

# Welcome and Introduction



Fabiola Gianotti, Divonne, 20 February 2016



## Medical Applications in the context of CERN's mission

CERN main mission is fundamental research in particle physics.

Three instruments are the pillars of our research:

- ❑ accelerators → e.g. superconducting magnets and RF cavities
- ❑ detectors → e.g. fast, high-resolution, rad-hard sensors
- ❑ computers → e.g. storage and treatment of large amount of data, detailed simulations

In these three areas, cutting-edge technologies need to be developed to satisfy the discipline's stringent requirements → these developments are made available to society → knowledge transfer is also part of CERN's mission.

**Medical Applications (MA) have been, are and will be a primary component of CERN's knowledge transfer activities. The (new) Directorate is firmly committed to this goal.**



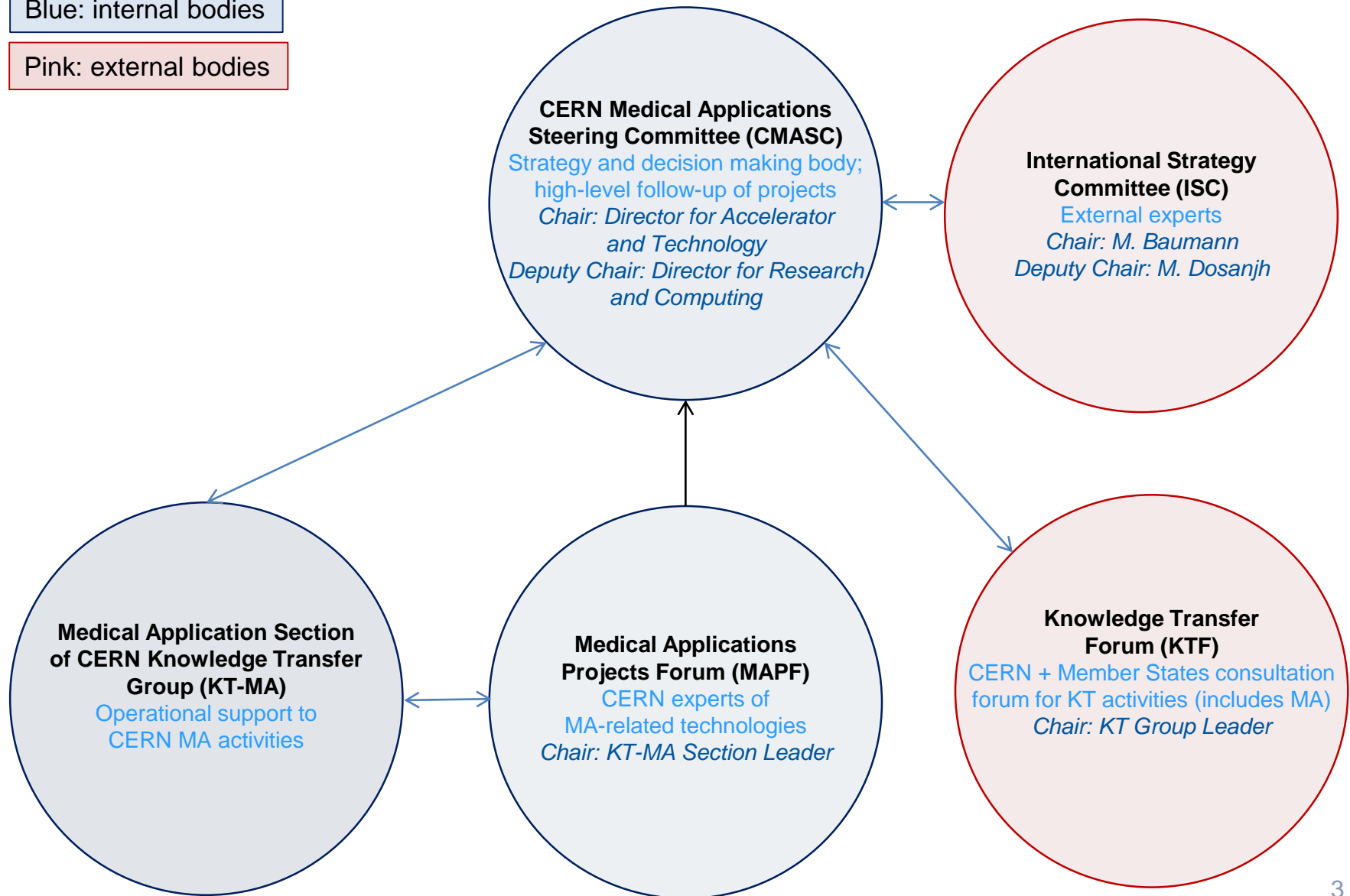
As of January 2016, MA activities have been reorganised, to give them larger visibility and strategic weight:

