: Searches (DM) after strong expert-role in QCD and FSQ
- **Independence from CERN**
  - In terms of position as well as biases and ties from CERN experiments
- **Excellent relationship with the new CERN Management**
- **Well experienced in terms of fund raising**
  - Many successful applications for third party funds
  - Close relationships to representatives of funding agencies and politicians
  - Long-term experience in finance committees and reviews.

Personal Skills - cont

- **Deep knowledge of executive and institute sides**
  - Operational business: Deputy Spokesperson
  - Institute side: former head of the DESY CMS group
- **Pursuing transparency and fairness**
  - Adapted rules and guidelines for speaker selection
  - Guided EPR into a fair and recognized system
  - Next step is a review of M&O B
- **Management Style:**
  Our people are our most valuable resource !
  - Democratic with broad consulting and openness
  - Collegiality, appreciation, respect and recognition
  - Deep mentoring for the young and the senior scientists: Delegation & trust, layout of strategies for individual success, assign visibility
- **Profound diplomatic skills and experience**
  - Searching for win-win conditions in conflict situations
- **Closely participate in the daily work**
- **Always efficient**

Being a Candidate for Spokesperson

It is a tremendous honor!

Thank you for the trust in me!

- I accepted this candidacy because I feel that I have the experience, the strength and the enthusiasm to accomplish in close teamwork within our Collaboration the envisioned goals of our program and maintain our leadership position.
- This privileged position is a unique opportunity to shape our collaborative work with transparency, fairness and collegiality, and to create enthusiasm through strong motivation.
- As Spokesperson I will dedicate myself full-time to serving CMS for its best in these very exciting times ahead.

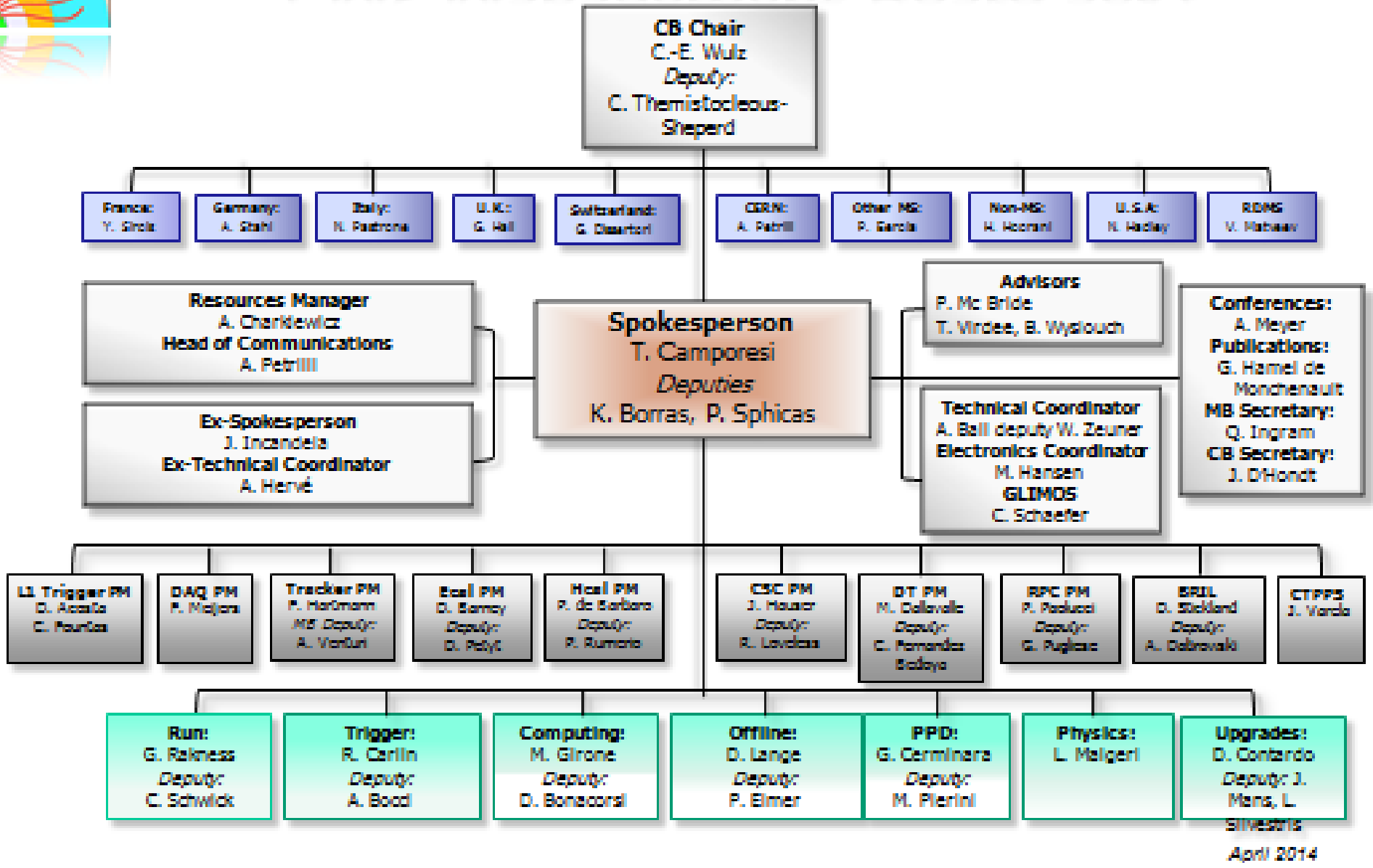
C M S

Our People and our Detector
- together we are strong -

Any questions?

Backup

CMS Management Board 2014



CMS Management Board 2015

Advisors
L. Bauerdick, V. O'Dell, G. Hall, B. Wyslouch, I. Golutvin
Ex-SP: J. Incandela
Ex-TC: A. Hervé

Spokesperson
T. Camporesi
K. Borras, P. Sphicas

Resources Manager
A. Charkiewicz

MB Secretary
Q.Ingram

Collaboration Board

CB Chair
J. D'Hondt
G. Dissertori
N.Hadley (secretary)

Upgrade Coordination
D.Contardo
L. Malgeri, J. Spalding

Technical Coordination
A. Ball
W. Zeuner
Electronics Coord. M. Hansen
GLIMOS N. Dupont

Physics Coordination
J. Olsen
J. Alcaraz Maestre

Publications
B. Gary

Conferences
A. Meyer

Communications
A. Petrilli

Muons
J. Hauser
A. Colaleo

L1 Trigger
D. Acosta
C. Fountas

Tracker
A.Venturi
F. Hartmann

CTPPS
J. Varela
(N.Turini,TOTEM)

DAQ
F. Meijers

ECAL
D. Petyt
F. Cavallari

BRIL
D. Stickland
A. Dabrowski

HGCAL
J.Virdee

HCAL
P.de Barbaro
P. Rumerio

Subsystems

Trigger
T. Bose
A. Bocci

Run
G. Rakness
S. Goy-Lopez
tba

Offline & Computing
D.Lange
D. Bonacorsi

PPD
G. Cerminara
M. Pierini

Coordination Areas

U.S.A
S. Dasu

Italy
R. Tenchini

Germany
T. Müller

RDMS
V. Matveev

U.K.
D. Newbold

France
Y. Sirois

Switzerland
M.F. Canelli

CERN
A. Petrilli

Non-MS
E.Gulmez

Other MS
P. Eerola

Regional Representatives

January 2016