

# ePIC Management Plan for the Next 2-year Term

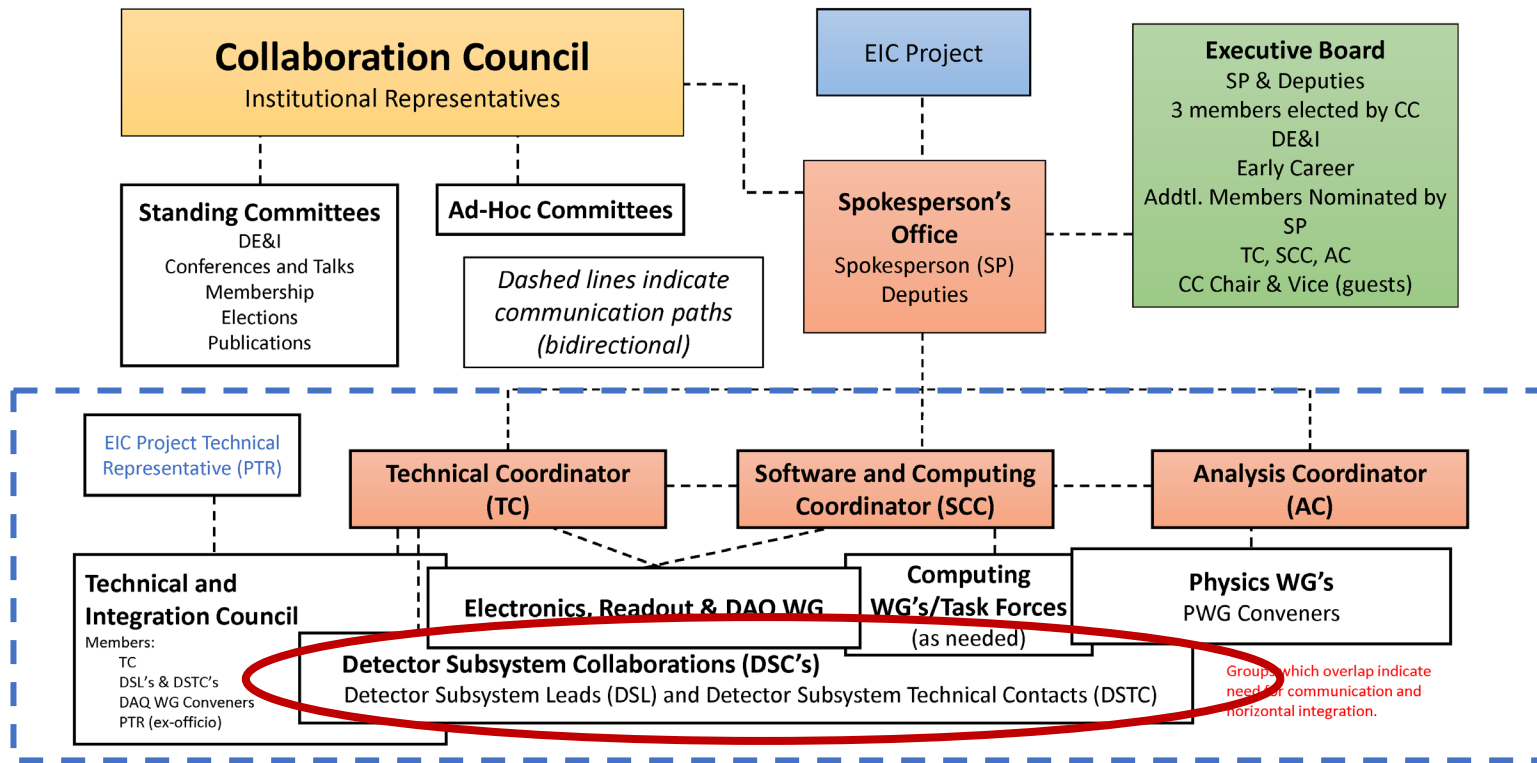
John Lajoie and Silvia Dalla Torre

**ABOUT STRUCTURING THE DETECTOR SECTOR**

Management plan discussion, March 2, 2023

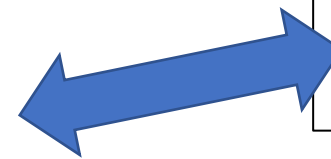
Starting with an extract of the management plan  
to analyze some key aspects together

