PROSPECTUS

Manufacturing - Shop Floor Integration

ART2LINK
INTEGRATED SYSTEM SOLUTIONS

Overview:

With Art2link's shop floor integration systems and services, it is no longer a dream to have every computer controlled system in your manufacturing environment communicate instantly, correctly, and without human intervention.

Take any machine or computer system in your environment, from any vendor, with any set of controls, and any type of communication protocol, and allow them to exchange data seamlessly with Art2link's shop floor integration solutions.

A Vendor-Independent Solution for Shop Floor Integration:

The model for CNC machine based shop floors has consisted of a series of best-of-breed CNC machines, each operating almost entirely stand-alone. This approach provides a specific machine that may be the best for the task assigned to it, but it falls far short of meeting the visibility, flexibility, and throughput requirements of modern manufacturing environments.

Art2link can offer a single integration solution that will allow data interchange between all of your systems. You no longer need to have different solutions for HAAS, Mazak, Fanuc, Victor -Taichung, Okuma, Mori-Seiki, Toyoda, Hurko, Hyundai, or Siemens machines or controls.

Enabling Agile and LEAN Manufacturing Processes:

Modern Agile manufacturing approaches require a much higher degree of information-visibility than typical manufacturing approaches. In order to effectively support the decisions that a modern enterprise needs to make, your ERP needs complete data in near real-time, your LEAN program needs more data than is typically available to it, and your Just-In-Time strategy needs to understand conditions on the shop floor on a minute to minute basis.

Acquiring that sort of data in a heterogeneous manufacturing environment has been problematic at best, and often practically impossible. When that data was available, it came at a steep cost in man-hours to collect, and often arrived in management's hands too late to take effective corrective action.

> "There's really been a shift toward real-time, demand-based systems. The core piece of agile manufacturing is having actionable information, and the trend is toward getting that information in the hands of decision-makers at the time they need to make the decision. I'm seeing where management is getting out of the office and into the plant to see how they can improve things; and with this approach, there's transparency from the shop floor to the top floor."
>
> *-Manufacturing Engineering Media, Sept'13*

Art2link's integration engine, and unique implementation experience and approaches can provide a highly cost-effective solution to the problem of data collection and amalgamation. No special expertise is required for your staff to maintain the integration solution once it's put in place. Just imagine the fantasy of real-time operational data at management's fingertips, without the need to collect that data impacting the productivity of your production personnel.

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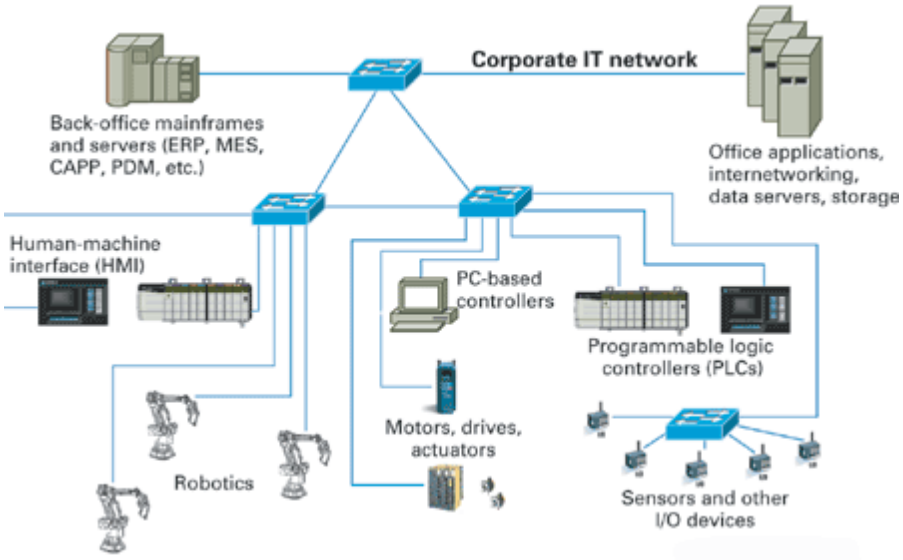
Full shop floor integration opens up many possibilities for the modern, agile manufacturer.

- Automated monitoring of machine production cycles to identify and correct wait states in a production process.
- Automated monitoring of tooling changeovers and tooling utilization to improve efficiency.
- Automated monitoring and scheduling of machine maintenance activities.
- Automated alerts for maintenance and management personnel of machine downtimes.
- Enablement of mobile applications that allow maintenance, supervisors, and management to see shop floor operation from any location.

- Greatly improved visibility of production processes for short-run and job-shop environments, enabling more jobs to be run per day than was previously possible.
- Better visibility of inventory-control issues for supply chain alignment.
- Pre-planning capabilities for Logistics/Shipping.
- Greatly improved machine utilization capabilities due to the availability of up-to-the-minute information.
- Visibility to senior management of detailed machine operation and utilization data, as that data is generated.

> "People want pervasive visibility. There was a time when you really didn't see senior-level executives having shop floor information; but today's technologies allow an executive or manager to know not only if a given machine in a particular plant is down, but to also know why it's down.
>
> *-Manufacturing Engineering Media, Sept'13*

- All of the data needed to give your LEAN program teeth. It is not unusual to see double digit efficiency improvements.
- No need to select a machine that is "close" to perfect for a given process, because it happens to be in a particular location on the floor. Use the right tool for the job, every time.



- Centralize the capabilities for machine changeovers and programming changes. No need to go out on the floor to reset or reprogram a particular unit.
- Decrease wait times between manufacturing stations, by having up to the minute visibility of the production processes upstream of a given station.
- Anticipate tooling changes and maintenance requirements before the machine breaks. Comprehensive data collection can provide critical data to identify problems before they happen.

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