

## Helsinki Institute of Physics (HIP)



#### Outline

**Basic facts** 

**Education** 

**HEP Finland** 

**Conclusions** 

LHC computing •

#### National mandate to coordinate all CERN activities

- research activity covers a large range of subjects in theoretical physics and experimental subatomic physics
- carry out and facilitate research in basic and applied physics as well as in physics research and technology development at international accelerator laboratories
- operated by 5 Universities (Universities of Helsinki and Jyväskylä, the Aalto University and Tampere and Lappeenranta Universities of Technology)
- budget: 4 M€ (MoE+universities) + 1 M€ (external)
- personnel including students: ~ 100
- coordinates also Finnish FAIR and Fermilab activities

(www.hip.fi)



# Helsinki Institute of Physics (HIP)



Technology

Ari-Pekka Hameri

Data Grid

Miika Tuisku

Grid Cluster

Antti Pirinen

CLOUD

experiment

Markku Kulmala

#### 5 research programs **Outline Nuclear Matter** Theory High Energy CMS **Basic facts** Kari Engvist Jorma Juha Äystö **Physics** Tuominiemi Education Heimo Saarikko **ALICE** String Theory **HEP Finland** Esko Keski-Vakkuri **CMS** Experiment Jan Rak Linear Collider Paula Eerola Research LHC computing LHC **ISOLDE** Kenneth Österberg CMS Upgrade Ari Jokinen Phenomenology Conclusions Jaakko Härkönen Kimmo Tuominen LHC-Forward FAIR Risto Orava Juha Äystö Cosmophysics Kimmo Kainulainen Low-dim. Quantum **CLIC** related **PLANCK** Systems Ari Harju Hannu Kurki-Rad. dam. acc. Suonio mat.

Kai Nordlund

- Technology program: GRID & technology transfer
- Industrial activators that promotes technological and commercial CERN–Finland co-operation



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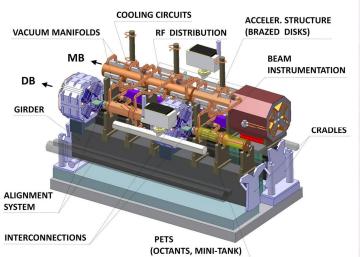
LHC computing

Conclusions

#### CLIC R&D @ HIP

 R&D on CLIC RF structures (machining & assembly) and CLIC module (thermo-mechanical behaviour)





- Industrialisation and cost study for mass production of the CLIC RF structures (with VTT and Finnish industry)
- Theoretical (Prof. K. Nordlund) as well as experimental investigations of RF breakdown in CLIC RF structures