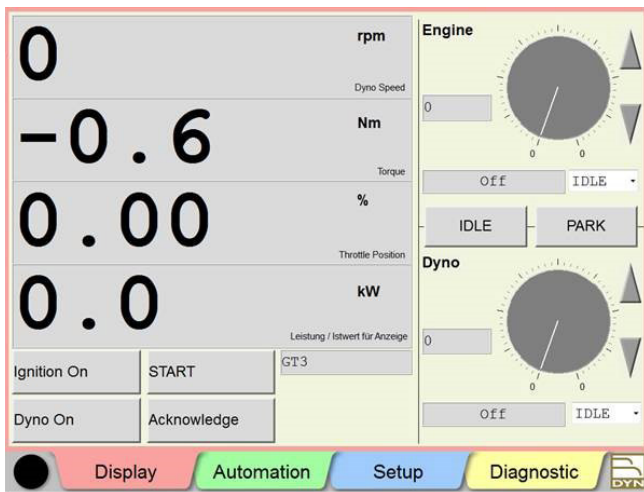


COPA-DATA's Professional Services HMI upgrade for tailored usability

Driving forward HMI design in the automotive testing industry

Based in Worcester UK, Dynamometer Services Group (DSG) Ltd provides engine, transmission, component and vehicle testing. Specialising in new and remanufactured dynamometers as a leading OEM in the field, DSG delivers a modern service by incorporating advanced digital control and data acquisition systems through COPA-DATA's zenon Software Platform.



Dynamometer Services Group _Apicom_HMI_design example before COPA-DATA’s professional services project was started.



After professional redesign the DSG data output screen displays much more information in an ergonomic way.

With 25 years of experience supplying to the industry, DSG is an expert in dynamometers and automotive testing equipment. The technology is used by the automotive sector to accurately measure the torque and rotational speed of an engine, therefore calculating the engine’s power.

The company provides dynamometers to a breadth of users – from large-scale engine manufacturers, right through to small manufacturers and niche projects, such as engines for aerospace and classic formula race series.

Dynamometers must be accurate. But more importantly, dynamometers must accurately relay their measurements back to an end user in an understandable manner. This is typically visualised through a human machine interface (HMI).

As the name suggests, a HMI should seamlessly connect human and machine. In this case, the operator and the dynamometer. DSG sought an upgrade to its existing 28 HMI screens to improve user friendliness, usability, and general aesthetics and turned to zenon by COPA-DATA and its Professional Services offering for help.

PROFESSIONAL SERVICES BY COPA-DATA

COPA-DATA’s Professional Services provides customers with complete project management, from concept development through to coding support and workshops. For DSG, this offering was an ideal opportunity to update its group of 28 HMI screens, while also tailoring zenon for the project’s unique requirements.

zenon is an open-design software platform that can be used for complex process visualisation. It can offer classic

HMI tasks, like operating and observing processes, through to more complex actions typically associated with supervisory control and data acquisition (SCADA), like archiving data and analysing trends.

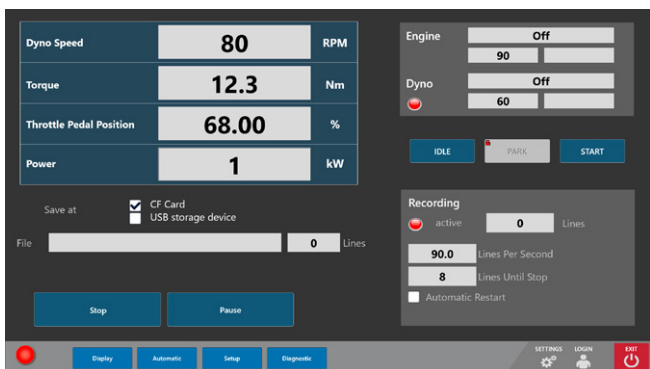
As an HMI for DSG, zenon has used to modernise the way the company communicates measurements of its dynamometers.

Before the project, DSG used a variety of different HMIs, some of which were outdated compared to the company’s engineering expertise in the sector. Standardising the platform used across these HMIs provided a much-needed upgrade, both visually and ergonomically.

Simple improvements, such as aesthetic design made a big difference. By using a standard application of colour pallets across the HMIs, zenon helped to keep projects look and feel consistent throughout the HMI. For the end user, this reaffirms trust in the dynamometer and therefore, trust in DSG.

The use of the colour pallet functionality also allows the customer to customise HMIs to specific colour specifications. Blue and white branding? Blue and white interface. This is particularly beneficial for DSG’s sales process.

zenon also ensures consistent styles. In the original version of the project, the HMIs used several different styles in different parts of the projects. While this may sound minor, it is ultimately very distracting and confusing for the user. The new style consistency makes it easier for a user to perform tasks without confusion.



The DSG main_testing_operations_screen supports operators with clear and simple navigation layout.



The DSG performance recording_screen summarizes all relevant test parameters of the tested device in a clear report.

BETTER DESIGN, BETTER OPERATION

Overhauling a previously cluttered interface with zenon allowed DSG to reduce engineering time for operators by enabling much better usability.

For instance, symbols were created for the significant components of the project which could reduce the number of customer changes in the future. Symbols were also used to improve the otherwise cluttered navigation of the HMI, creating consistent navigation options across multiple screens.

Drop down lists were also minimised. Removal of some of these outdated and difficult-to-use lists allowed DSG to replace them with more efficient buttons and pop-ups. Because users are more familiar with these visual displays, the user experience is improved.

The HMI overhaul has also allowed DSG to future proof the technology for its end users. For instance, the application of Layers in the zenon Editor can reduce the volume of engineering time with future project adaptations.

Combined with better data display, the machines become much easier to read and therefore, far more valuable.

RELIABILITY FROM THE EXPERTS

DSG is already well-established in the automotive testing arena. An upgrade to the HMI element of their dynamometers only further confirms this reputation by improving the experience of engine testing for end users.

As a Professional Services project from COPA-DATA, the entire process was managed meticulously, allowing DSG to create an application-specific solution that is as individual as the customer’s challenges. Moreover, the HMI overhaul was

completed in just one week, following internal testing of the zenon software platform.

“We were already confident in the performance and accuracy of our controllers,” explained Gregg Atkins, managing director of DSG. “Creating an equally impressive visual element was the final piece of the puzzle to improve our offering. COPA-DATA’s zenon has fit the brief by notably improving the usability of the machines.”

HIGHLIGHTS:

- ▶ Improved usability
- ▶ Modernisation across HMI group
- ▶ Modern look for data displays
- ▶ Easy to read output