# Collaboration Structure Including the Scientific Structure for the Next Two-Year Term

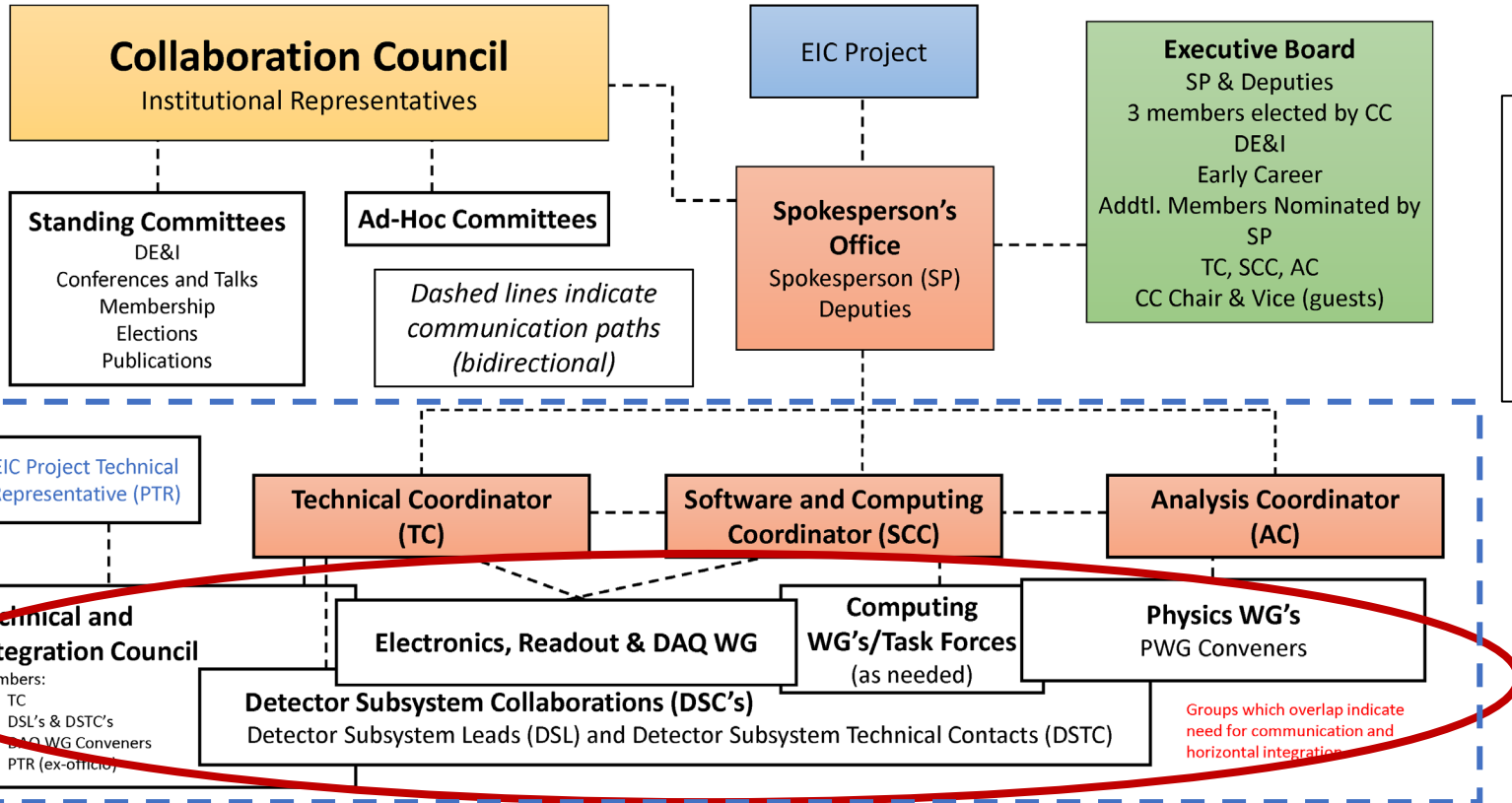


- Need to **evolve DWGs** to a structure more appropriate to the (pre-)TDR/construction phase: **WGs → Detector Subsystems**
- Each project corresponds to a subdetector built by a **Detector Subsystem Collaboration (DSC)** of the groups and institutions contributing to it
- Each project collaboration will choose its **Detector Subsystem Lead (DSL)** and **Detector Subsystem Technical Contact (DSTC)**
