# DAQ Data Monitoring WG

The DMWG (short for Data Monitoring Working Group) has the mandate to develop, commission, validate and maintain the software and services for assessing the quality of the data collected by the DUNE experiment, together with the infrastructure for archiving, accessing and visualising quality analysis results.

The group is charged with defining the event data monitoring model to sample events from different stages of the dataflow and trigger chains, between the detectors and the offline storage and distribute them to data-quality consumer applications. It designs and implements, in close collaboration with the DFWG, the application framework plugins to enable applications to publish event fragments. It also develops, implements the data quality applications that provide the functionalities of consuming event fragments, generating relevant data distributions (histograms), applying quality criteria and publishing the results.

It is a responsibility of the DMWG to facilitate the integration of the algorithms used to assess the quality of data, closely working with PPWG (Physics Performance), DSWG (Data Selection) and detectors (TPC, PDS, etc.) and calibration consortia for physics, trigger, detectors and calibration data respectively.

The DMWG implements the data quality applications in the general DAQ application framework, in particular, exploiting the CCM services for accessing the configuration parameters and for distributing alerts in cases where, during data-taking, the quality of incoming data degrades and an intervention of the control system is required.

The DMWG devises and implements a model to archive, retrieve and publish histograms and quality results. It develops and maintains the software services to manage the collections of histograms produced by data quality applications for every data-taking period with appropriate granularity (run, sub-run, etc…). Additionally, the group develops adequate tools to navigate, visualise and inspect the histogram archive for experts and users consumption.

In the DAQ coordination team, the DMWG coordinators participate to the shaping of the overall DAQ system, with particular attention to data quality monitoring and reporting aspects; they report on the results obtained in the WG as well as discussions with detectors and calibration consortia.