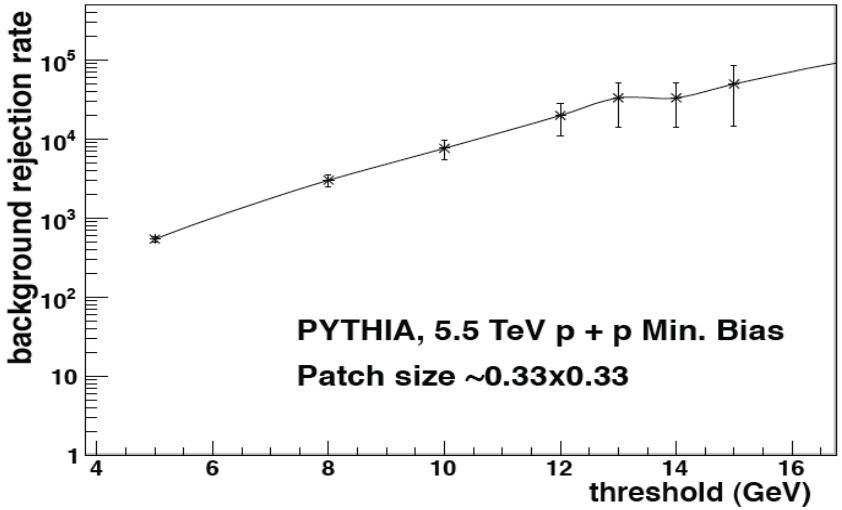
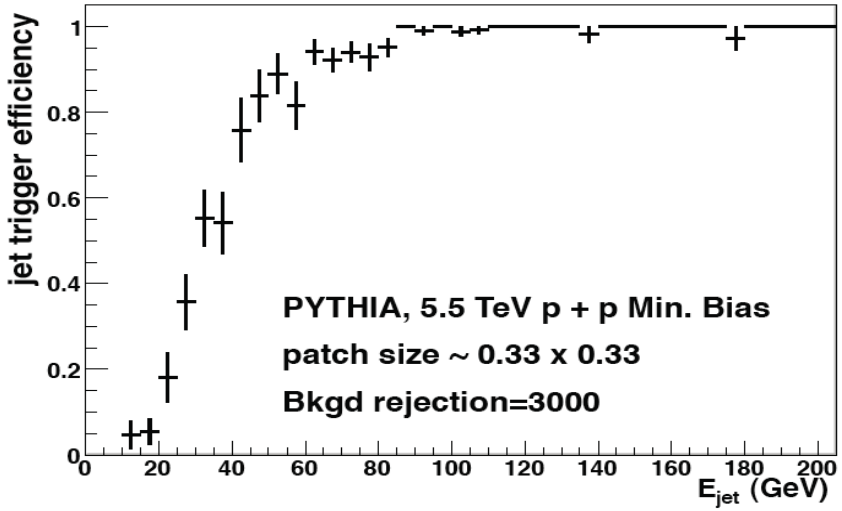
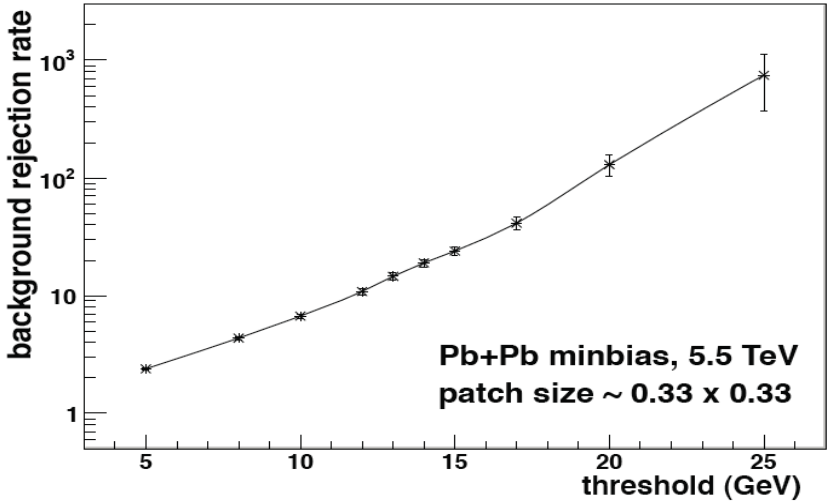
HLT and EMCAL

