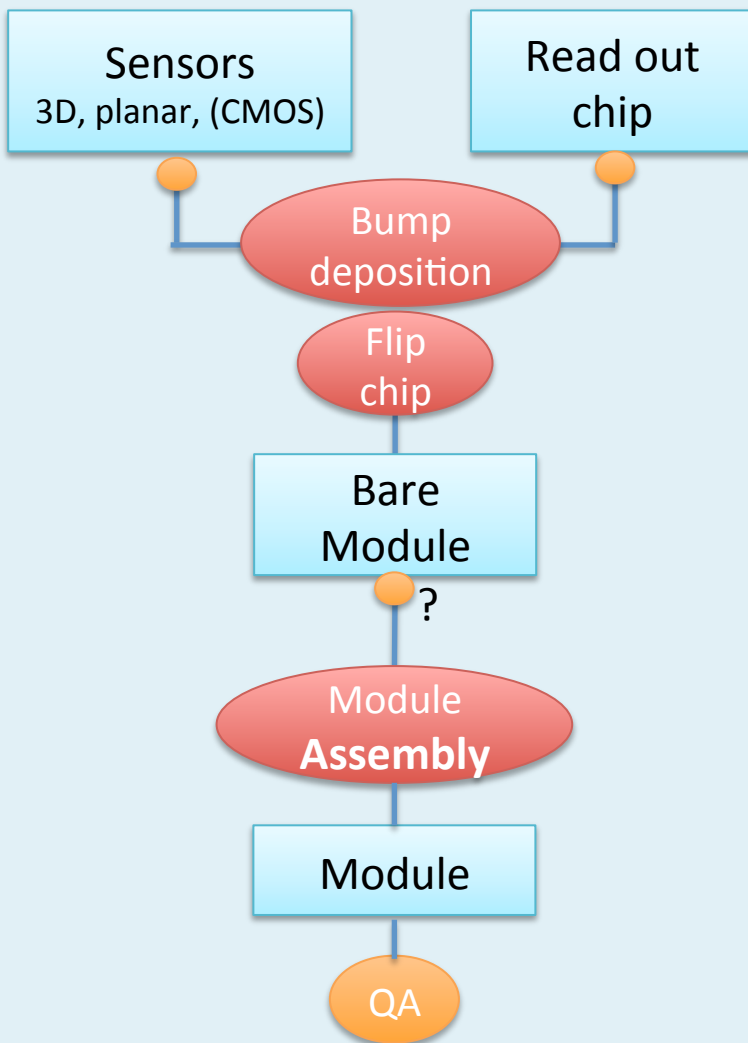
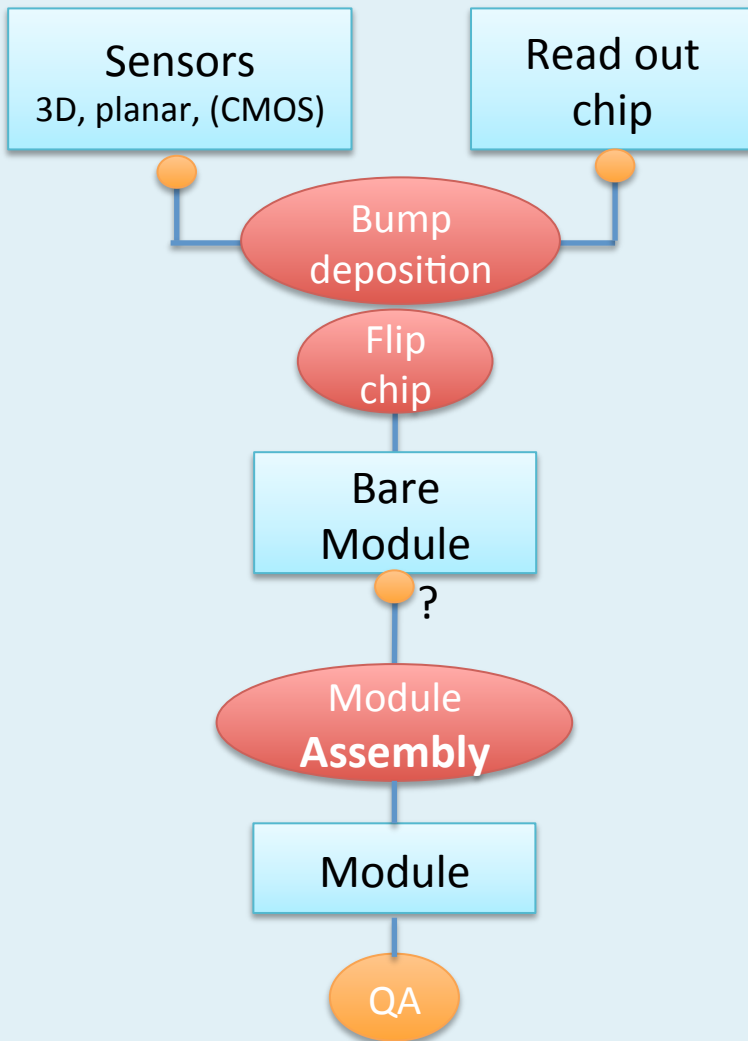




