

SOLEIL and SYMETRIE company collaboration to build Tango ready in-vacuum diffractometer



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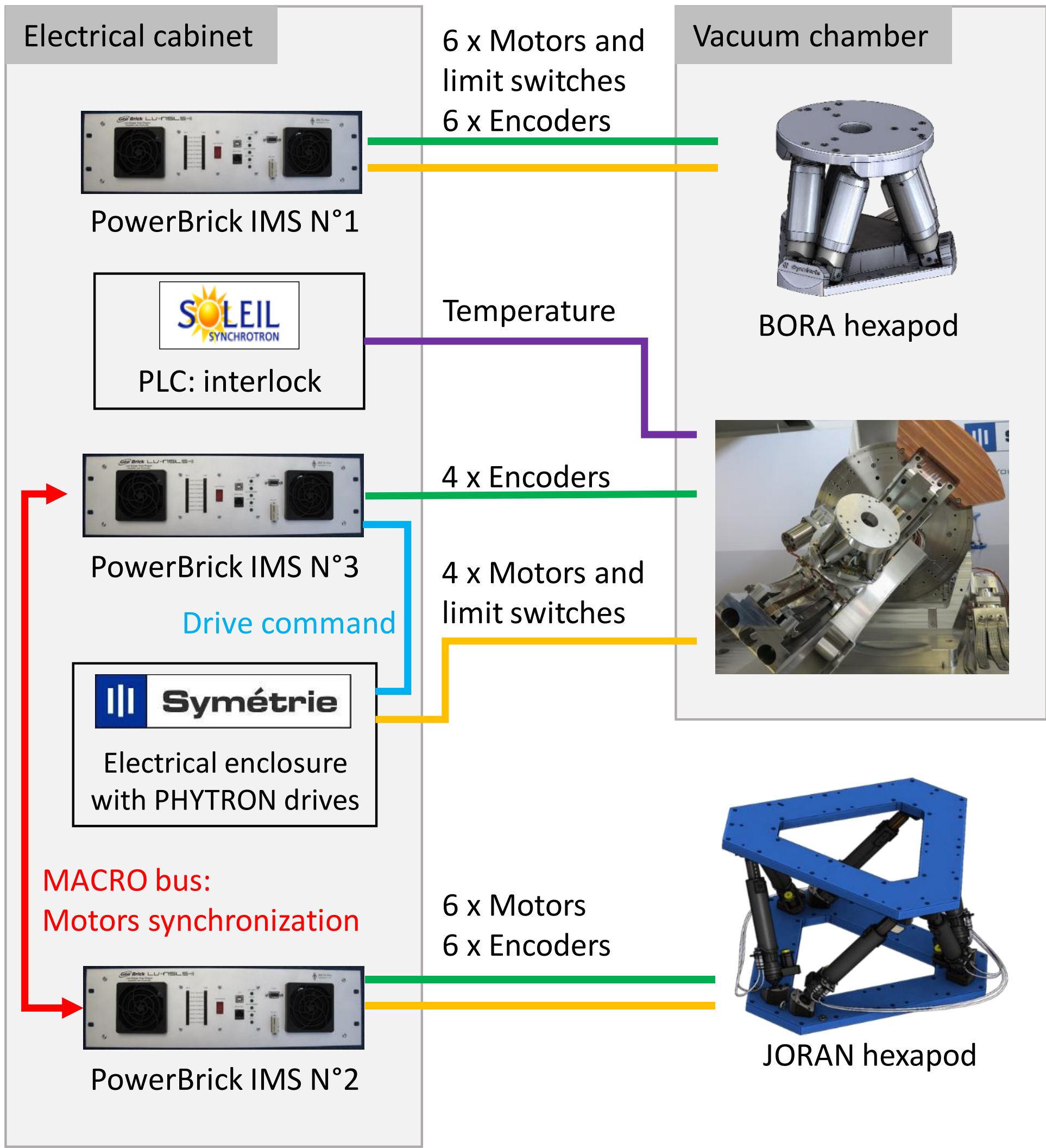
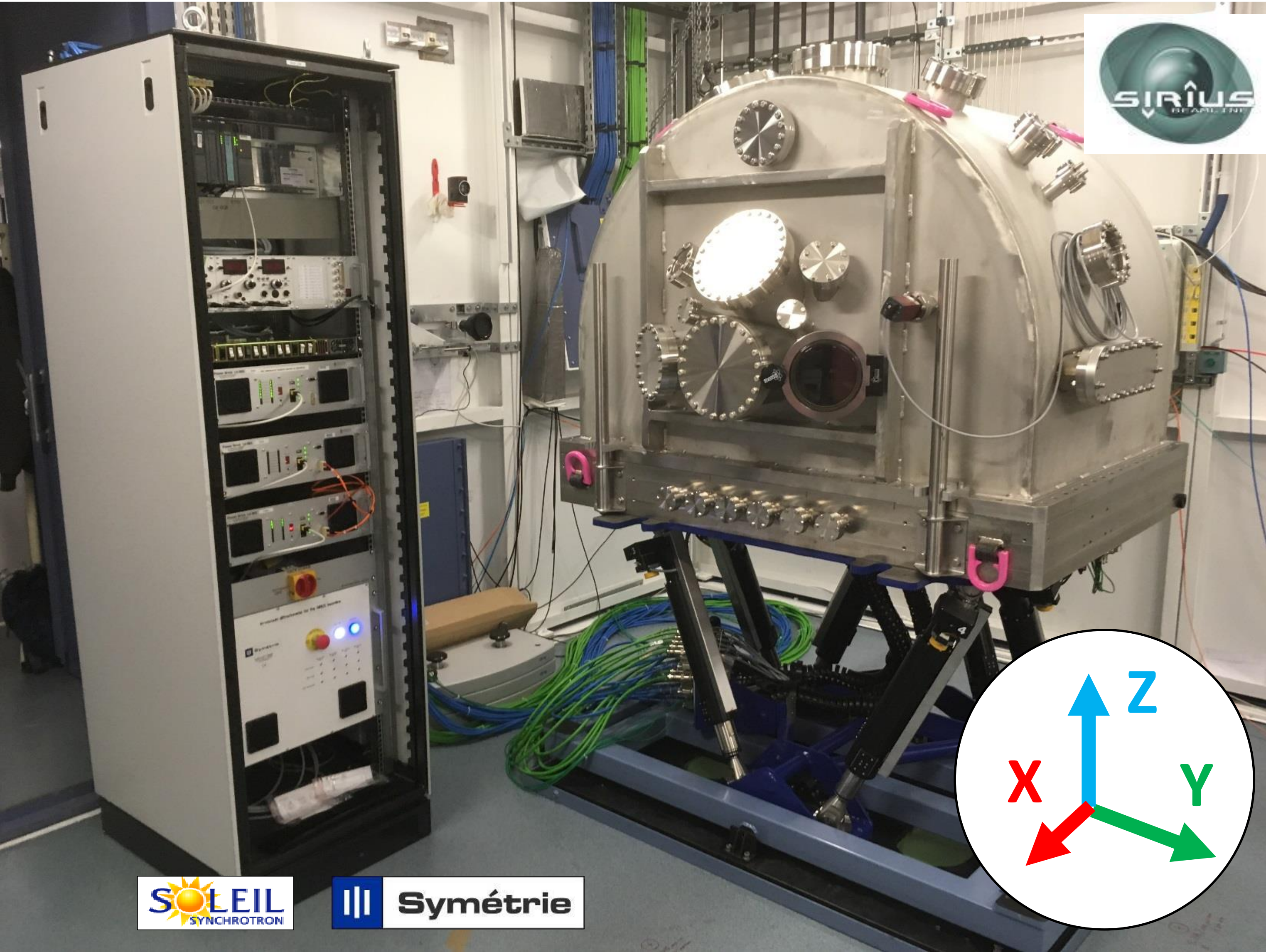