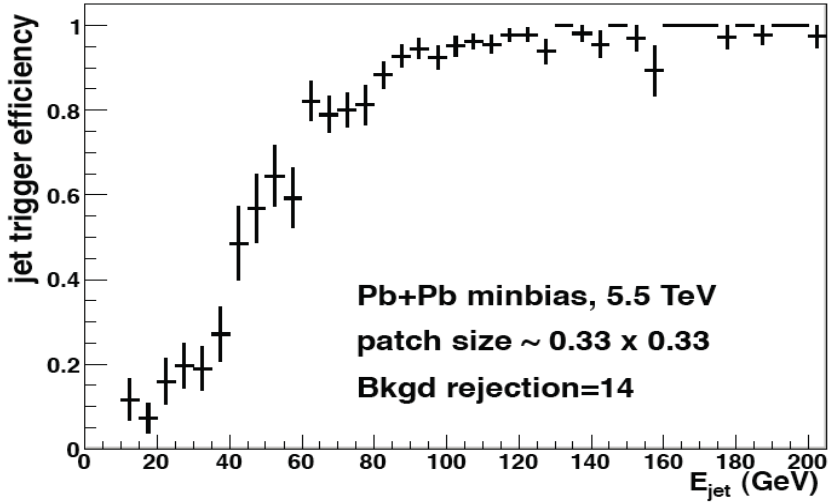
- DAQ/Simulation
  - Trigger Level 1 response
    - Algorithm(s) running at the hardware/digits level - no external information (from other detectors)
  - Output through the DDLs [+ trigger information]
- Reconstruction
  - Start from DDL files (pre-filtered by Level 1 Trigger)
  - Reconstruct clusters
  - Match information from other detectors
    - Tracks + PID
  - Trigger on Physics:
    - Clean-up, Jets, etc.
- On-line monitoring

