



# KT Roadmap for Healthcare Applications

KT Forum MA, 3<sup>rd</sup> October 2023

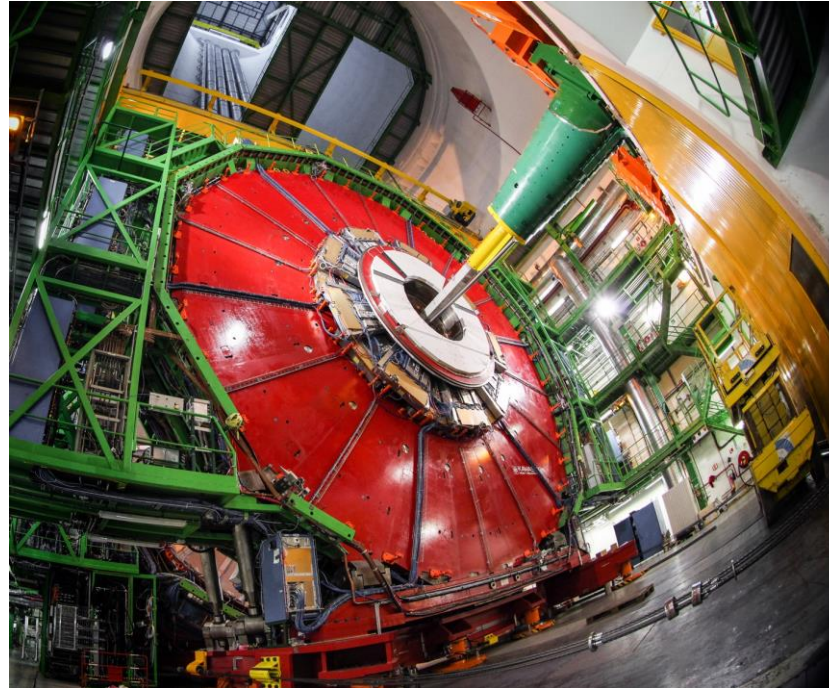
# Medical Applications are part of CERN's heritage

This list is not exhaustive! It lists a few relevant examples.



PIMMS  
RFQ patent  
BioLEIR  
NIMMS  
VHEE FLASH

ENLIGHT  
ENVISION  
GaToroid



Charpak's MWPC  
Townsend Jeavons  
Streit-Bianchi PET images  
Medipix  
EyeLens

ClearPET



FLUKA  
MammoGrid  
MARCHESE

Geant4  
BioDynamo  
CAFEIN

# The recent history of Medical Applications (MA)

2014

- MA Budget – seed funding for medical projects

2016

- MA Section

2017

- MA Strategy v1 approved by Council

2019

- MA Funnel to identify new project partners

2021

- Split MA activities into BD Healthcare and MA Strategy Support

2023

- MA Strategy v2 approved by Council

# Motivation for a BD strategy for Healthcare

**Objective:** Maximize the impact of CERN technologies and know-how in healthcare

**Practically:** Create flagship stories about CERN technologies that help answering unmet healthcare needs

# Key considerations when strategizing

The big wins need time

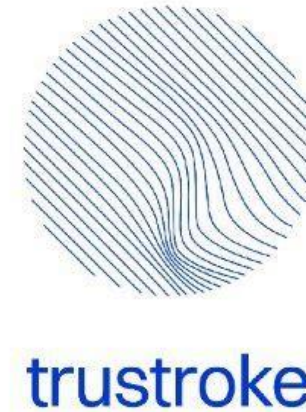
- Establish interest, nurture partnership, identify common long-term goals
- Focus on implementing ongoing activities with flagship potential



# Big wins need time



And many others...



First contact: early 2021

- Many online meetings
- Online discovery day
- Two-stage H2020 project proposal

And now the consortium won TRUSTroke

- Total worth 6MEUR, incl 1MEUR for CERN
- Federated learning platform for stroke management, using **CAFEIN**
- Project start: May 2023