- DSL/DSTC (Collab.) <-> L4 Tech. Contacts (Project)

*The goal is a tight integration between the project and the collaboration at a technical level.*



# Collaboration Structure Including the Scientific Structure for the Next Two-Year Term



**Transversal Task Forces**

- *Proposed by coordinators (TC, SCC, AC)*
- *Formed as needed to address critical issues, or issues that require coordination between efforts*

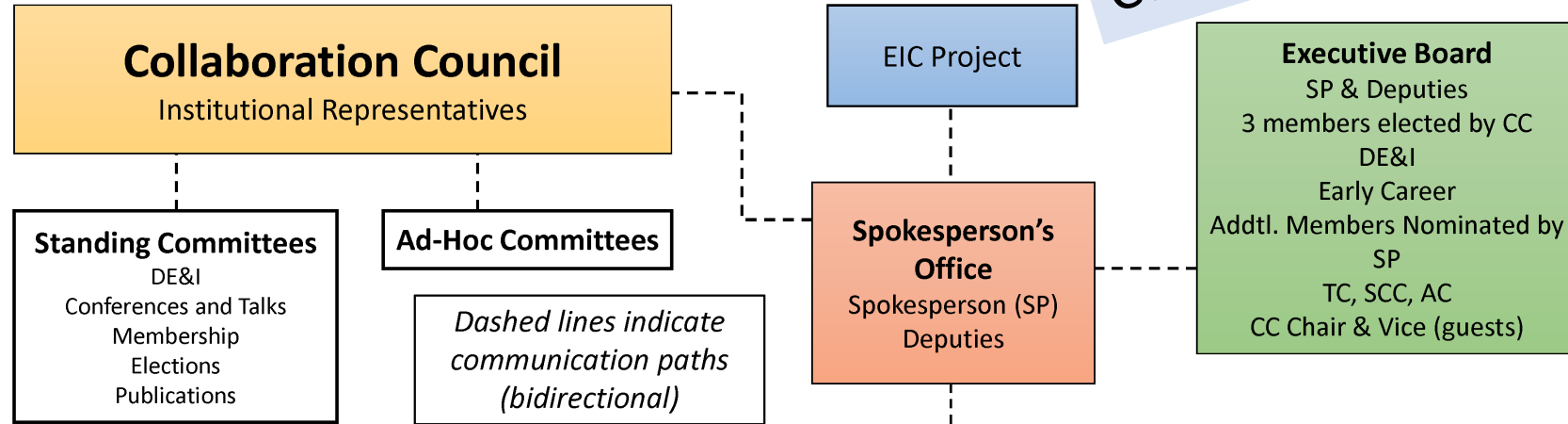
**Task forces and transversal WG's provide the bridge between disparate efforts!**

