



HEP in Lithuania

Feedback from my visit - personal Impressions on the “ideal” HEP group



24th May 2024

About Me – Selected Experience

HEP data analysis:

W Boson Mass – DELPHI; Charm CPV – LHCb

Software Development:

Analysis framework; Alignment, monitoring

Detector Development:

Radiation hard silicon detectors

Detector construction:

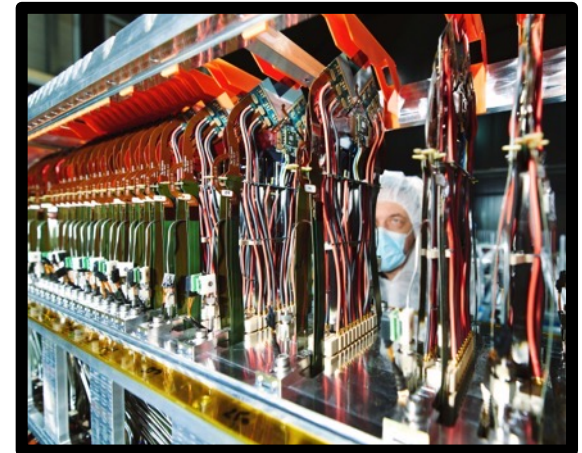
LHCb VELO; LHCb Upgrade I & II initiating & leadership

Leadership roles:

LHCb Spokesperson

Head of department Physics & Astronomy Manchester

Lead Detector R&D collaboration for UK



The “ideal” HEP group - 1

- People:
 - PhD Students; PDRAs; Faculty
 - Different mixtures in different countries
 - e.g. 3:2:1
 - Skill sets
 - Technical team
 - Engineers; Applied physicists; Technicians
 - Physics Analysis & Software
 - Experimental physicists; (computer scientists)
 - Theory
 - Theoretical physicists
- (administrative support staff;
project management – schedules, finances, procurement)