- A high-level steering committee (chaired by one of Directors) in charge of the strategy
- A dedicated operational unit in the KT group
- Input from external and internal experts: developers of CERN's technologies, medical doctors, CERN Member State countries interested in MA, etc.

# (New) Organization of medical applications activities at CERN

Blue: internal bodies

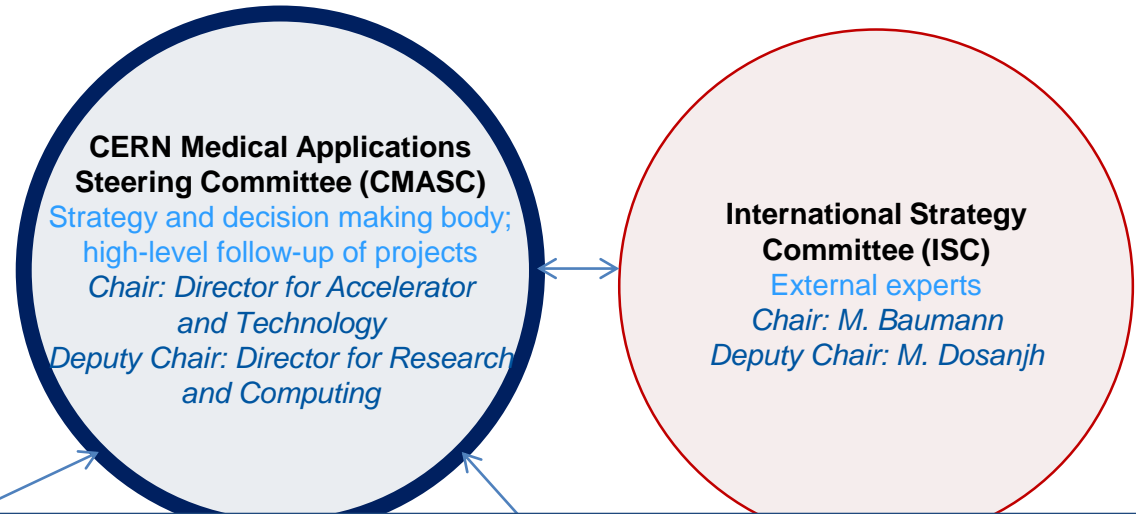
Pink: external bodies



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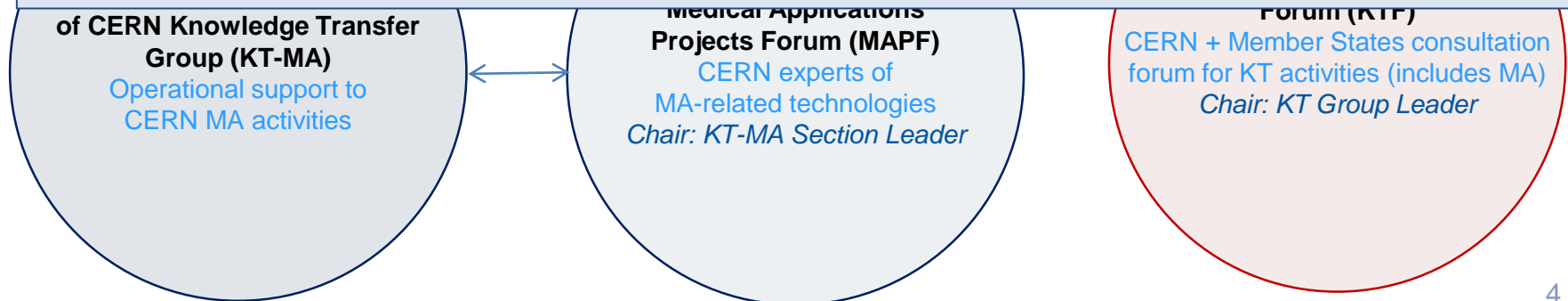
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## CERN Medical Applications Steering Committee (CMASC):

