Steps to Generate XML Files to Load Data in the HGCAL Database

To load data in the DB for a detector component, all meta information associated with the component must be defined in the Database. Start with loading data associated with Flatness of a PCB with or without **HGCROC**s mounted on it.

1. The DB currently has only **‘Flatness PCB ROCs Mounted’** datatype **(Kind of Condition Name)** for PCBs with HGCROCs mounted.
2. To store flatness data for **PCB**s with **no** HGCROCs mounted, there is another table that has been deployed - **‘HGC\_BARE\_PCB\_DATA’**
3. Check the HGCAL DB to see if all geometries of detector PCBs – Kind of Part names - have been defined in the **CMS\_HGC\_CORE\_CONSTRUCT** schema of the Database.
4. Next, check the Database to check if the data you would like to load in the DB has been defined in the KINDS\_OF\_CONDITIONS table in the **CMS\_HGC\_CORE\_COND** schema. This table will also contain the name of the table that hosts this data type. This table provides you with the name of a table and all data types it can host. A table can be designed to host multiple data types for multiple detector component types. This latter information can be retrieved from the COND\_TO\_PART\_RLTNSHPS table in the CMS\_HGC\_CORE\_COND schema.
5. If the datatype you are loading has attributes associated with it, it will be listed in the ATTR\_CTALOGS table of the **CMS\_HGC\_CORE\_ATTRIBUTE** schema, and its value in the POSITION\_SCHEMAS table.
6. The datatype hosted by the table is described the KINDS\_OF\_CONDITION table in the CMS\_HGC\_CORE\_COND schema. Relationships between parts for this KIND\_OF\_CONDITION data type are defined in the COND\_TO\_PART\_RLTNSHPS table.
7. All data recorded is stored in the dedicated table in the **CMS\_HGC\_HGCAL\_COND** schema – e.g. HGC\_CERN\_SENOSR\_IV.