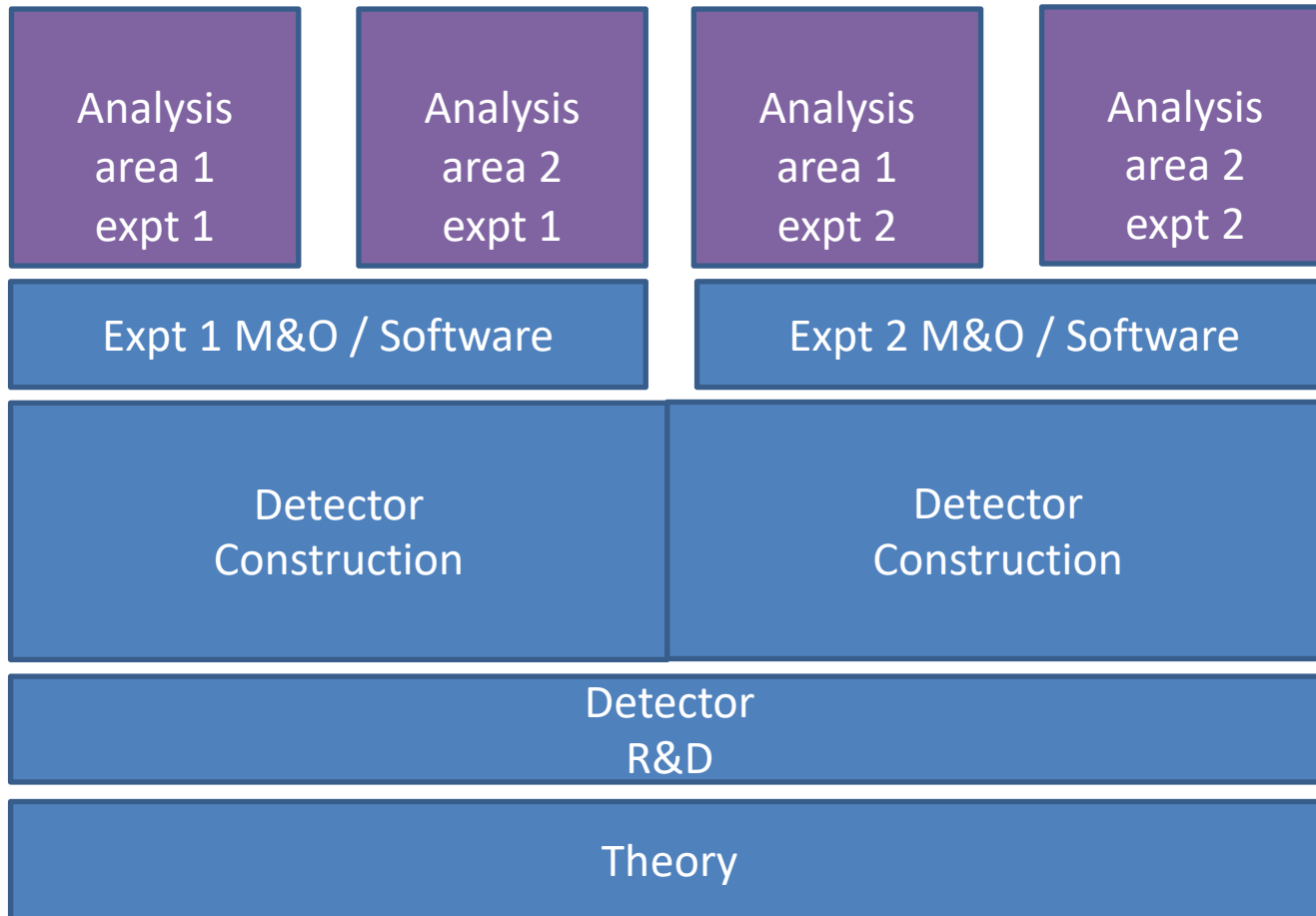
The “ideal” HEP group - 2

- Activities→Impact:
 - Data Analysis → **Collaboration papers**
 - M&O, Software
 - High academic impact; public interest
 - Detector Construction → **Industry; papers**
 - community impact; funding
 - Underpin all collab. papers
 - Construction papers – low numbers/effort
 - Detector R&D →
 - Lower impact papers typically
 - Underpin detector construction
 - Theory →
 - High academic impact

Integrated approach, synergies activities supporting each other

Ideal HEP group - 3

- Synergies, integrated approach



Detector R&D - underpin all , shared teams across expts.

Detector construction – much of team moves projects in construction phases

Analysis team – experiment specific

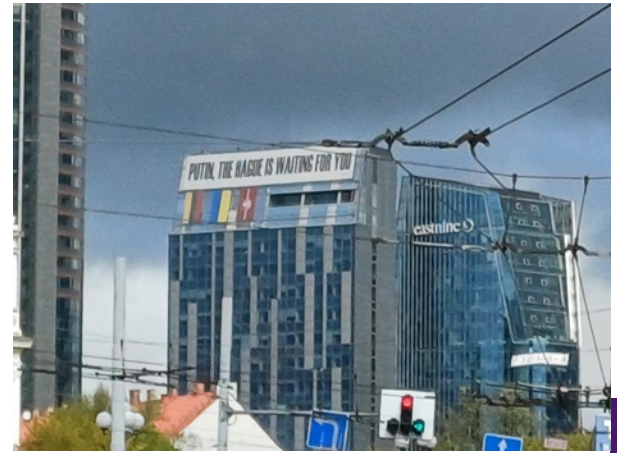
Impressions on HEP in Lithuania (Vilnius)

Strengths:

- Excellent laboratory R&D facilities & expertise
- Cooperative spirit; energy & enthusiasm

Weaknesses:

- Integrated approach – detector construction targets
 - R&D with specific aims
- Strengthen analysis teams



Impressions on HEP in Lithuania (Vilnius)

Opportunities:

- Many ! Great future !
- Pick targets matched to physics interests and existing detector expertise & on suitable timescales

*Many thanks for the invite
& being such great hosts !*

