



AIDA 2020

Advanced European Infrastructures
for Detectors at Accelerators

WP5

Data acquisition system for beam tests Introduction

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- Provide tools to aid data acquisition in “small scale” systems.
 - Within AIDA-2020
 - ... and elsewhere
- Worked closely with WP15 (beam test infrastructure)
 - Maintenance and development of EUDAQ



- D5.2 Trigger Logic Ready (M30).
 - TLUs produced TLUs for AIDA-2020 beam-lines.
 - TLU's manufactured for other users at "Cost price"
 - Added optical interface for timing/synchronization signal. Used at ProtoDUNE
 - More details in Paolo Baesso's talk
- D5.3 DAQ Software (M30).
 - EUDAQ 2.0
 - See Jan Dreyling-Eschweiler's talk
- D5.4 , D5.5 Data acquisition hardware (M30)
 - Linked to D5.2
- D5.6 Common DAQ system used in combined beam tests (M45)
 - Already running combined beam tests between different Calo systems.
 - Integration of Silicon strip tracker progressing
 - See talks by Katja Kruger (AHCAL) , Mengqing Wu (SiTra)



- MS43 , M21 (TLU Design ready) reached.
 - TLU exists. Report written
- MS46 , M24 (EUDAQ interfaces to other DAQs available.)
 - Achieved with of EUQDAQ 2.0
- MS62 , M27 (Development of run control ready)
 - Was reached when EUDAQ 2.0 is released (Calorimeter groups already gaining experience integrating run control with EUDAQ)
- MS66 , M30 (TLU ready hardware)
 - See D5.2
- MS67 , M30 (Data quality tools ready)
 - Tom Coates (Uni Sussex) worked on DAQ4HEP tools (Ete, Mirabito IN2P3) and enhancing integration with EUDAQ. Used for Calice
 - Full online monitoring not achieved – near-online.



- MS68 (Slow control system ready) , M30
 - A light weight implementation
- MS80 (Common DAQ system ready for combined beam-tests) , M36
 - Already mounting common beam-tests between different ILC detector prototype DAQ systems.
 - Pushed back – will allow experience from more beam-tests to be incorporated in report.



- Common DAQ (WP5) helped tied together the work of different teams working on detector development
- Hardware and software tools developed that have been of use testing detectors.
- Extension period of AIDA-2020 project being used to allow involvement in more combined beam-tests