**Examples:**

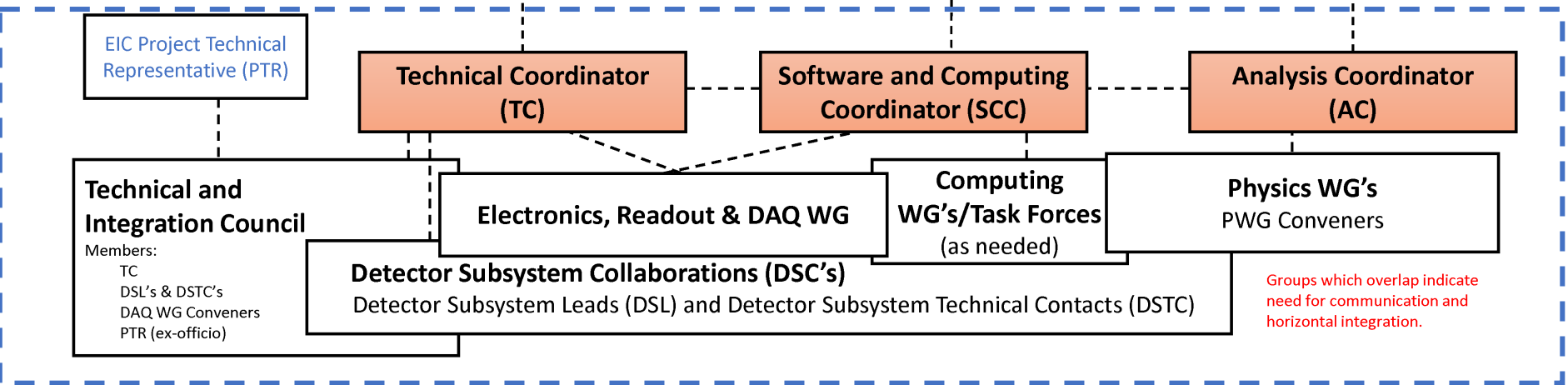
- *Background Task Force (formed by Project)*
- *Potential TF's: ACTS/Tracking TF, Global Event Kinematics, etc.*

# Detector Decision Flow

*Internal to the ePIC Collaboration*



- *Review, analysis and report by TIC*
- *Recommendation formulated by SP Office in consultation with EB*
- *SP Office ensures communication with EIC Project and CC, consistent with ePIC charter*



ePIC Charter lines 66-70:

"Whenever unforeseen constraints identified by the EIC Project require substantial modifications to the detector design, the Collaboration will work with the EIC Project on related technical proposals, will assess the impact on physics capabilities of EPIC and will report their findings to the EIC project. In cases of particular relevance, this may even necessitate the Spokesperson to call for a Collaboration Council vote on the proposed changes."

Getting deeper

in structure design and motivations

# Additional elements

- TC deputies:
  - All the colleagues approached for the 3 major coordination roles are advocating the support **deputies** !
  - One/a small team where each one has a specific sector ?
- Technical and Integration Council (TIC):
  - Chair by the TC, supported by deputies
  - Members: DSLs and DSTCs, R-O & DAQ conveners, EIC Project Technical Representative
  - It is **an evolution of the GD/I**:
    - GD/I conveners → TC and deputies
    - GD/I members, namely WG conveners → TIC members
- Transversal effort
  - An absolute need
  - Can be proposed/initiated by different bodies in the collaboration, but certainly several will be generated within the detector bodies
- Decision flow
  - The proposed decision flow is **internal** to the ePIC Collaboration
  - When the decision results in the proposal of modifications to the Detector Baseline, it will be **submitted to the Change Control Process**
- DSLs and DSTCs
  - DS Leader (DSSL) - the “administrative/managerial” leadership
  - DS Technical Contact (DSSTC) - the “technical” leadership
  - They can coincide (in particular in smaller DSCs)

# Why this transition?

- Functional to:
  - Finalize the detector sub-systems for the **TDR** (CD2&3)
  - **Prepare the construction period**
    - *Please, note that the present 2-y term coincides with period of preparation of the TDR !*
  - All large-size collaborations have similar structures
- Groups involved in the Detector Sub-Systems:
  - Make their **responsibility explicit**
  - Support their engagement and enthusiasm
  - **Clarify the communication chain** in matter of Detector Sub-Systems
- Collaboration community:
  - **Support the aggregation** of different groups within the same Detector Sub-System
  - Offer an **opportunity of enlargement of the collaboration** also via the direct efforts of the groups in a Detector Sub-System to encourage partners, who are presently not ePIC members
- Financial Aspects
  - The **explicit links of groups in a Detector Sub-System** to their Detector Sub-System realization supports **actions** (by PM, ePIC management and Detector Sub-Systems members) **for in-kind contributions**
- Project progress:
  - Establish **direct links between the Detector Sub-Systems and the EIC Project CAMs**