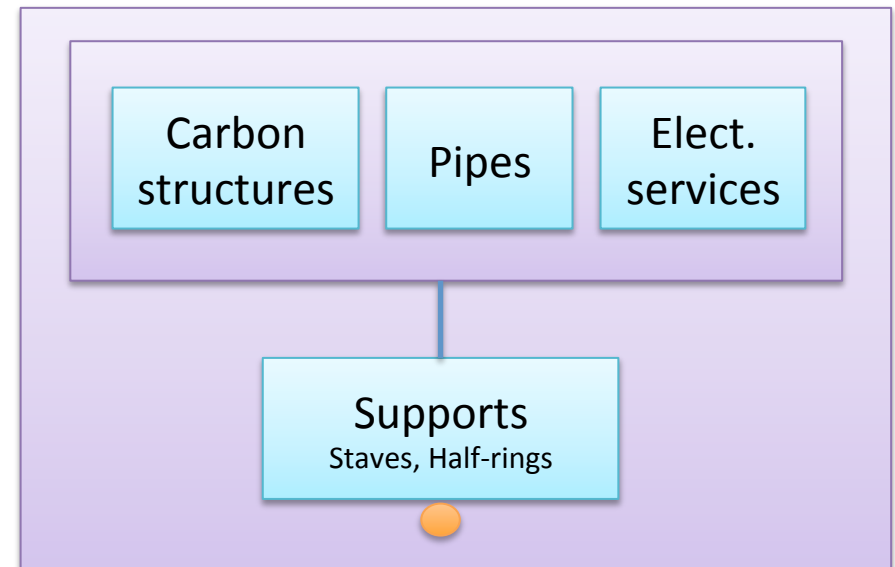
Italy Production organization **Modules**

- Collaboration with FBK in **3D** and CMOS
 - Labs: Bo, Ge, Mi, Tn
- Readout Chip RD53 :
 - Labs: Mi
- Collaboration with **Selex** for Bump deposition and FC:
 - Labs: Ge, Mi
- **Assembly modules**
 - Tools: clean room, precision setup, Wirebonder, pull tester
 - Labs: Ge, ... ?
- **Modules QA**
 - Tools: HW setup, source, cold box
 - Labs: ALL!!