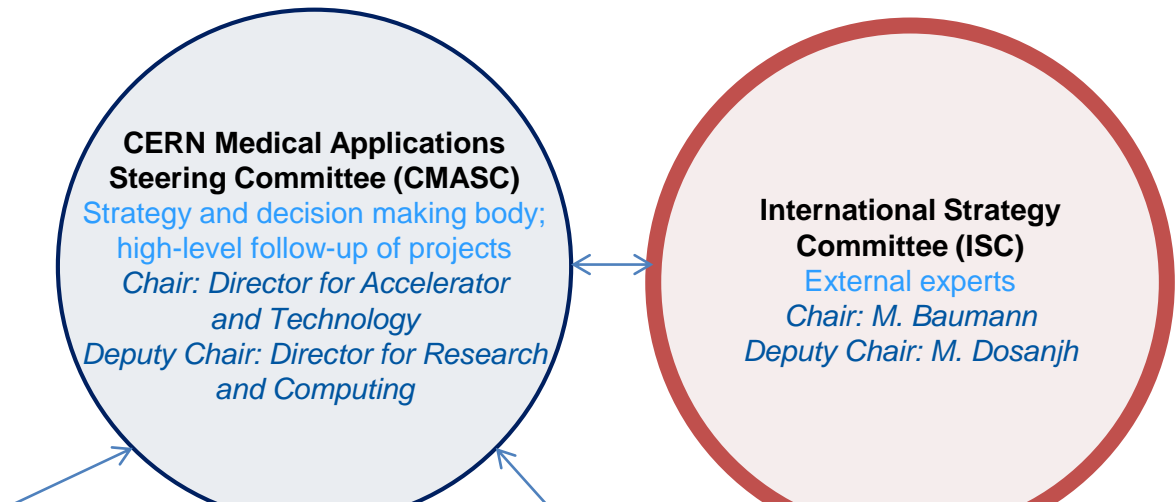
- ❑ Chair: Director for Accelerators and Technology. Scientific Secretary: Manjit Dosanjh  
Composition: Directorate, Heads of relevant Departments, ISC Chair, KT GL, KT-MA SL
- ❑ Define strategy for MA activities at CERN, with inputs from all relevant bodies.  
Decide which projects should be financed. Ensure projects follow-up.
- ❑ Meeting frequency: every 1-2 (3-4) months at the beginning (later)



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## International Strategy Committee (ISC):

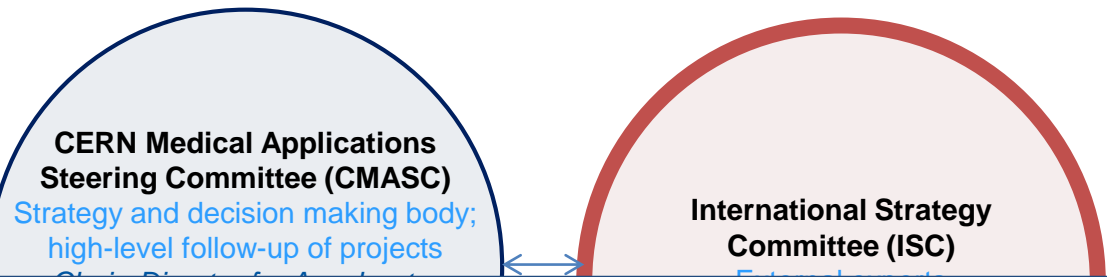
- ❑ Chair: M. Baumann, Deputy Chair: Manjit Dosanjh  
Composition: Medical doctors and other MA experts from sectors that can potentially benefit from CERN technologies, KT-MA SL (ex-officio).
- ❑ Give input to CMASC on CERN's technologies and activities potentially relevant for the medical field. Follow up projects, in particular possible developments into clinical end-products.
- ❑ Meeting frequency: every 4 months



