COSWORTH

Accurate, Repeatable
Data Acquisition & Control

Diablo provides PC based data acquisition and control for a wide range of hardware and subsystems via standard interfaces, such as EtherCAT. Diablo is designed to be highly modular, flexible, and scalable to fit a wide range of applications.

Designed with the demanding needs of the modern Formula 1 wind tunnel in mind, but equally suitable for many other applications; Diablo provides a high degree of test automation.

Tests can be defined in advance, then automatically managed to run through the sequence of test conditions, controlling and coordinating subsystems, whilst collecting the experimental data and logging it to the PC storage. Data can be analysed while the test proceeds, and performance metrics written into a SQL database.

The Diablo Operator Console is a worksheet-based user interface application with purpose designed controls and displays to simplify test control and provide targeted operator feedback. The Operator Console is suitable for modern multi-screen PCs, with the ability to define a floating window for each screen.
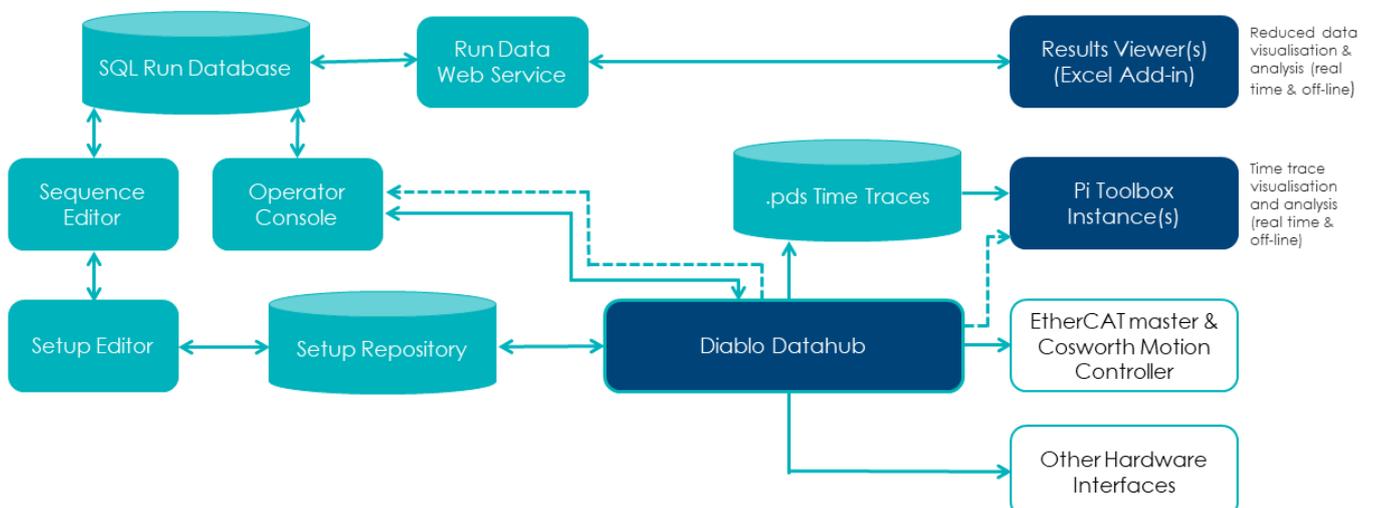
Specifications

- Logging capacity, sampling rates & throughput limited only by PC hardware.

- Compatible with current versions of Microsoft Windows, MS SQL Server, MS Office, .NET and MS Visual Studio.

- Logged & Real-time data compatible with Pi Toolbox.

Diablo Architecture

Product Features

- Automatic Test Sequencing

- Direct-to-disk data logging

- Test results to SQL database

- Real-time graphical & numeric displays

- Toolbox features:

    - Displays

    - User defined maths

    - Metrics

    - Data and video
      synchronisation option

- User customization:

    - Macros - Test Sequencer script (C#)

    - .NET Programming Interfaces:

    - Datahub Services

    - Operator Console Add-ins

- Flexible Input / Output

    - EtherCAT® interface via
TwinCAT®, providing access to:

    - All standard EtherCAT devices,
      including Cosworth's EAI32 and ESG16

    - Other fieldbuses via TwinCAT®

    - OPC Client giving access to:

    - Various fieldbus standards

    - Most PLCs and other DAQ
Devices

    - High Speed Native Interfaces

    - UDP

    - CAN

    - Scanivalve® DSA, DSM and ERAD

    - Chell Micro/NanoDAQ

    - Leading Wind Tunnel Supplier interfaces

    - MTS® Rolling Roads & Hexapod

    - Jacobs® Wind Tunnel and Adaptive Wall

    - Horiba® Rolling Road and Balance

    - Aeroacoustic Measurement Systems

    - PIV Systems