



# DESIGN SYSTEMS, INC. NEWS

Manufacturing Facility Engineers & Consultants

A Design Systems  
Corporate Update

[www.DSI-Solutions.com](http://www.DSI-Solutions.com)

SPRING 2006

## Design Systems, Inc.... Maximizing Productivity by Design

Efficiency in manufacturing is the key to productivity and remaining competitive in



*Electrical/Controls and  
Emulation Engineering*

any economy. For almost a quarter of a century, Design Systems, Inc. (DSI) has helped clients in the automotive, food

and beverage, pharmaceutical, package/baggage handling and healthcare industries achieve maximum productivity at their manufacturing and service locations.

As manufacturing facility engineers and consultants, DSI employs a "concept to commission" approach to your project. With specialists in five key areas.

- Mechanical/Conveyor engineering
- Manufacturing engineering
- Electrical/Controls and Emulation engineering
- Paint Finishing engineering
- Detailed Simulation engineering

DSI provides solutions that will maximize the productive capacity of your people, plant and processes.

For more information on how DSI's "turnkey" facilities engineering solutions can help you reduce unexpected downtime, increase the productive life of your equipment and become more energy efficient, call 800-660-4DSI or visit us on the web at:

[www.dsi-solutions.com](http://www.dsi-solutions.com). 

### WHAT'S INSIDE:

Some of DSI's services to consider for your facility improvement projects:

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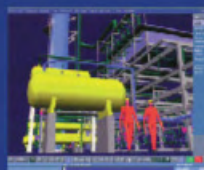
*Mechanical/Conveyor  
engineering*



*Manufacturing engineering*



*Paint finishing engineering*



*Detailed Simulation  
engineering*

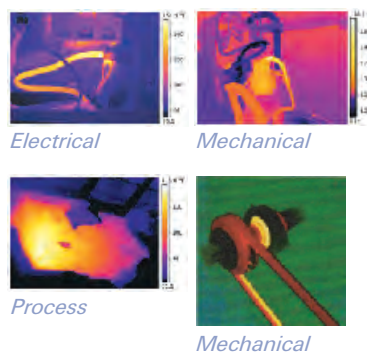


### Design Systems Inc. Headquarters

38799 West 12 Mile Road  
Farmington Hills, MI 48331  
800-660-4374 • 248-489-4300  
Fax 248-489-4321

**Infrared Technology for Predictive Maintenance**

**Hot equipment can chill your bottom line**



Excessive heat build-up in your production equipment is frequently a sign that it's about to fail. Using non-disruptive infrared technology, our trained ITC Certified Thermographers can survey your operations and capture a detailed photograph or "heat signature" of each piece of your operating equipment, whether mechanical or electrical. With this data, DSI can pinpoint where failure

is likely to occur and also develop predictive maintenance solutions to help you avoid costly equipment downtime.

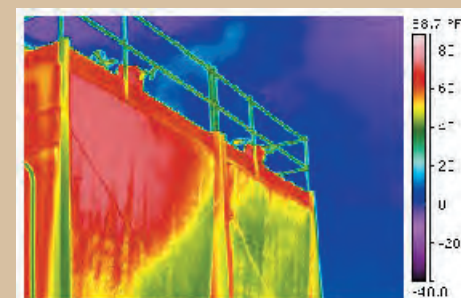
DSI uses infrared thermography to study thermal patterns in your process equipment such as motors, reducers, shafts, bearings, disconnect switches and buss ducts to maximize their useful life. DSI also uses this technology to locate areas within your facility that are experiencing heat gain or loss and develop recommendations for insulation optimization or other steps to reduce energy consumption. **DSI**

**Conveyor and Process Equipment Health Assessment Surveys**

**With manufacturing systems, prevention is cheaper than the cure**

In a production environment, the cost of preventive maintenance is always less than the cost of sudden, catastrophic failure of a key piece of operating equipment. A team of trained engineering specialists from DSI can do a thorough health assessment of the equipment and processes in your facility to spot trouble before it happens. And, we can do it without disrupting your production.

