



TOOLS for SMART MINDS

Case Study



How the Rulmeca R&D Department Uses T4SM Solutions to Facilitate Testing Operations

Rulmeca Holding

Goals

- Understand in a simple way how their products behave under strain
- Stop the engine automatically in case of excessive overheating to avoid failures.

Solution

iDaq with the Easy Datalogger add-on enables automatic data collection and display in a simple way. They include a series of functions to facilitate the testing operation, in particular the control of the motor used in the test to stop it in case of parameters out of range.

Resources

- iDaq
- Easy Datalogger
- National Instruments acquisition boards

The Challenge

Rulmeca is the world's leading manufacturer of rollers and motorized pulleys for conveyor belts for quarry and mining applications, products therefore used in hostile conditions for rock transport.

The Research and Development department team built a new conveyor belt for moving materials in quarries and needed to understand how the various parts behave during usage and to verify the absence of any criticalities on the product.

The tests to be carried out have to last very long, as a result of which it is impossible to be supervised by an operator and a difficulty in managing the large number of recorded data.

The Rulmeca team was, therefore, looking for a product that was easy to use and that would save time in identifying the information it needed.

Moreover, in order to carry out the test in safety, it was necessary to be able to control the test bench engine and switch it off in case of excessive overheating to avoid engine failure.



RULMECA: world leading manufacturer of premium components for material handling

Experience and innovation

Founded in 1962, the Rulmecca Group has grown to be a leading partner to the global materials handling industry.

With its three product brands, Rulmecca, Precismeca and Melco, Rulmecca Group is the world's largest supplier of rollers/idlers, pulleys and motorized pulleys for heavy duty belt conveyors for quarries and mining applications and of rollers, drum motors, Drive Rollers 24V for the Intralogistics. 1,250 employees in 17 production and sales companies all around the globe serve Rulmecca Group clients in more than 85 countries.

The Rulmecca Group's strengths include:

1250 employees in 8 manufacturing companies and 9 sales companies;

Global approach with strong presence in Europe, Asia, America, Africa and Australia;

Significant investment in own R&D, technologies and quality systems;

Strategic focus on building up local service centers to support your business.

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Solution

For the test bench, the Rulmecca R&D team chose National Instruments' high-speed boards as data acquisition hardware and as data logging software the TOOLS for SMART MINDS solutions: iDaq and the Easy Datalogger add-on.

iDaq is the software solution for data acquisition and recording and allows the connection of all National Instruments boards. iDaq is the only platform in the industry able to collect data from machines, sensors, electronic measurement boards of different brands, models and technologies.

Thanks to the Easy Datalogger add-on it is possible to view data and create signal-based actions, create synoptic panels by inserting the image of the analyzed object and select the data to be displayed in real-time, in the form of texts, graphs, gauges, thermometers, and other instruments, to allow an immediate understanding of the measurements in progress.



Easy Datalogger interface



TOOLS for SMART MINDS

(T4SM) is a system integrator that develops software solutions for manufacturing companies.

T4SM is Alliance Partner of National Instruments and the development team consists of Certified LabVIEW Architects (CLA) who have long experience in LV Real-Time Programming and LV-FPGA.

T4SM designs from scratch to high-quality solutions easily integrable with third-party products, which help customers to shorten time-to-market of their systems.

T4SM uses the AGILE methodology for the development of software projects and the co-design of applications with immediate benefits for customers, helping them to gain a competitive advantage over competitors.

For technical support and product information:

www.toolsforsmartminds.com

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This data can be opened in common spreadsheets even during the recording session.

The front panel is easy to use, minimizing the time spent learning the program.

Thanks to the solution provided it is possible to meet all the objectives required by the Rulmeca R&D department:

- to quickly process a large amount of data collected;
- to create trigger-based actions, in this case stopping the engine in case of overheating to avoid failure.



Application example of Rulmeca product



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Benefits and Results

All the set objectives have been achieved, thus allowing Rulmeca Holding's Research and Development department to obtain considerable benefits:

- **Simplified testing:** iDaq and Easy Datalogger solutions and interfaces are extremely easy to use to allow the R&D team to obtain relevant information more easily.
- **The motor used in the test bench is automatically stopped** in case of parameters outside the safety range, **preserving** it when it is at risk of failure.
- **Time-saving:** the quick and easy display of the information needed by the Rulmeca team allows them to save time.
- **Reliability:** National Instruments boards combined with the power of iDaq and Easy Datalogger are a robust solution that allows obtaining reliable measurements even in extreme environments where Rulmeca works, capable of handling unexpected device and connection errors.

Client Comment

“We are very satisfied with T4SM, for their professional and competent support. Within the solutions developed by them, we have found an effective answer to our laboratory needs, which require flexibility and reliability. Their system has made our work easier and we can now better focus on our goals.”

Francesco Chebat
R&D Corporate Manager
Rulmeca Holding