

THE MACHINE AUTOMATION MARKETPLACE

As we define it, the machine automation marketplace is grounded in the manufacture of discrete products, ranging from nuts and bolts to planes, trains and automobiles. These manufacturing organizations all use industrial controls and associated instrumentation and infrastructure to automate the manipulation of physical objects into higher value assemblies and configurations.

Further, because industrial automation technologies are often built into finished machines purchased and put to use by these discrete manufacturers, industrial machine builders (or original equipment manufacturers, OEMs) play an essential role in machine

Scope of Technology Coverage

From a technology perspective, *Control Design* focuses on five primary pillars of machine automation functionality. This includes everything from sensors and machine vision systems to software and communication networks.

- **Controllers & Systems** – The “brains” of the machine, Controllers & Systems common to the machine automation space include programmable logic controllers (PLCs), embedded controls, loop controllers, relays, power supplies and software.
- **Human-Machine/Operator Interface** – Allowing the operator to visualize machine status and initiate actions in response, this functional category of technologies includes HMI software, industrial PCs, display terminals, touchscreens, keyboards, pointers, alarms, pushbuttons and enclosures.
- **Measurement, Sensing & Vision** – To understand its own operation and status, the industrial machine needs technologies such as sensors, transducers, encoders, weighing systems/load cells, machine vision systems, machine guarding and autoID systems.
- **Input/Output Systems & Networking** – I/O Systems & Networks function as the nervous system of the industrial machine. Included in this infrastructure are terminal blocks, remote I/O, signal conditioners, cable/wiring, E-CAD software, connectors and cordsets as well network switches and gateways.
- **Drives, Motors & Robotics** – This grouping of technologies is how control decisions are translated into physical action. This group includes drives, motors, servos, steppers, robots, valves, cylinders, motor starters and control centers, hydraulics, pneumatics and other electromechanical components.

Our Mission

To serve the information needs of technical, operational and managerial professionals whose job it is to optimize—through instrumentation, control and automation technology—the performance of machines used in industrial manufacturing applications.

automation decisions. Finally, engineering and integration firms often are called upon to execute the design, engineering and integration of manufacturing lines. So, these professional services firms are also important influences in machine-automation decisions.