Italy Production organization ***Supports***

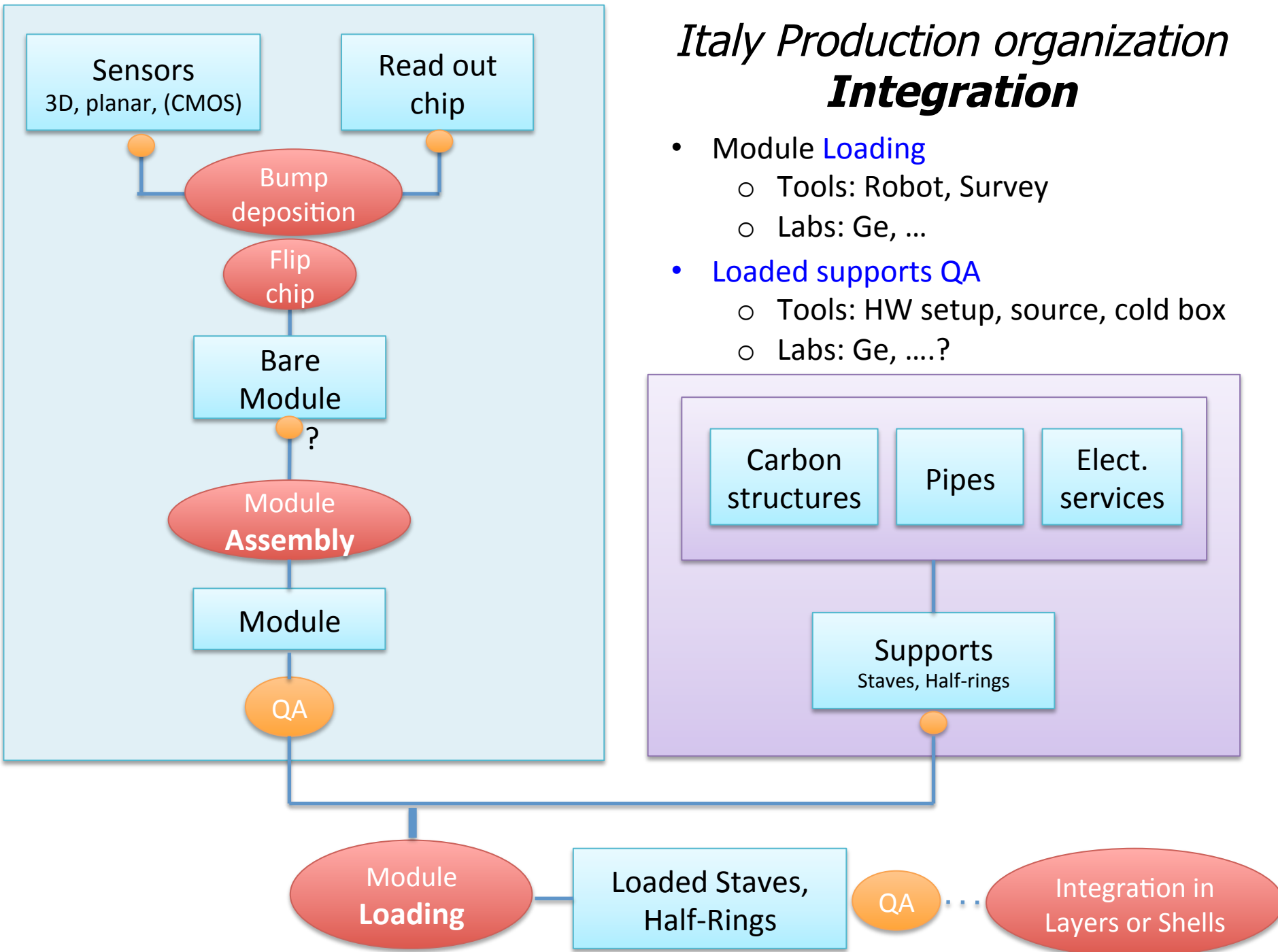
- Staves Thermal management:
 - Labs: Mi
- Electrical services:
 - Labs: Ge??



Italy Production organization

Integration

- Module **Loading**
 - Tools: Robot, Survey
 - Labs: Ge, ...
- **Loaded supports QA**
 - Tools: HW setup, source, cold box
 - Labs: Ge,?



Possible Italian contributions

- **Technical Deliverables:**
 - 3D with FBK
 - CMOS (?)
 - Bump bonding with Selex
 - CAEN ??
- **Detector Components:**
 - FBK 3D production, Assembly, QA
 - Other types of **modules** Assembly and QA according to It share
 - **Bump bonding** with Selex (3D and/or thin planar)
 - **???? Half-Rings for “the second” (currently orphan) End-Cap ?????**
 - Pros are that there is already a lot of design work already done by British colleagues and that technical work is doable by our community.
 - labs with good mechanical infrastructure may play a significant role
 - **???? Innermost pixel detector????**
 - Pro is that it is more linked to the modules we are producing
 - Cons that we do not have enough technical manpower, that there is a strong interest by US groups and there is no possibility to share with them.