Sciromatic’s Integrated Systems Division (ISD)

One-stop shop for turnkey machines and systems:
Design, build, integration, and support
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Sciematic has 40 years’ experience solving manufacturers’ challenges and improving their processes. It’s what guides our approach in all that we do. Sciematic’s ISD (Integrated Systems Division) functions as an extension of our products, making the process of improvements on the manufacturing line as easy and efficient as possible for our customers.

We work with manufacturers across the globe, with local support located across USA, Canada, Mexico, India, China, UK, and Europe. With our main ISD design lab and integration assembly and runoff area headquartered in Rochester Hills, Michigan, USA, our teams work together to deliver quality builds and systems and support locally across the globe. Working with Sciemetric technology, or any technology, our ISD group will collaborate with your team to identify your needs and bring the project to life.

The Sciemetric Advantage

Full in-house project management from concept to sign-off

In-house electrical, mechanical, and controls design capabilities

In-house integration/installation and runoff capabilities

We can work with your team and trusted, preferred contractors and suppliers

Decades of manufacturing process/In-process test (IPT) know-how

Data acquisition, management, and analytics expertise

Best-in-class delivery times due to direct contract with end user

Global delivery, installations, and support

Sciematic ships and installs turnkey systems around the world
Overview of Services

Sciometric offers flexible, customizable services and solutions to meet your needs. Anything from a small leak test cart to a full assembly system or machine, we will manage every stage of the design, build, and integration process to deliver a solution that meets your needs, on-time and on-budget. Below is an overview of our offerings.

◆ **Turnkey test carts and benches**
Sciometric has an offering of standard carts, customized solutions, or fully unique custom-built cart and bench designs to fit your testing needs and budget. We have several models of standard leak test carts for different settings, as well as custom solutions for air leak test, helium leak test, and other electrical components testing. We work with your team to identify your needs and deliver a solution that will get you the most accurate, efficient test results.

◆ **Custom turnkey machines and systems**
We have delivered fully automated, semi-automatic, and manual systems, scaling from simple or complex, including specialty stations, like cold test, hot test, NVH sound booths, hydraulic power units for endurance testing, and more.

◆ **Machine retools, expansions, retrofits, and upgrades**
Sciometric offers on-site and off-site retools, expansions, retrofits, and upgrades. We work with what you have to find the most efficient and economical way to deliver on your requirements. Whether you have an older system that needs to be retooled for model year upgrades, an expansion required to add a new test into your line, or upgrades needed to bring aging or obsolete controls and mechanical systems up to specifications, we have a solution for you.

◆ **Custom fixturing, connectors, and seals**
Our custom fixturing, connectors, and seals are designed in-house to provide the best test results for your applications. When a custom fitting is required, we work with your team to design a solution that will deliver reliable test results, as well as meet corporate ergonomic requirements, etc.

◆ **Process monitoring and measurement**
Process monitoring and measurement is a core specialty at Sciometric. Our products are built to enable visibility into every moment of production, enabling the best root cause analysis capabilities possible. We can apply measurement tools to nearly any application, granting you access to the quality insights you need.

◆ **Data acquisition and manufacturing analytics**
Sciometric is a specialist in data acquisition and data management from part production processes. Whether it is building data acquisition into a new system or applying modern data technologies to an older system, we help you access the insights you need to ensure quality products are leaving your line and that you can continuously optimize your processes.
Custom solutions for nearly any application

The Sciemetric team has delivered solutions for thousands of different applications for manufacturers across the globe. Regardless of the application, we can work with your team to design and deliver a solution to solve your problems. Some examples include:

◆ In-Process Test and Specialty Systems

In-process testing is the best way to ensure quality on your line. Projects can scale from solutions for small test parts to large assemblies. Examples of our capabilities include press and force monitoring stations, crimp monitoring stations, torque-to-turn stations, dispense monitoring stations, leak test stations, rundown stations, nut runner monitoring, gauge and profile stations, hydraulic power units for destructive and non-destructive cycling testing, axle spin testers, and more.

Avoid a Costly Rip-and-Replace

Sciemetric can rebuild and rework your older machines, bringing them up to speed with modern manufacturing technology and insights—without having to do a costly rip-and-replace on the line.
Turnkey test carts
We offer a variety of test carts, with standard and customizable options. Test carts are built to your specifications, adding flexible, mobile functions to your line.

