

# Muon Data Converters and Condition Data

- Kind of condition data that Converters might handle:
  - missing/disabled ROB
    - info available in the data (ROB header) => can be checked in the same way when converters are used in LVL2/EF and offline (converters do nothing, just need to propagate this info)
  - dead/disabled chambers
    - will be provided by a service accessing COOL; the info will be stored as a result of DQMF overall procedures based on online+offline monitoring (no online update of condition data during the run or from run to run) => HLT and offline will get the info from a static DB (possibly with different tags for online and offline)
    - masked channels and/or chambers can be updated during the run (new masterkey; relevant info to be propagated into COOL and used in subsequent online and offline running). *To be defined how to correctly define the loV for these data.*
  - noisy chambers and or channels
    - chambers, i.e. data collections, when provided by a service reading COOL converters can avoid cpu intense decoding of useless data (at least online); info on flagged noisy channels can be used by algorithms (not converters)
  - data integrity
    - derived by the converters, must be propagated

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- Currently Muon Converters do not use and do not propagate detector condition data
- Converters will handle data collection or higher granularity info only (channels dead/noisy will be checked by algorithms)
  - *service accessing this kind of condition data from COOL to be deployed*
  - *ROB (and data collection) availability to be checked and propagated by release for data taking*
- Converters need to propagate the information (data collection -or higher granularity- based)
  - to client algorithms NEED TO CHOOSE HOW
    - writing in SG [suitable for offline, but probably limited use case]
    - returning coded status words [suitable for HLT algorithms]
  - for physics analysis
    - producing a source of event based DQ information to be handled along with the other sources of DQ to form the overall event DQ flag - NEED TO DECIDE HOW TO DO THAT
- current muon reco/EF algorithms need
  - channel level info (especially dead/masked) to relax track finding/fitting requirements in case of “holes on tracks”
  - high data collection occupancy to avoid cpu intensive loops due to very high combinatorial background