

CMS

Data Quality Monitoring

tasks and possible DESY impact

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Compact Muon Solenoid

DQM Mission



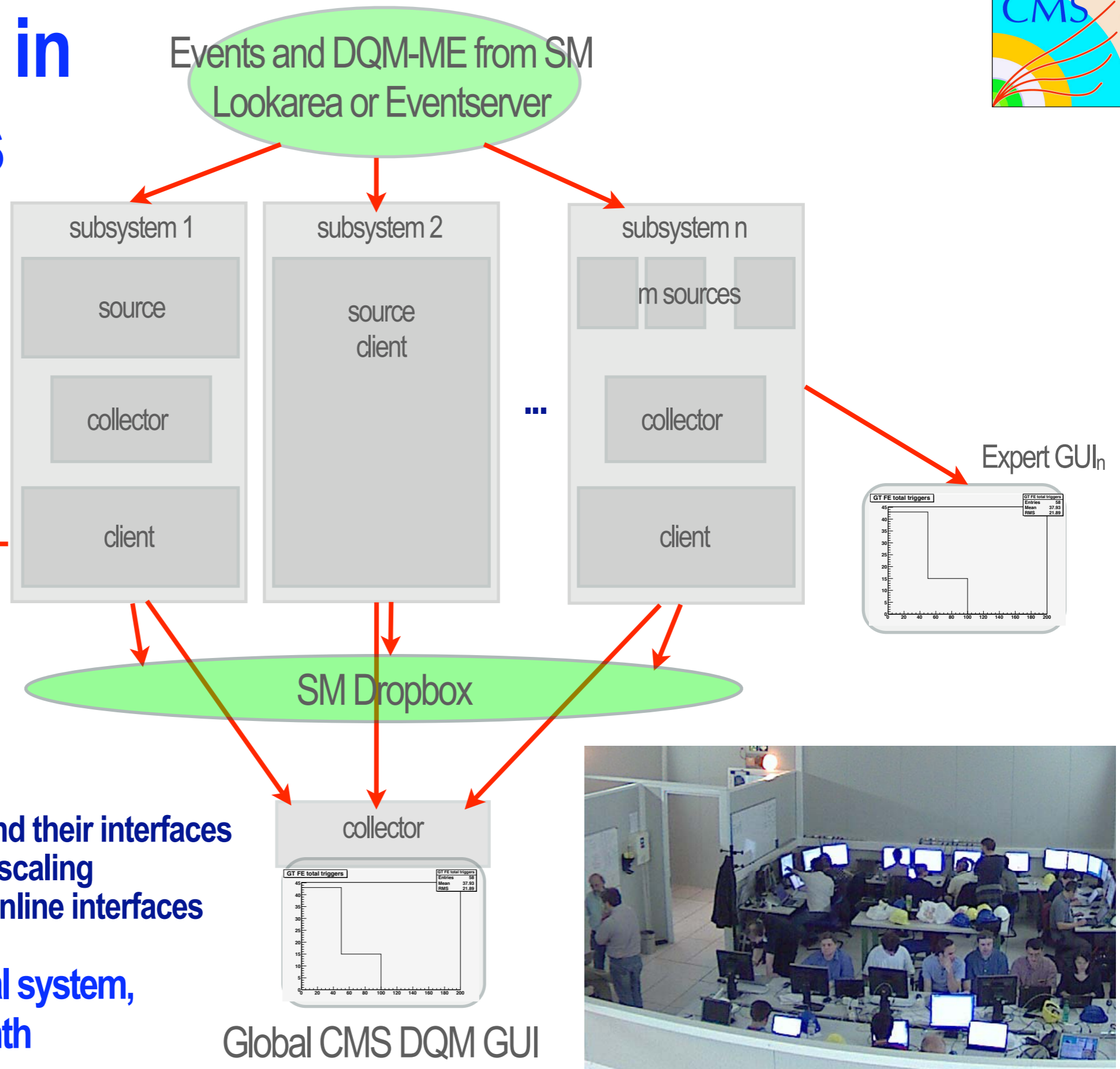
- **Control, display and archive detector status and data quality**
 - **online and offline**
 - **event and non-event data, including history plots**
 - **local (P5), CERN and remote**

- **Provide fast feedback to shift crew and experts about data quality**
 - **Produce quality flags (alarms, warnings) for each luminosity section**
 - **Use standardized certification criteria (input to offline QA)**
 - **Graphical detector synoptic view (GUI):**
 - **List of histograms (and results of quality tests associated to histograms)**
 - **Navigation at different depth of detail**

- **Robust and easy to use**
- **Modular (specified by subsystems), operated centrally and automatically (run-control)**

Coherent and standardized DQ monitoring and assessment for all CMS

Online DQM in Global Runs



DQM Integration

- Establish all processes and their interfaces
- subsystem coexistence / scaling
- enforce use of core and online interfaces

A small version of the final system,
growing each month

DQM Work Packages



- **DQM Framework software**
 - **Storage Manager / Event Server**
 - **Development (feature requests, e.g. reference histos, decorations and handling)**
 - **DQM GUI**
- **Online integration and operation**
 - **Integration with Run-Control**
 - **Output file archival retrieval**
 - **Database read- and write access, interface with XMAS**
 - **Support of subsystem integration**
- **Offline integration and operation**
 - **Integration with SVSuite, AliCal, Tier-0**
- **Subsystem Standardization / Coherence**
 - **Communication**
 - **DQ certification criteria (standardized detector status bits)**

Will not be able to achieve all these goals w/o additional help — from DESY !

DQM Status Summary



- **DQM development and integration activities are barely covered**
- **The DESY impact could be much(!) larger with additional people**
 - **PostDocs at CERN continuously for several months**
- **Concretely:**
 - **Some developments have been started by myself**
 - **This efforts can not be all sustained by myself**
- **Topics yet uncovered (several rather well-defined tasks):**
 - **Offline DQM (e.g. DQM of alignment processing)**
 - **Non-event data monitoring, e.g. trigger scalers etc.**
 - **Framework development**
- **DQM expertise and data are input to ROC building and operating**