2nd CERN Baltic group meeting
CERN, 28-29/05/2018

Agenda and supporting documents are available at https://indico.cern.ch/event/707741/

Executive summary

1. CERN Baltic Group is established. MoU has been signed providing framework for our cooperation. Signing of MoU is a unique event for Baltic countries and universities, which clearly indicates readiness for scientific collaboration, which is also important politically. We are thankful for this warm welcome at CERN and considering us being good partners. Toms Torims will meet CERN Director General to inform about CERN Baltic Group activities. Also, Baltic Assembly will be informed.
2. We are enjoying full CERN support. Charlotte Warakaulle - Director for International Relations greets participants and expresses CERN support towards CERN Baltic Group activities. It is acknowledged that collaboration in Baltics takes dynamics and CERN is encouraged by collaborative spirit in Baltics. It is positive to see interest in CERN and in Particle Physics research. We are now in the process of updating European roadmap for Particle Physics. There are many open questions and it is good to have active partners as well as so great opportunities to explore. Here we can demonstrate the value of collaboration.
3. Chairman and Deputy chairman is elected for 2 years. Toms Torims is elected as a chairman of CERN Baltic Group. Mario Kadastik is elected as deputy chairman for CERN Baltic Group.
4. Member institutions shall communicate via-email to the Chairman their Representative and alternate Representative by 12 June 2018.
5. It has been agreed that Coordination Team is composed as following:
   - Mārcis Auziņš, University of Latvia
   - Kristina Ukvalbergienė, Kaunas University of Technology
   - Andrius Juodagalvis, Vilnius University
   - Mario Kadastik, National Institute of Chemical Physics and Biophysics
   - Jevgenijs Proskurins, Riga Stradins University
   - Toms Torims, Riga Technical University
   - Renno Veinthal, Tallinn University of Technology
   - Vallo Mulk, University of Tartu
   - Kalvis Kravalis, RTU/LU
6. Andrius Juodagalvis (Vilnius University) will do on-line questionnaire to do the

inventory of the relevant competences and expertise among CBG members (such as Cyber security - Data security, Laser systems, Scintillators, mechanical engineering, power electronics, material science, coatings, simulations, etc..) – by 8th of June.

7. The following CBG Working Groups were established and Leaders voted by Members:
    .i. Study Program Group – Leader Prof. Mārcis Auziņš, assistant – Kalvis Kravalis. Main task of the study program working group is to set up background for study program formation to utilise funding available for new study program creation, as well as to demonstrate to the task force activities that are aimed to strengthen particle physics community in Baltics. Study program discussion meeting should be held in July in Vilnius as one-day intensive meeting. As date of the meeting 09.07.2018. is offered. Necessity for establishing Baltic school of Particle Physics is pointed out.
    .ii. CMS Group – Leader Dr. Aurelijus Rinkevicius. Inventory could be done by Aurelius Rinkevičius and brought back to the group and to see how we could learn from already gained experience. A wish to aim for a common goal at CMS collaboration for Baltics is expressed.
    .iii. Industry Group – Leader Dr. Mario Kadastik. Workgroup aimed to boost liaison with industry. For that ILO work group must involve people with industry links. It is stated that if the government supports ILO the work can start unofficially before the member state status is reached. ILO for Lithuania is now appointed. ILO is a very important post and must not be underestimated. ILO must be proactive in the group doing his job at the tender writing, helping to identify the necessary companies for the tender. It is decided to invite other ILOs for discussion to exchange the experience.
    .iv. Group leaders are requested to address the Members and to obtain nominates – participants from each institution
    .v. Objectives shall be agreed for each of the team relevant inventories shall be made:
        .v.1) Study program workgroup - relevant study program and competence within the group members must be identified
        .v.2) CMS workgroup – people and competences inventory must be overviewed
        .v.3) ILO workgroup - companies – names, competences, people relevant to the CERN technical needs should be identified
8. Vilnius Gediminas Technical University should be invited to join CERN Baltic Group
9. It has been agreed to have Study Program Group meeting in Vilnius at beginning of July – 9th July. The date of the meeting must be discussed as soon as possible.
10. Study program:
    - There is potentially money available in Latvia for masters and PhD program in order of 100K each
    - Objectives of the program are following (to be completed):
        .i. To maximize EE, LV, LT return from CERN membership – for industry and for research institution/universities - to maximize the return from CERN having all three pillars theoretical, experimental particle physics and technology