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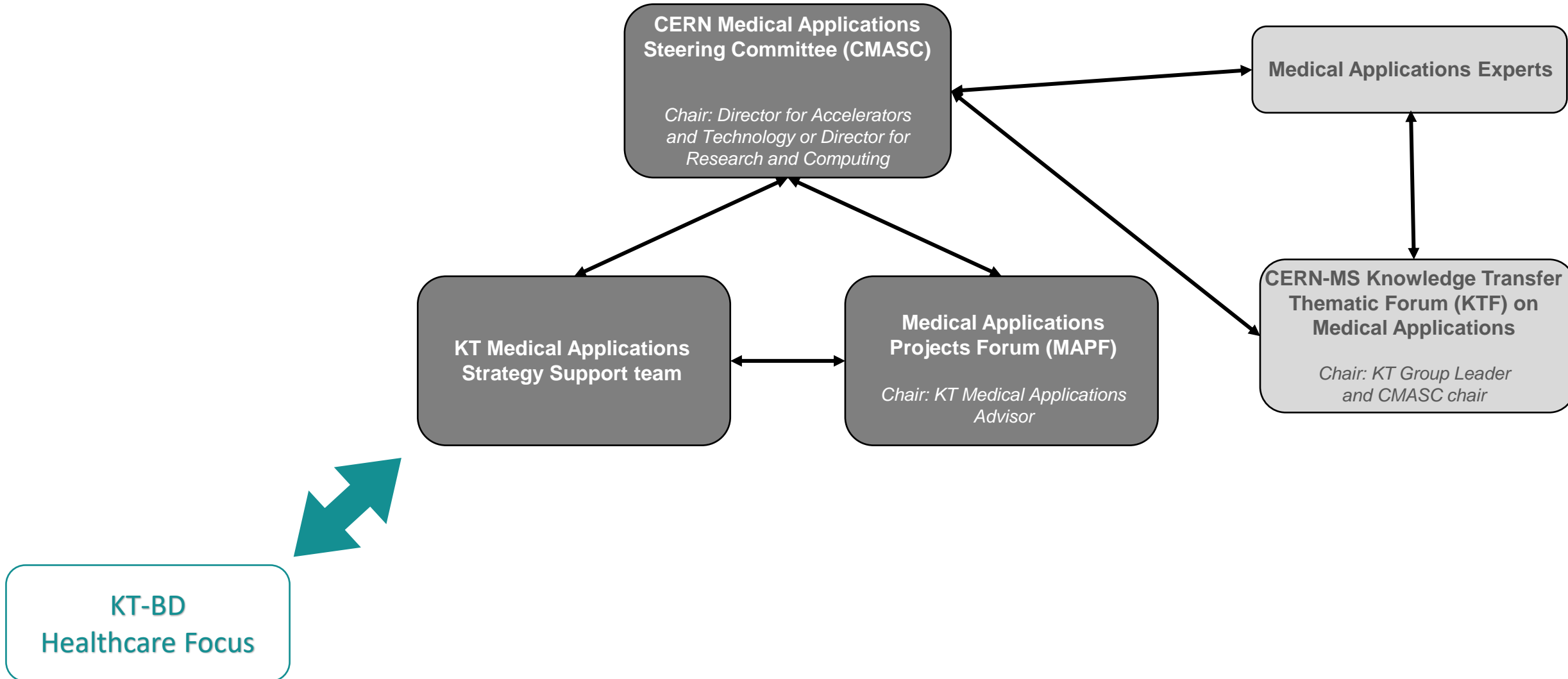
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- Establish interest, nurture partnership, identify common long-term goals
- Implement ongoing activities with flagship potential

Strong collaboration across teams

- KT-BD & MA Strategy Support
- The better the contact with the experts, the better the outcome

# Creating a strong link between BD and Medical Applications Strategy Support





# Creating a strong link between BD and Medical Applications Strategy Support

## KT-BD Healthcare

BD activities carried out by KTOs\* under same rules as other BD projects, incl.

- Technology identification and assessment
- IP management
- Contracts and follow-up

## MA Budget

- Project evaluation and follow-up (including financial)
- Attend MAPF if relevant

Topical support of MA-StratSup

\*including those in the MA Strategy Support team

## MA Strategy Support

Political liaison with CERN management

- Definition and update of CERN strategy for MA
- CMASC, CMAAC, KT Forum MA, MAPF

## MA Budget

- Organisation (committees, presentations, follow-up reminders)
- Overall financial management

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Identify new application areas beyond radiotherapy and imaging

- Open up to healthcare in general
- Look beyond our usual borders, and venture into global health

# There's more to healthcare than just medicine

Medicine: *Medicine is the science and practice of caring for a patient.* [Wikipedia]

Healthcare: medicine + allied domains such as healthcare data management, healthcare infrastructure, public health.

CERN has a lot to offer in allied domains!

- CAiMIRA tool used by WHO for COVID risk assessment
- NMR developments with applications in chemistry and biology
- We are a partner of the Geneva Health Forum: which impact can we make in global health topics?

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Evaluate new projects for CERN's added value and their alignment with our goals, reject if needed

**2023: initiate a new round of  
success with 2025 time horizon,  
without losing awareness of  
ongoing projects**

# Today: Continue the core and select (new) high profile areas

Maintain solid position in core application areas

- radiotherapy and radioisotopes
- medical imaging and dosimetry



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Expand CERN healthcare technology portfolio

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- Explore global healthcare / humanitarian applications

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Initiate and evaluate new concrete partnership opportunities

- Ensure early involvement of existing and new healthcare partners in industry, hospitals or institutes
- Strong links with CERN experts