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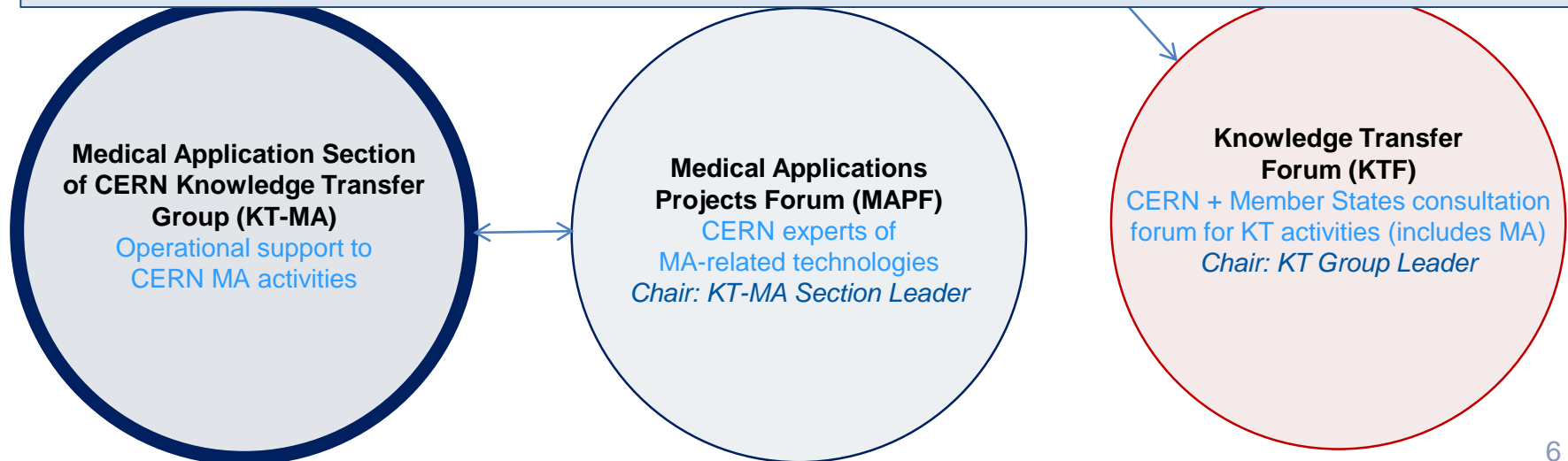
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## MA section of KT group (KT-MA):

- ❑ Section Leader: Manuela Cirilli
- ❑ Help CMASC identify CERN technologies relevant for MA. Provide operational support to CERN MA activities and projects, implementing the strategy formulated by the CMASC. Foster synergies and collaboration among MA-related activities at CERN. Assist projects in the preparation of applications for external funding (EC, donors, etc.). Support approved projects by liaising with relevant services (outreach, legal service, etc)



# (New) Organization of medical applications activities at CERN

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**CERN Medical Applications Steering Committee (CMASC)**  
Strategy and decision making body;  
high-level follow-up of projects

**International Strategy Committee (ISC)**

## MA projects forum (MAPF):

- ❑ Chair: KT-MA Section Leader

Composition: CMASC Scientific Secretary (ex-officio), KT GL, CERN people involved in MA projects or experts in MA-relevant technologies (proposed by relevant Department Heads)

