Low cost, easy to use, computer-based, distributed monitoring systems that are fully user-configurable

Facilities Monitoring
Product Testing
Machine Monitoring
SCADA Systems
POSSIBLE APPLICATION AREAS

Subject: FACILITIES MONITORING

- Clean Rooms
- Production Areas
- Product Storage
- Incinerators
- HVAC Systems
- Freezers, Chillers
- Boilers, Furnaces
- Environmental Chambers
- Laboratories

Subject: PRODUCT TESTING

- Appliances
- Luminaries
- Electronics
- Automotive
- Aerospace
- Fuel Cells
- Instruments
- Refrigeration
- Turbines

Subject: MACHINE MONITORING

- Injection Molding
- Grinding, Machining
- Automatic Production
- Robotic Systems
- Tire Manufacturing
- Packaging
- Heat Treating
- Forming
- Rolling, Extruding

Subject: SCADA SYSTEMS

- Utilities
- Power Generation
- Oil Field Wellhead
- Chemicals
- Incinerators
- Tank Farms
- Nuclear Waste
- Solar Arrays
- Pumping Stations

Subject: MEASURE - MONITOR - RECORD

- Temperature & Humidity
- Airborne Particles
- Airlock Pressure
- Power, Voltage, Current
- Utilities Usage
- Air, Water Flow
- Gases: O₂, CO, CO₂, NH₃
- Liquid Levels
- Noise & Vibration

- Temperature Rise
- Power Consumption
- Displacement
- Speed
- Voltage, Current
- Pressure
- Temperature Balance
- Efficiency
- Luminosity

- Temperature
- Pressure
- Force
- Speed, Acceleration
- Displacement, Size
- Power, Torque
- Coolant Levels
- Parts Counts
- Cycle Times

- Temperature & Humidity
- Conductivity
- PH, BOD, Dissolved O₂
- Opacity, Turbidity
- Sump & Tank Levels
- Air & Liquid Flow
- Radiation Levels
- Stack Emissions
- Pump Speeds
“Chamber 5B Temperature is 25 Degrees over the Alarm Level”
The central component in all of these systems is a proven data acquisition, monitoring and control system called CIMScan. CIMScan runs on any Windows 95/98/NT/2000-based PC and is fully user-configurable and user-maintainable. The heart of the system is a Real-Time Database that continually receives updates from a wide range of local and remote I/O devices and instruments and makes them available to display, log, process, etc. Remote users can have password controlled access to the database via a local area network or even the Internet. Updates over these links are virtually instantaneous because of CIMScan's event-driven architecture.

### Displays

Any number of charts, spreadsheets and MMI graphics can be user-created in CIMScan and linked to the real-time database. Both trend and bar cards are available and the graphic displays can contain indicators, meters, gauges, switches, buttons, labels, strip charts, etc. All of the displays are easily created using point-and-click and drag-and-drop techniques.

### Data Logs

Historical data can be stored in an unlimited number of independent computer files called logs. These logs are completely user-configurable and can be updated periodically or whenever a database point that is linked to a log changes value. Logs can contain text or binary data. Text logs are easily imported into any of the popular spreadsheet or data analysis packages. Data logs can also be implemented directly in a spreadsheet or in an external database system like

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**I/O**

Any number of I/O devices can be linked to the CIMScan Real-Time Database either through OPC servers or eLink controllers. OPC Servers are software components that can reside on the local computer or be distributed via a LAN. OPC Servers are available to communicate with a wide range of products via DeviceNet, Modbus, CANBus, LONWorks, Profibus, and proprietary protocols like Allen-Bradley's DF1.

eLinks are Ethernet-based distributed I/O controllers that are designed to manage remote I/O Pod networks as well as communicate directly with instruments, controllers, PLC’s, etc. Simple CIMScan VBA scripts can be created to talk to any instrument that can communicate via a computer's serial, parallel, or GPIB ports or the optional ports on the eLinks.

