CERN Baltic Group

Discussion with Estonian oncology, radiology, nuclear medicine and medical physics specialists, representatives of relevant speciality associations, university representatives and involved ministries

"Advanced Particle Therapy center for the Baltic states"

Tallinn, 22nd of November 2022

Summary

Presentations and other documentation
https://indico.cern.ch/event/1229268/

CERN Baltic Group (CBG) and CERN NIMMS collaboration are working on the project *"Advanced Particle Therapy Center for the Baltic States*" - initiative to promote the idea of creation of an innovative cancer treatment and research facility in the Baltic region. The initial technical concept has been developed and is supported by CERN NIMMS collaboration, CERN Baltic Group and Baltic Assembly.

For the further development of the project, it is critical to engage the medical community (oncologists, radiologists, medical physicists, nuclear medicine specialists) as well as all relevant stakeholders. Support of the Baltic medical community will be decisive.

Objectives of the meeting

1. To inform Estonian oncology and radiology specialists, medical physicists and university representatives about technical aspects and latest developments of the project *"Advanced Particle Therapy Center for the Baltic States".*
2. During discussions - understand position of the above-mentioned stakeholders *vis-a-vis* the project ideas and technical concept.
3. In case of support - identify relevant representatives for the further work within the *"Advanced Particle Therapy Center in the Baltic States"* working Group of CBG.

Agenda

1. Introduction and goals of the meeting – Prof. Toms Torims (CERN Baltic Group)
2. European Organization for Nuclear Research (CERN) and NIMMS group activities for development of innovative medical technologies – Dr. Maurizio Vretenar (CERN)
3. Current activities of CERN Baltic Group in the development of *"Advanced Particle Therapy center for the Baltic states"* project - Prof. Toms Torims (CERN Baltic Group)

4. Technical concept for innovative particle therapy center in the Baltic States - Kristaps Palskis (CERN NIMMS/RTU)
5. Discussion

Main topics of the discussion. Conclusions

1. CERN Baltic Group was congratulated for the initiative and dedication as well as its flexibility to take into account first Baltic level medical community feedback received during and after 8th Baltic Radiology Congress (Tallinn, 7 - 8 October 2022).
2. Role and potential future contributions of the Baltic nuclear medicine community specialists in the project shall be clearly defined in further dedicated discussions.
3. It was suggested that production of medical radionuclides for nuclear medicine could became one of the main pillars during the full technical design development and the whole project compared to current concept.
4. In addition to the relatively grim cancer rates and predicted increase, cancer mortality statistics, and also the absence of the particle therapy centers in the Baltic region it was underlined that also financial contributions to the national health care systems is at relatively low level compared to other European states.
5. In further development stages of the project it is crucial to perform a cost and benefit analysis within a regional scale. Clinical effectiveness must be clearly demonstrated, taking into account oncological malignancy statistics that are eligible for particle therapy, prognosis for these malignancies, as well as the overall number of cancer patients within the region.
6. There is currently a lack of the relevant specialists for operation of such a facility in the region, therefore, if such project is to be implemented, it is also necessary to address in early stages of the project - issues related with the education and training of the necessary experts in the relevant fields.
7. Overall idea and philosophy of the project is considered to be very good, attractive to the young generation of specialists and will boost the corresponding regional research to the new, competitive level.
8. Addressing the possibility of lack of patients in Baltic States region alone, potential extension of the project idea towards inclusion of Finland was discussed and considered as a viable option to reach "*the critical mass*" of necessary patients to run such a facility.
9. Lessons and experience on regional collaboration in the medical field should also be taken into account from past Baltic level large scale cooperation projects such as oncological ophthalmology centre in Baltics and joint secondary standard dosimetry laboratory.
10. It would be very useful to learn on how other particle therapy projects and initiatives in Europe are evolving and what possible lessons could be learned from other experience. Such exchange of knowledge will be critical to success of the potential Baltic project.

Next steps

The following further steps and actions were agreed upon in collaboration with *Advanced Particle Therapy Center in the Baltic States* working Group un CERN NIMMS[1] experts:

- Communities of Estonian nuclear medicine, oncology, medical physics and radiology practitioners are invited to nominate their representatives for the participation in organised exchange visit to one of the European leading particle therapy centres benefiting from the opportunities offered by the *HITRIplus* project[2].
- This to be organised by the CBG *Advanced Particle Therapy Center in the Baltic States* working group. Further dates and steps of the knowledge exchange visit are to be announced at beginning of 2023.
- To organise *Workshop on Advanced Particle Therapy Center for the Baltic States* at CERN, Geneva in the first quarter of 2023. This dedicated workshop shall bring together for in-depth discussion a group of selected Latvian, Lithuanian and Estonian oncologists, radiologists, medical physicists, nuclear medicine specialists from relevant professional associations and with the mandate of those associations. The aim of the workshop is to foster regional discussion at the expert level in order to identify the clinical and scientific case, to build joint understanding and consensus and to bring the required inputs for the further development of the technical concept and design of the facility.

[1] https://nimms.web.cern.ch
[2] https://www.hitriplus.eu/transnational-access-what-is-ta/

Participants *in-person*

1. Kārlis DREIMANIS (Riga Technical university / CERN)
2. Eduard GERSHKEVITSH (North Estonia Medical Centre)
3. Laimonas JARUŠEVIČIUS (Lithuanian University of Health Sciences, Kauno Klinikos)
4. Andres KAALEP (North Estonia Medical Centre)
5. Ants KOEL (Tallinn University of Technology, CERN Baltic Group)
6. Erika KOROBEINIKOVA (Lithuanian University of Health Sciences, Kauno Klinikos)
7. Gert MIKKAL (Estonian Society of Radiology)
8. Mattias MOLDAU (North Estonia Medical Centre)
9. Ilona MUONI (North Estonia Medical Centre)
10. Sergei NAZARENKO (Tallinn University of Technology)
11. Kairi OTTO (Ministry of Economic Affairs and Communications)
12. Andrus PAATS (North Estonia Medical Centre)
13. Kristaps PAĻSKIS (Riga Technical university / CERN NIMMS)
14. Anne POKSI (East Tallinn Central Hospital Nuclear Medicine centre)
15. Merilin REEPALU (Baltic Assembly)
16. Mikk SARETOK (North Estonia Medical Centre)
17. Urve TIIDUS (Baltic Assembly, Parliament of Estonia)
18. Kätlin TIIGI (North Estonia Medical Centre)
19. Toms TORIMS (Riga Technical university / CERN Baltic Group)
20. Margit VALGMA (North Estonia Medical Centre)

Participants *on-line*

1. Ando AASA (Tartu University Hospital)
2. Made BAMBUS (Ministry of Social Affairs)
3. Karin GRIŠAN (Tartu University Hospital)
4. Kristjan PAHTMA (East Tallinn Central Hospital)
5. Helis POKKER (North Estonia Medical Centre)
6. Ilmar PUSKAR (Environmental Board)
7. Andy REIU (East Tallinn Central Hospital)
8. Äli ROOSE (North Estonia Medical Centre)
9. Jelena SUBINA (Environmental Board)
10. Dmitri SUTOV (Tartu University Hospital)
11. Jyri TERAS (Estonian Oncology Society)
12. Nikolai TOVER (North Estonia Medical Centre)
13. Markus VARDJA (Tartu University Hospital)
14. Maurizio VRETENAR (CERN)

CERN Baltic Group
Chairman of *Advanced Particle Therapy Center for the Baltic States* working group
Professor Toms Torims