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developed by SYMETRIE company and complementarily funded by an Ile-de-

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Hardware architecture for control

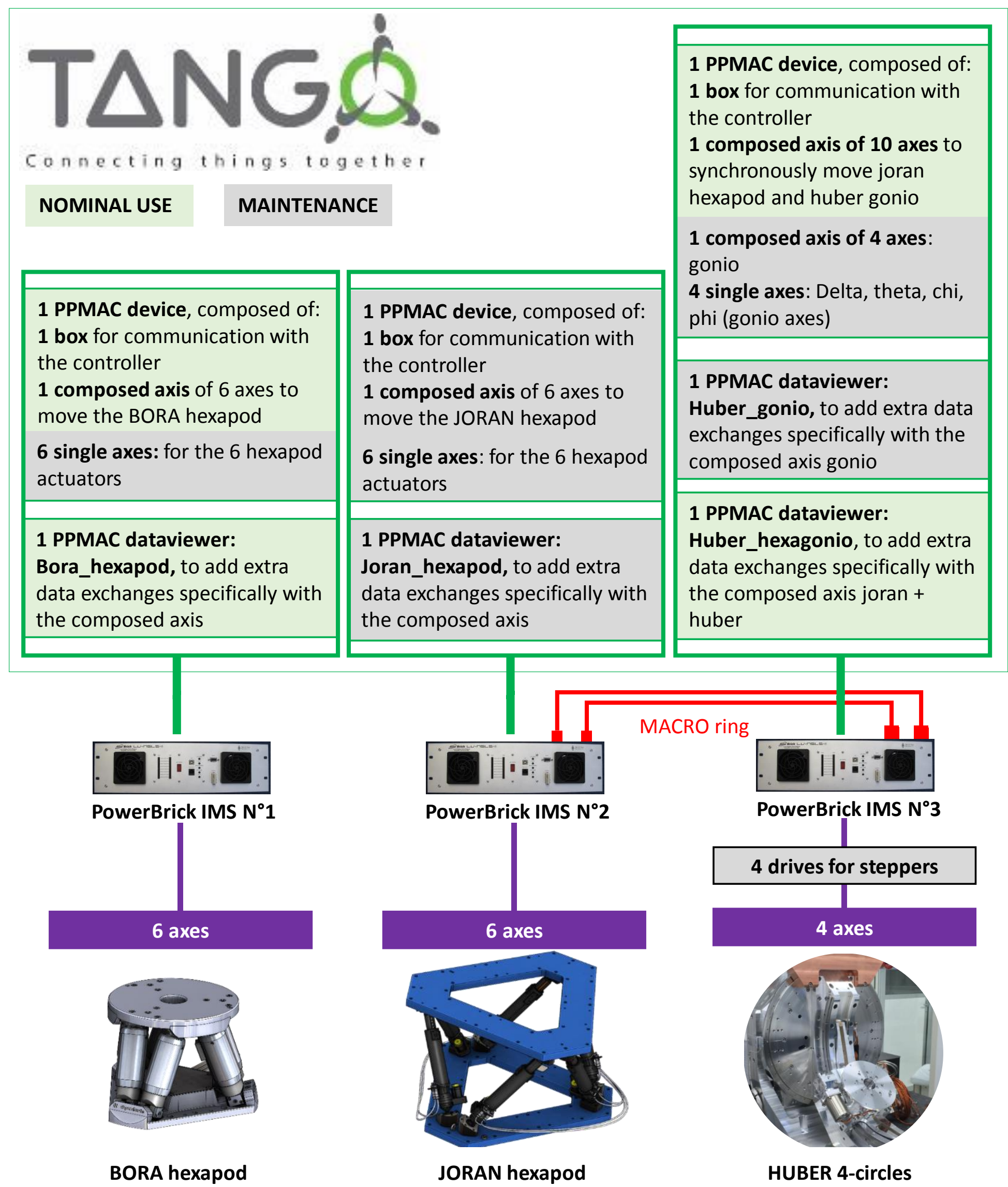
Control architecture : Based on Standard SOLEIL hardware and software architecture fully integrated in TANGO.

Hardware devices use **PowerBrick Delta Tau controller** selected in the context of REVOLUTION project at SOLEIL.

TANGO Software interface using :

- Device **PowerPMACBox** for the controller and general data.
- Device **PowerPMACAxis** for driving physical axes.
- Device **PowerPMACComposedAxis** for driving composed virtual axes (one device/CS).
- Device **RawDataViewer**, a diagnostic tool providing read-only raw firmware data of Power PMAC for specified axis.

Embeded software manage the **kinematics**, the **hexapod moves pre-validation**, the **coordinate systems changes**, some **real-time security verification**



Tango device and embedded software integration

Successful Collaboration

Diffractometer factory acceptance tests :

- **mechanical integration on the beamline**
- **metrology constraints,**
- **vacuum quality of the chamber,**
- **project management and collaboration successfully achieved**

This project convinced in SOLEIL in the **choice of the DELTA TAU controller** for its systems requiring complex control. It also confirms that the **software architecture is flexible** and well **adapted for collaboration**