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**Events**

CIMScan is fully Event-Driven. Any time a database value changes, or an alarm condition is detected, an event can be generated. These events can trigger CIMScan Actions. The Actions can, in turn, run a script, display a chart, write to a log, set a database point's value, or send a message. Actions are point-and-click configurable and require no programming to create.
**CIMScan Software**

**CIMScan-Entry** provides basic analog and digital data acquisition, logging, and display capabilities along with alarm detection in a 150 point system. This entry level system does not include text or state database elements or scripts, but these could be easily added later by upgrading to "Basic."

**CIMScan-Basic** is designed for small systems that require less than 350 database points to operate. The system can interface with any number of I/O devices through OPC servers. VBA Scripts are included, as well as links to Excel, and Recipe Recall. The CIMPrint report generating utility is also included.

**CIMScan-Pro** contains all of the capabilities of the "Basic" package, but can contain up to 16,000 database points. In addition, the "Pro" can interface directly with database management systems like Access or Oracle. Unlike CIMScan-Basic, the capabilities of the "Pro" can be expanded using CIMCapture, CIMAlert, and CIMTest.

**CIMScan-RA** server adds the ability to access CIMScan's real-time database for anywhere via a local area network, a dialup link, or even the Internet. The package comes with a remote "client" that can be freely installed in any Windows-based PC. The client has the same look and feel as a standard CIMScan package. CIMScan's event-driven architecture provides almost real-time performance, even over 28.8K modem link.

**CIMCapture** is a stand-alone application that is used to configure the machine monitoring controllers and analyze the captured data.

**CIMAlert** provides advanced messaging capability for CIMScan. Messages can be triggered by virtually any CIMScan event (alarm, data change, etc.) and can include text-to-speech conversion for a PA system, pager, telephone, e-mail, and Internet mail. The telephone links can also be two-way.

**CIMTest** contains capabilities designed especially for test lab data acquisition applications where system configurations are routinely changed. CIMTest allows a technician to create a test and save the configuration for later recall. As with all other versions, multiple tests can be running while another is being built.

**CIMPrint** is an easy to set up and use report generating utility that is shipped with every CIMScan package. CIMPrint can generate tabular reports, charts, change records, alarm lists, notes, and other information stored in log files.

**CIMRecall** is also shipped with every package and is used to recall and view logged data based on date and time.

**Bin2Tbl** is a compact binary to text table file conversion utility, the output of which can be directly imported into Excel.

**Measurement Pods**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD-10</td>
<td>Pod-Link Repeater</td>
</tr>
<tr>
<td>PD-20</td>
<td>RS-232 to RS-485 converter</td>
</tr>
<tr>
<td>PD-13</td>
<td>3-ch Pt or Ni RTD analog input pod</td>
</tr>
<tr>
<td>PD-17</td>
<td>8-ch ±150mV to ±10V analog input pod</td>
</tr>
<tr>
<td>PD-18</td>
<td>8-ch thermocouple/voltage input pod</td>
</tr>
<tr>
<td>PD-21</td>
<td>1-ch 0-10V or 0-20mA analog output pod</td>
</tr>
<tr>
<td>PD-24</td>
<td>4-ch ±10V analog output pod</td>
</tr>
<tr>
<td>PD-50</td>
<td>7-in, 8-out non-isolated digital I/O</td>
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<tr>
<td>PD-52</td>
<td>8-ch isolated digital input pod</td>
</tr>
<tr>
<td>PD-53</td>
<td>16-ch non-isolated digital input pod</td>
</tr>
<tr>
<td>PD-60</td>
<td>4-ch relay output pod (2 Form-A, 2 Form-C)</td>
</tr>
<tr>
<td>PD-68</td>
<td>8-ch Form C relay output pod</td>
</tr>
<tr>
<td>PD-80</td>
<td>2-counters 32-bit 50KHz max. + 3 DIO</td>
</tr>
</tbody>
</table>