- ❑ Provide a forum for technical discussions of CERN activities and technologies of potential interest for MA, and propose (new) projects to CMASC. Facilitate communication across activities and with people from external Institutes.
- ❑ Meeting frequency: every 3-4 weeks

**Medical Application Section of CERN Knowledge Transfer Group (KT-MA)**

Operational support to CERN MA activities

**Medical Applications Projects Forum (MAPF)**

CERN experts of MA-related technologies  
Chair: KT-MA Section Leader

**Knowledge Transfer Forum (KTF)**

CERN + Member States consultation forum for KT activities (includes MA)  
Chair: KT Group Leader

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## Knowledge Transfer Forum (KTF):

- ❑ Chair: KT Group Leader  
Composition: representatives from CERN Member State countries
- ❑ Forum to exchange information and develop common strategies on KT (including MA) between CERN and MS countries. Help CERN liaise with stakeholders in the MS. Give input to the CMASC based on MS needs and goals.
- ❑ Meetings frequency: every 2-3 months

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## A primary goal for 2016

Produce a “strategy paper” with priorities and goals for CERN MA activities and projects addressing all domains (accelerators, detectors, software/computing) (→ submit for approval by CERN Council in the fall)



Input from the community (e.g. through this Brainstorming meeting) is **CRUCIAL**

The goal of this meeting is to give input to CERN on what the medical community would need in terms of diagnostics/ imaging, accelerator-based facilities and big data.

The desired outcome of the meeting is a document describing the view from the medical and users' community outlining the top priorities, challenges and needs from physics, radiobiology and information sciences in the next 10 years in

1. Particle Therapy
2. Imaging
3. Radio-isotopes / Nuclear Medicine
4. Medical data

### **The points to be considered for the final document are:**

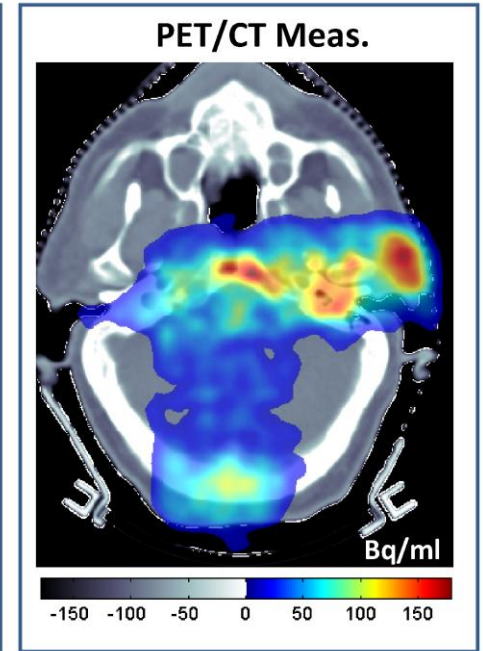
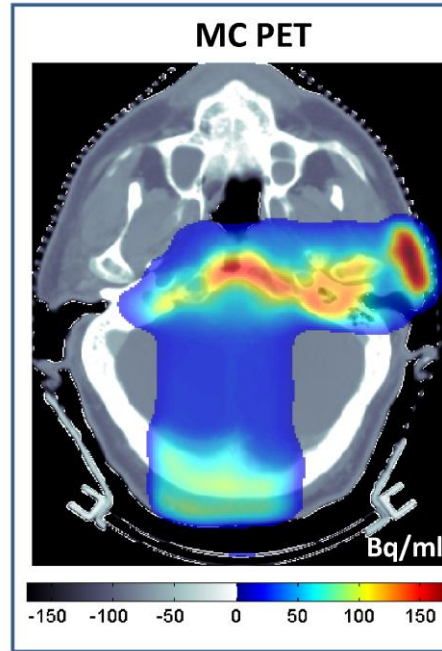
What does the community need in the coming 10 years?

Which are the big challenges?

Who can do this?

What would be good to have from CERN in these areas?

Who are the other natural partners?



Have a fruitful meeting !

**SPARES**

# CERN DIRECTORATE

