

## Software solution for a dynamometric bench

### The goals

Carlisle needed a **monitoring software for a test stand in the Research and Development laboratory**. The test stand in question subjects disk brakes to continuous high stress and acquires torque, pressure, temperature and rotation speed values from the monitored engine. Usually **each testing session involves complex sequences of parametric tests**.

All those data recorded during the tests have the purpose of helping Research and Development technicians to analyze and typify the monitored samples.

The biggest obstacles in finding a solution could be summarized as follow:

- A **big amount of different kind of data** to be acquired and managed;
- The request of **real-time monitoring of several parameters**, which is a hard task from a computational point of view and required a great optimization of LabVIEW code.

Carlisle required to equip the R&D laboratory with the most reliable and versatile software in order to support the team of engineers during the data analysis and the units classification.



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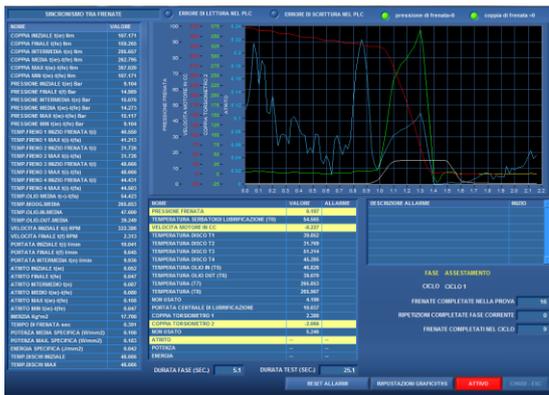
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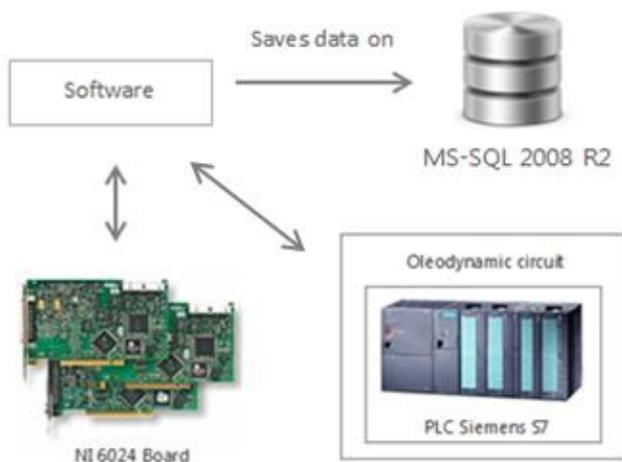
## The solution

T4SM has worked out a solution able to connect to the Carlisle engine in the best-performing way using a **customized interface for data monitoring**.



In order to solve the compatibility problem, T4SM's software acquires signals thanks to the **NI board 6024**: it **communicates with a PLC Siemens S7** which is the handler of the complex oleodynamic circuit serving the engine.

The tests sequences and the status of the tests progresses **are saved in the MS-SQL database**.



Then the recorded data are saved in files used for the automatic generation of reports and Excel spreadsheets.

## Resources

- LabVIEW 2011
- NI 6024
- Windows 7
- MS-SQL 2008 R2
- PLC Siemens S7

## QUOTE

"Our experience with T4SM was positive, both for the versatility of the provided software solution, as well as for the mutual collaboration and their technical expertise"

**Alessandro Gamba - R&D - Applications and Tests Manager**



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