Trigger LVL1 Simulations



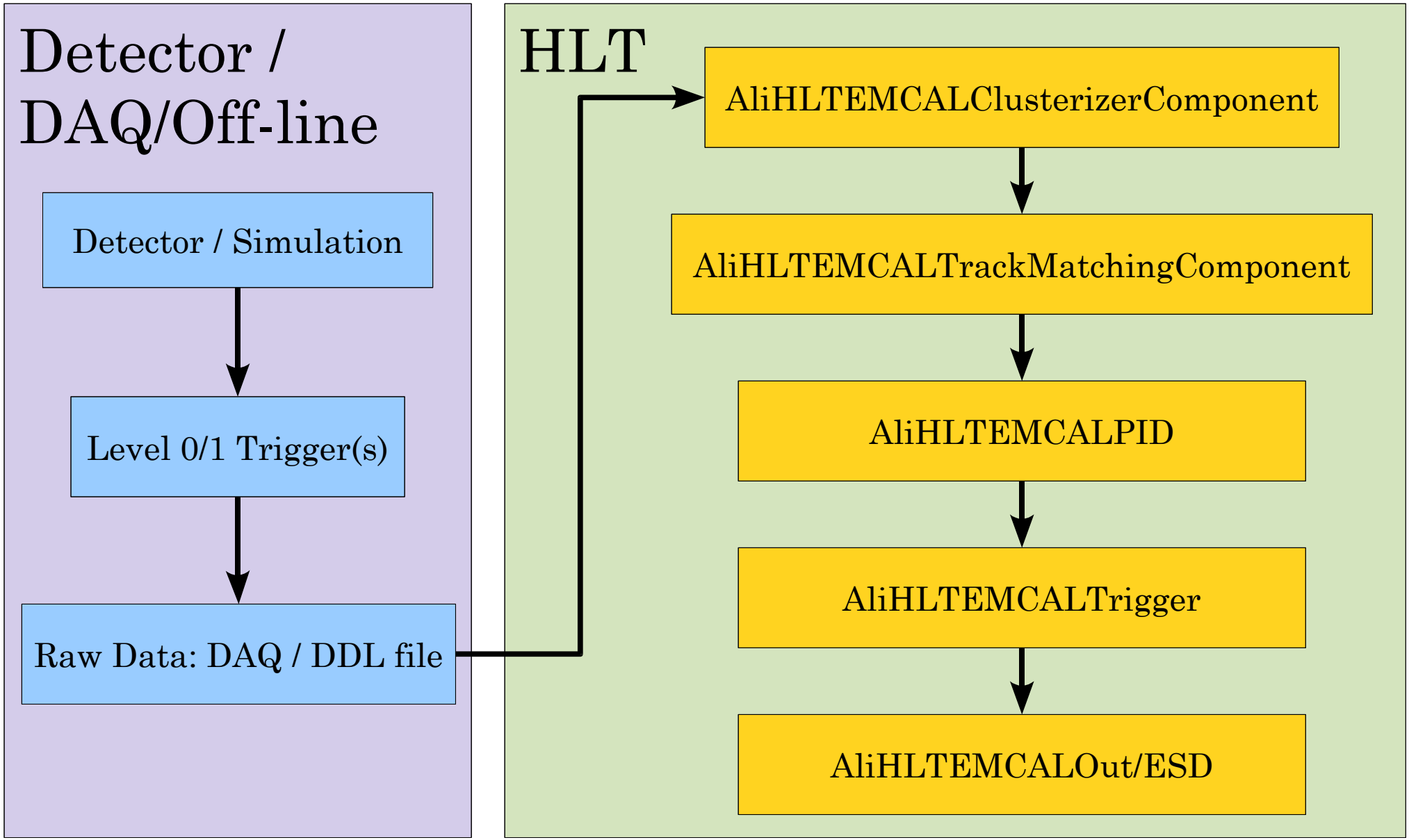




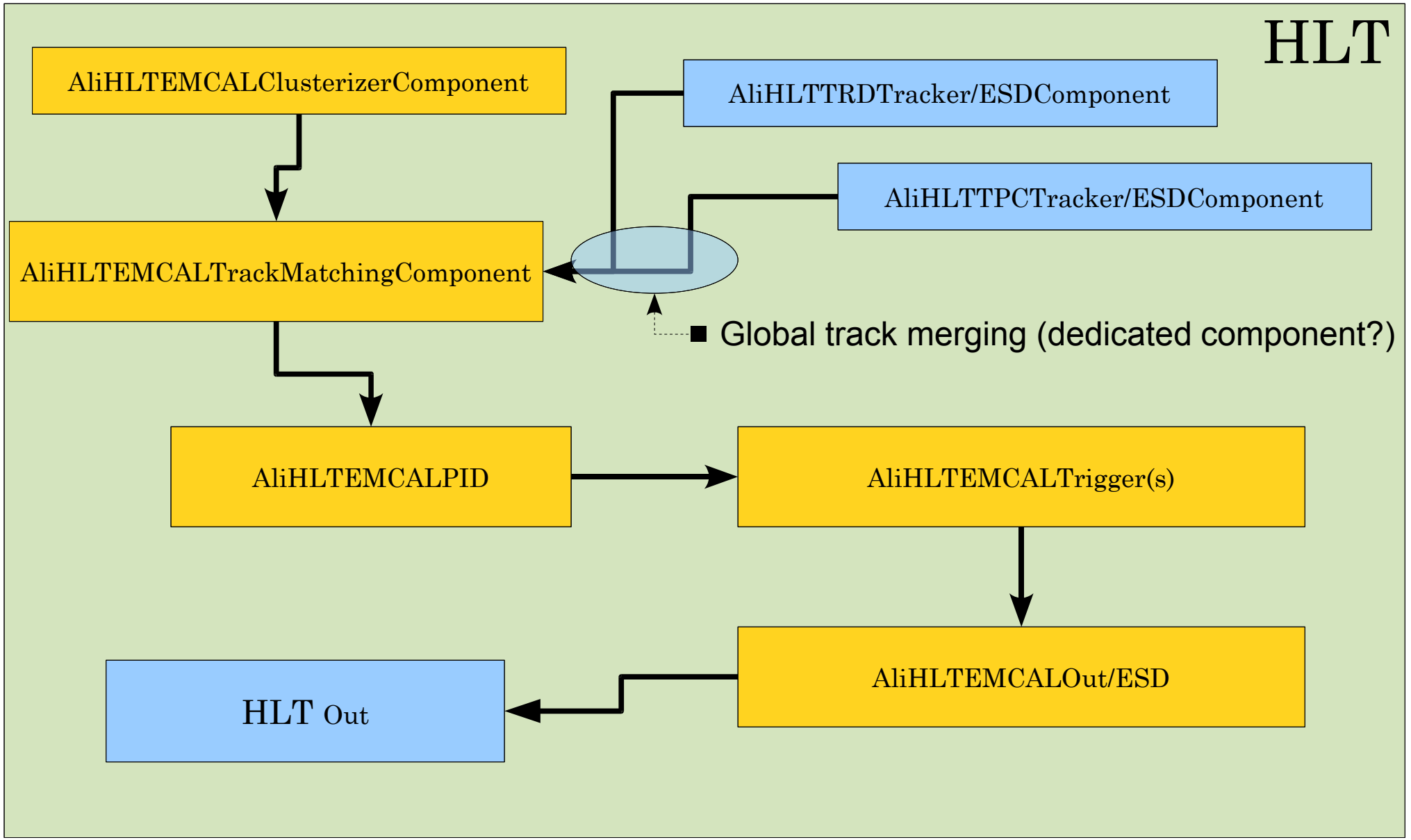


Figures taken from the CD2 report on EMCAL

Data Flow


Detector / DAQ/Off-line
Detector / Simulation
Level 0/1 Trigger(s)
Raw Data: DAQ / DDL file
HLT
AliHLTEMCALClusterizerComponent
AliHLTEMCALTrackMatchingComponent
AliHLTEMCALPID
AliHLTEMCALTrigger
AliHLTEMCALOut/ESD

Global Track Merging



Near future plan

- Extending LVL1 and further studies with simulations
- Implementation of basic EMCAL components into HLT framework
  - clusters->tracks->matching->(fast+robust) jet finder(s)
  - monitoring tools
- Assessing possible impact on EMCAL-HLT (trigger) construction from:
  - TPC-HLT tracks particles pT > 0.7GeV
  - TRD-HLT tracks particles in a stand alone mode first – matching with TPC tracks in the later stage -> combined PID
  - (Mis)Calibration tolerance
  - ITS-TRD-TPC-HLT matching – eventually, yes, but the main focus on TPC for the next few months