# How this transition?

- DSCs are Collaborations! → Encouraging a bottom–up approach
  - Form a roster:
    - **Groups forming the Collaboration**
    - **Detector Sub-System Leader**
    - **Detector Sub-System Technical Contact**
  - Process to be completed within 1 month
  - **SP-office and TC and deputies (when appointed) will be actively engaged in this process**

# On February 24: Several requests of clarification about DSC

- Reminder, our **definition of a DSC:**
  - A collaboration formed by groups that work together to design, build and later operate and maintain a detector sub system
- Approach: clarification by **a concrete scheme** in next slide (still a draft)

# DSC scheme (*draft*)

| DWG           | DSSC                         | Notes  |
|---------------|------------------------------|--|
| (now)         | (in management plan)         |  |
|               |                              |  |
| tracking      | Si trackers                  | building on silicon consortium                   |
|               | Gaseous trackers             |  |
| calorimetry   | backward ECal                | building on EEMCal consortium                    |
|               | backward HCal                |  |
|               | barrel ECal                  |  |
|               | barrel HCal                  |  |
|               | forward ECal                 |  |
|               | forward HCal                 |  |
|               | HCal insert                  | presently not in the reference detector          |
| Cherenkov PID | backward RICH                |  |
|               | DIRC                         |  |
|               | dRICH                        |  |
| ToF           | barrel AC-LGADs              |  |
|               | forward AC-LGADs             |  |
| far forward   | tracking (RPs, off-momentum) | from conferring with the existing conveners      |
|               | B0                           |  |
|               | ZDC                          |  |
| far backward  | Lumi Pair Spectrometer       | following a suggestion of the existing conveners |
|               | Lumi calorimeters            |  |
|               | low Q <sup>2</sup> taggers   |  |

# DSC scheme (draft)

| DWG          | DSSC                         | Notes  |
|--------------|------------------------------|--|
| (now)        | (in management plan)         |  |
|              |                              |  |
| tracking     | Si trackers                  | building on silicon consortium                   |
|              | Gaseous trackers             |  |
| calorimetry  | backward ECal                | building on EEMCal consortium                    |
|              | backward HCal                |  |
|              | barrel ECal                  |  |
|              |                              |  |
|              | dRICH                        |  |
| ToF          | barrel AC-LGADs              |  |
|              | forward AC-LGADs             |  |
| far forward  | tracking (RPs, off-momentum) | from conferring with the existing conveners      |
|              | B0                           |  |
|              | ZDC                          |  |
| far backward | Lumi Pair Spectrometer       | following a suggestion of the existing conveners |
|              | Lumi calorimeters            |  |
|              | low Q <sup>2</sup> taggers   |  |

Just a draft:  
Your input to improve the scheme is welcome

On February 24:

Questions about needs transversal to DSCs

- A concrete example:
  - To optimize the overall tracking performance across the two distinct DSSCs (Si, Gas)
  - Establish a task force with this optimization as its specific goal
- Another concrete example:
  - Backward RICH and DIRC using the **same photosensors** (to be confirmed)
  - A common transversal team for the R&D and to define the required services

# DSC leadership

- DSLs and DSTCs
  - DSSL (DSS Leader) - the “administrative/managerial” leadership
  - DSSTC (DSS Technical contact) - the “technical” leadership
  - They can coincide (in particular in smaller DSSCs)
  - DSSLs and DSSTCs will sit in the TIC
- Technical and Integration Council (TIC):
  - Chair by the TC, supported by deputies
  - Members: DSLs and DSTCs, R-O & DAQ conveners, EIC Project Technical Representative
  - It is **an evolution of the GD/I**:
    - GD/I conveners → TC and deputies
    - GD/I members, namely WG conveners → TIC members

# Questions for Discussion

- Comments about the proposed new structure of the detector sector
- Comments about the transition to the new structure of the detector sector
  - What is regarded as critical in the transition?
  - Which kind of support/help is needed to facilitate the transition?
- Comments about the internal decision flow?
- Comments about TC and deputies
- Comments about DSL and DSTC