Custom designs to integrate seamlessly
We can customize the design of your test station to integrate seamlessly into the rest of your production line, providing the most effective and efficient solution.
Experts in Manufacturing Process, In-Process Testing

Sciematic is the industry expert on part and components manufacturing processes and in-process testing. This expertise enhances all of our offerings, as we have a deep understanding of how the manufacturing line works and where problems are most likely to occur. We then apply measurement and alerts at these stations to make sure faulty processes are identified before they move further down the line.

We can measure and monitor nearly any process on your manufacturing line, including metrics such as: temperature and humidity, force and distance monitoring, torque/torque-to-turn, noise and vibration (NVH), profile, vision, and more.

THE RESULT?
An efficient production line, a healthy bottom line, and an end product you can count on.
End of Line Tests

We know how important the end of the line test is to your production. We design specialized, custom end of line test solutions to ensure faulty parts and components don't leave your facility.

Hot Test

Hot test is a complex engine test with many environmental and safety considerations. Sciemetric can work with your team to design and build a new hot test from scratch, or we can apply Sciemetric technologies to retrofit your current hot test for data acquisition of the sensors or specific applications within the hot test.

Cold Test

A faster, less complex, and more cost-efficient alternative to engine hot test, we have helped many manufacturers incorporate cold test into their engine lines to boost production speed and efficiency. Without actually turning on the engine, we can design a cold test to monitor events, like simulating the gas pedal revving the engine to a certain RPM, to test proper engine function in the field. With the right monitoring and analysis tools in place during cold test, you can garner nearly the same information as during a hot test.

Battery/EV Test Stations

We apply our in-process test and process monitoring technologies to ensure your trust in every part and component of your electric vehicles. Our solutions include leak testing, fastening, bead dispense, machine vision, battery end of line test, and more, to ensure your EV batteries, e-motor, transmissions, etc. are built to standard.
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**NVH Sound Enclosures**

Sciometric can deliver NVH testing either in-line or in an enclosed sound booth, depending on your application and requirements. We design and deliver fully operational booths for NVH applications, including those requiring complete isolation from background noise.

**Effective environmental control**

We build our machines and enclosures around the needs of the test. When noise and environment control is required, we work with you to deliver a solution to meet your specifications.

**Functional Test**

Sciometric provides a wide range of functional testing solutions, including specialized solutions like seat functional testing, HVAC functional testing, and more.

**Controls and Enclosures**

Supported by our in-house electrical design capabilities, we can design, build, and deliver full controls and enclosures for your machines, including electrical panel wire and build projects.
Repair/Regression Bays

We design RBM (repair/regression bay manager) stations to simplify issue resolution on your line. Simply scan your failed part, and the station will tell you where to put your part back on the line to begin to identify or fix the specific issue. Connecting an RBM to Sciemetric’s QualityWorX database makes our solutions unique and most effective, enabling traceability and comparison across your processes. Software can be customized to virtually any line or application, as long as they have RFID tags.
Leverage Expertise in Manufacturing Data and Analytics

Looking to gain more insight into the processes on your line?

Our data management and analytics solutions are flexible and scalable to your needs. With our QualityWorX suite of data management and analytics tools, we can enable real-time data insights and alerts, visualized defect detection, and continuous improvement at one station, or across a production line. Our team can help you determine the best approach for you.
The process

Sciematic offers a full-service solution for the delivery of turnkey machines and systems. We will manage every step of the design, build, integration, and support process. We can even manage your own internal contractors and suppliers, freeing up your team and resources to focus on your line. Below is a simple overview of the process you can expect working with Sciematic on a custom build project.

1. CONSULTATION
The extent of the consultation phase will depend on your specifications and requirements. Our in-house engineers can design and develop the specifications for your project along with your team as needed. Otherwise, we will discuss your provided specifications, do a site visit, review any concerns, and then develop the concept and proposal.

2. DESIGN
Design starts with a kick-off meeting. We have specialized in-house electrical, mechanical, and controls design capabilities to deliver this phase of the project quickly and efficiently, including providing 3D drawings.

3. BUILD
We usually build on-site at our ISD design lab and integration assembly and runoff area in Rochester Hills, Michigan, USA, or at one of our other global facilities, including runoff with the customer to confirm proof of process.

4. INTEGRATION/RUNOFF
Once you have signed off on the build, our team delivers the new system to your facility, completes the installation/integration, and performs final runoff. Our team ensures that this is an efficient process with minimal to no negative impacts to current production.

5. POST-PRODUCTION SUPPORT
We cater our post-production support to ensure your team is comfortable and satisfied with the new system. Post-production support includes training for your team, final documentation, and final project sign-off. After sign-off, our support team remains at your disposal for questions or further consultation.

Contact us to discuss your next project. inquiries@sciematic.com