

# EP R&D Software Working Group, Core Team

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Jakob Blomer and Graeme Stewart

# EP R&D Programme - Reminder

- R&D programme on new Detector Technologies
  - Spans a 5-years period from 2020 onwards (with a possible extension by another 5 years)
  - Detector hardware, electronics and **software** for new experiments and detector upgrades beyond LHC phase II
- Working groups are for the key themes
  - To study the state of the art, limitations and main challenges
  - Define an **ambitious** and **focused** work programme with milestones, deliverables and resource estimates.
- Open Process
  - Interested colleagues - no matter if engineer or physicist, staff or user, at CERN or elsewhere - are invited to contribute to the definition of the R&D programme

# Timeline - Reminder

- 20 November 2017 - Kick off meeting

<https://indico.cern.ch/event/677108/>

Working groups form and start to develop first ideas

- 16 March 2018 - First Workshop

<https://indico.cern.ch/event/696066/>

WG meetings and preparation of their chapter

- October 2018 - Second Workshop
- November 2018 - Deliver final report

Future funding will be based on this report



**R&D**  
**on EXPERIMENTAL TECHNOLOGIES**

CERN's Experimental Physics department has launched a process to define its R&D programme on new Experimental Technologies. The R&D work would span a 5-year period from 2020 onwards (with a possible extension by another 5 years), and cover detector hardware, electronics and software for new experiments and detector upgrades beyond LHC Phase II.

**8 working group sessions**  
**Special R&D proposals**

- Silicon detectors
- Gas detectors
- Calorimetry and light based detectors
- Detector Mechanics
- IC Technologies
- High Speed Links
- Software
- Detector Magnets

**1st Workshop**  
**16 March 2018 (full day)**  
**CERN, main auditorium**

Please register!  
<http://indico.cern.ch/e/EP-RD-Workshop1>

 Experimental Physics  
Department  
R&D on Experimental Technologies

# Core/Editing Group

- We felt that having the process of defining R&D proposals driven by a group of 65 people would not work
  - We need a smaller, more agile group to do that
  - However, it still has to be representative of a wide range of technical experience and experiment backgrounds
  - Membership is by invitation, but public
    - Wider group can offer to help us, make suggestions, etc.
  - What the group decides should be fed back to the open group for further discussion - it is important that we try to build consensus
    - At the large workshops
    - Also at Software WG meetings, as appropriate

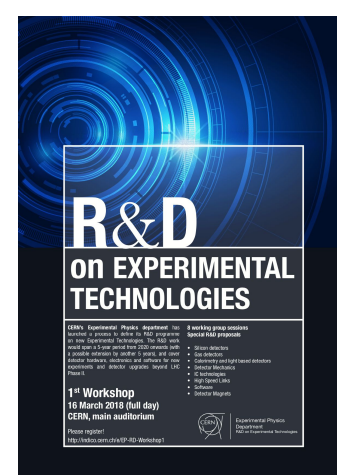
# Currently We Are...

Jakob Blomer (Convener)	Danilo Piparo (ROOT, Concurrency)
Graeme Stewart (Convener)	Witek Pokorski (Geant, Generators)
Marco Cattaneo (LHCb)	Radu Popescu (Other languages)
Dirk Duellermann (IT expertise and link)	André Sailer (CLiC, LCD)
Benedikt Hegner (FCC)	Andreas Salzburger (ATLAS, FCC, Tracking)
Mario Lassnig (ATLAS, Data Management)	[Niko Neufeld (DAQ, FPGAs)]*
Maurizio Pierini (CMS, Machine Learning)	[David Rohr (ALICE, GPUs)]*

We do expect that people should be objective and non-partisan!

# March 16 Meeting

- Group has 45' to present
- Format suggested by Christian is introduction plus topical talks
- Our take on this is to propose:
  - 15' Introduction to challenges (Graeme/Jakob)
  - 10' x 3 Interesting themes that *may* develop into R&D proposals (this group)
    - There is no commitment here, but we may already see interesting areas emerging
- Selection of themes and subsequent coalescing is inevitable:
  - ~30 lightning talks (or more)
  - ~2-5 R&D proposals



# Today's Meeting

- Gather thoughts on the meeting on Monday
- For each of the topics we can ask:
  - Is this really R&D?
  - Is it an important challenge for HEP software and computing?
  - Does it match with CERN EP's strategy and interests?
    - At least in so far as we understand or believe these are/should be
  - Is it a focused achievable project?
  - Can it be developed at reasonable cost?
- Some other considerations to bear in mind:
  - Are there things that are important that are missing?
    - Anyone could we ask for next session?
  - Can we already see themes emerging?
  - Upgrades to software vs. software for upgrades - is the later in our remit?

# Next events

- Second Session of Lightning Talks
  - <https://indico.cern.ch/event/702570/>
  - Monday 26th February, 09h30-13h00, Salle Dirac (building 40)
- Second core group meeting
  - Thursday 1 March same time
    - Does this work for most people?
  - At that we should decide on what we present for the workshop