DSI can do a complete visual inspection and physical validation of conveyor systems and process equipment. Conveyor components surveys include, measuring track and roller wear, chain tension and stretch, motors, reducers, shafts and bearings. DSI's system health assessment surveys can also include vibration, oil analysis and infrared thermography to look at overheating conditions or loss of heat on process ovens. We can also chart motor amp draw with a recording amp meter to verify that motors are running within specifications.



At the conclusion of the inspections we provide a detailed report with problems prioritized along with recommendations for corrective action. This report provides a list of critical items for your personnel to correct which will save downtime and increase profits. **DSI**



**Torque Validation Surveys**

**Vehicle quality assurance is a matter of nuts and bolts**

Making certain that every fastener on your vehicles is properly tightened before those vehicles leave the factory demonstrates your commitment to quality. DSI's Torque Validation Surveys – conducted prior to vehicle launch and monitored afterwards – provide assurance that your commitment to quality is continually being met. Quality vehicles mean satisfied customers and reduced warranty claim costs.



DSI uses three separate criteria to determine the quality of a connection: dynamic torque, or the force applied during tightening; dynamic angle, or the number of revolutions required to secure a fastener; and residual torque defined as the force required to restart a tightened fastener. When taken together, these criteria can validate that engineering specifications are being met and assure process repeatability. And, because the data is captured in a consistent and timely manner, negative trends can be quickly flagged for corrective action. **DSI**

**Site Safety Standardization**

**Working safely is the smart way to work**

Standardized site safety systems protect workers from on-the-job injuries and help keep projects on schedule. When DaimlerChrysler decided to make major changes to one of its facilities to accommodate a new vehicle assembly process, DSI developed a comprehensive standardized site safety system for the project. Even with numerous contractors, skilled tradesmen and general labor crews working on the site simultaneously, the project finished on schedule with a safety record that exceeded all expectations.

The standardized site safety system developed by DSI engineers includes site-specific procedures and a list of key contacts in case of an emergency. It also provides a comprehensive framework for safety orientation tracking plus a flexible and efficient way to issue safety incidents and progress reports. **DSI**

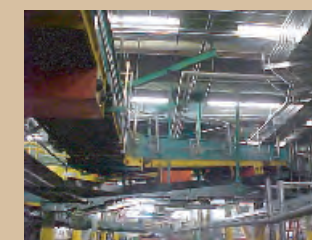
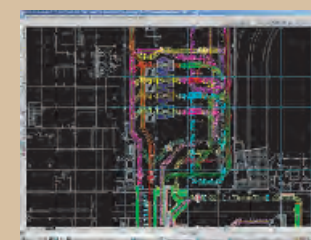


**Baggage Handling Engineering Services**

**Baggage handling systems that let you grow**

Antiquated, overloaded baggage handling systems are inefficient, costly to operate and a real roadblock to growth. DSI designs and engineers baggage handling systems to meet your current and future needs, including integration of mandated in-line Explosive Detection Systems (EDS).

Whether it's upgrading a "brownfield" system or a new "greenfield" facility, DSI engineers work closely with you to thoroughly assess major concerns, such as baggage throughput and time-in-system parameters, space requirements including EDS, initial capital outlays and on-going operating costs. Plus, your plans for future expansion are incorporated into the system design to make sure you have adequate capacity to support anticipated growth. **DSI**





**Headquarters**

38799 West 12 Mile Road  
Farmington Hills, MI 48331  
800-660-4374 • 248-489-4300  
Fax 248-489-4321

**Design Systems Inc.**

400 Executive Ctr Dr. Ste 302, B-64  
Greenville, SC 29615  
864-286-8979  
Fax 864-286-3210

**Design Systems Canada LTD.**

3200 Deziel Drive, Suite 316  
Windsor, Ontario, Canada N8W5K8  
519-944-8807  
Fax 519-944-8853



Greenville, SC



Windsor, Ontario, Canada



**DESIGN SYSTEMS, INC**  
Manufacturing Engineering & Consulting

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Farmington Hills, MI 48331