.ii. To minimize brain drain
.iii. Opportunity for new generations
.iv. To prepare specialists for industries in the Baltic Countries – both physics and accelerator technologies

- It was agreed:
  .i. to keep it open for international students and not to limit to Members
  .ii. to avoid fragmentation – to have broad subjects. Necessity to develop 2 to 3 modules for studies program – material science, accelerator technology, particle physics, data analysis. Intensive courses including lecturer mobility. Possibility of distance learning should be discussed. Summer schools alongside with lecture/training modules could be used as intensive courses. We should avoid fragmentation instead teaching big courses with general and specific content with more credit points.
  .iii. to include Big data and data science in curricula on top of high energy particle physics and accelerator technology. We don't have a package to cover all of industry's needs. The level of specialization must be considered – to have specific knowledge, to be good and have overview.
  .iv. to do risk / benefit analysis for all participants – to have situation awareness. Collaboration model must be carefully analyzed.
- Challenges:
  .i. how to get enough students interested? Necessity to show the excellence of the program and have enough outreach activities. Collaboration with CERN along with CERN lecturers is one of the ways to gain motivation. Also, industrial carrier opportunities are crucial for success at motivation of students.
  .ii. legal issues – double diplomas, etc. – Several or joint diplomas – common degree – challenging, but important for student's motivation to apply for unique program which could be a milestone to other countries. Two step approaches could be utilized as solution B – students go for mobility in existing modified study programs acquiring particle physics and accelerator technology until the excellence of studies is publicly recognized and then joint study program is created.
  .iii. mobility of students.
  .iv. distance learning and modular system
  .v. how to attract "big names" - beacons? CERN specialist involvement is a key component for study program.

- Key competences and skills to be agreed. For that we need to understand the necessary competences and skills acquired which can be utilized at CERN projects and in wide range of industry
- Relevant examples of study programs for comparison must be analyzed at least in Europe

11. CMS Group meeting to be held at CERN – date to be proposed
12. Next meeting in Tallinn under auspices of TTU – 27 Sept 2018
13. Minutes will be prepared by Kalvis and distributed to the participants by 5th June 2018
14. CBG supports Baltic School of Physics creation under auspices of CERN and CBG – details to be worked out by the Study Program Group – Leader Prof. Mārcis Auziņš

15. Web page – proposal to include it under: https://www.rtu.lv/en/hep or it could be hosted by CERN to avoid bias. The responsibility model should be defined then.
16. Kaunas Technical University offers to host 2020 CERN Accelerator School for spring session on RF thematic and is supported by the CERN Baltic Group. Estonia puts their candidate for discussion to organize digital school in 2021 and are also supported by the CERN Baltic Group.
17. Web page to be used to create a platform for larger inclusion of Baltic nationals working in the field. To get opinion and advise + obtain "picture" who is in the field – Ms Gabija Zemaityte (LT) volunteered.
18. Common press release will be prepared and published.

Participants:

Mārcis Auziņš, University of Latvia

Leonas Balasevicius, Kaunas University of Technology

Rimantas Jankauskas, Vilnius University

Andrius Juodagalvis, Vilnius University

Mario Kadastik, National Institute of Chemical Physics and Biophysics

Kalvis Kravalis, Riga Technical University, University of Latvia

Jevgenijs Proskurins, Riga Stradins University

Aurelijus Rinkevicius, Vilnius University

Toms Torims, Riga Technical University

Juozas Vaitkus, Vilnius University

Renno Veinthal, Tallinn University of Technology

Jurgita Vizgirdaite, Kaunas University of Technology

Kristina Ukvalbergienė, Kaunas University of Technology

Vallo Mulk, University of Tartu (remotely)

CERN Participants

Stefano Bertolasi, CERN

Tommaso Bocali, CERN

Kerstin Borras, CERN

Andrzej Charkiewicz, CERN

Karl Gill, CERN

Christoph Schaefer, CERN

Hermann Schmickler, CERN

Thierry Stora, CERN

Maurizio Vretenar, CERN

Charlotte Lindberg Warakaulle, CERN
Wolfram Zeuner, CERN