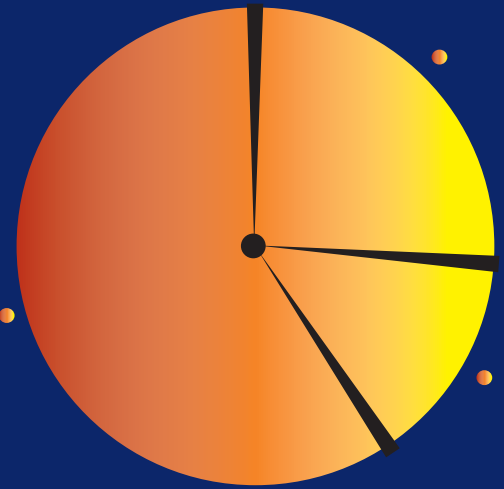


# International Paint



## International Paint Deploys IncuityEMI™ Business Intelligence Software To Gain Insight into Production Operations; Increases Line Output by 20%

In 2006 we began investigating ways to increase production in order to meet rapidly growing demand for our coating products. We wanted to increase output by optimizing existing production lines rather than expanding our plant facilities. A key element of this planning was to replace our batch reporting systems. They were simply old manual data entry and spreadsheet tools that didn't provide real insight into our production operations. We also wanted to be able to share information, in its proper context, among users anywhere in the plant.

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# International Paint

International Paint is an operating unit of Akzo Nobel, the Netherlands-based, global Fortune 500 company that serves customers worldwide with healthcare products, coatings and chemicals. The company is the oldest paint company in the world, having developed and supplied coatings products for more than 200 years. The coatings business accounts for about 40 percent of Akzo Nobel's sales and our International Paint operations in Houston are responsible for producing a significant share of the company's marine and protective coatings products as well as certain yacht and fireproof coatings.

We selected the IncuityEMI™ Business Intelligence for Manufacturing software from Incuity Software, Inc., in Mission Viejo, Calif., because it provided us with far more than just trending and reporting. It gave us a higher level of business intelligence (BI) capabilities that:

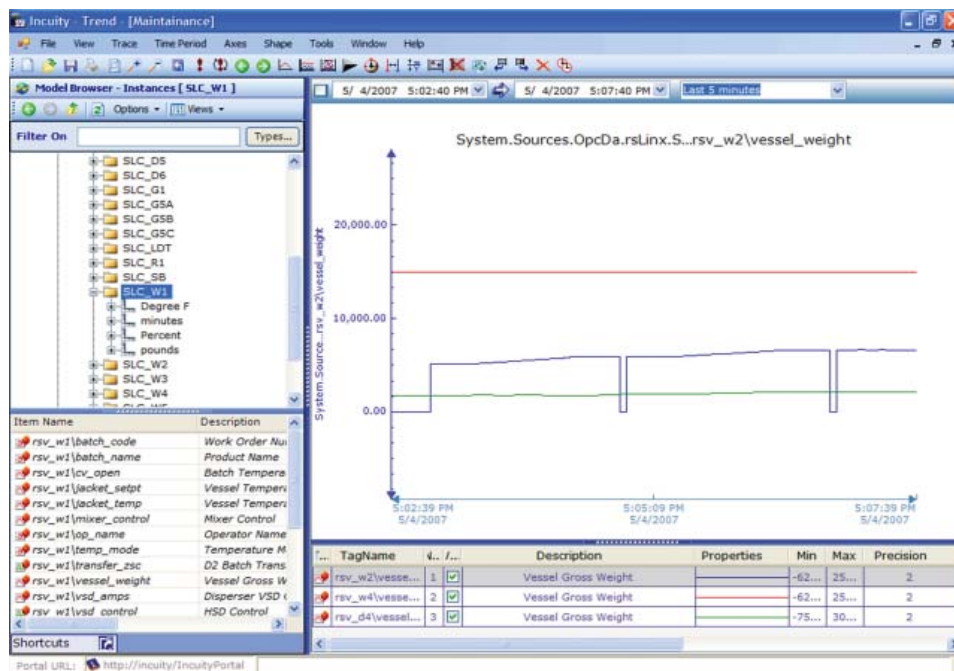
- Integrated easily with our existing production and control systems
- Provided deep insight into our batch processes
- Facilitated information-sharing among our production and supervisory staff so they could better monitor production in their appropriate contexts
- Provided future expansion capabilities for integration with our ERP and HMI systems

The result has been that within a few months we've been able to improve our production performance by more than 20 percent – an estimated savings of about \$500,000 a year – and increase our production volume such that we now can make more paint in two shifts per day than we did previously in three shifts a day.

## Overlaying BI on Existing Lines

We have very specialized, complex chemistries involved in making our marine and protective coatings, and they all must be produced with great consistency from plant to plant. Our plant in Houston is one of our best facilities, but we needed to optimize operations to make them even better while maintaining our high product quality.

Our marine coatings are engineered specifically for meeting a broad range of requirements such as asset protection, operating efficiency



and environmental responsibility for a diverse range of deep sea vessels, such as tankers, container and cargo ships; coastal vessels that operate offshore and in ports; and military vessels of all types.

Our protective coatings are designed specifically to protect steel structures in a wide range of high impact, aggressive environments in industries such as oil and gas, power generation, chemical processing, pulp and paper plants, steel bridges and other similar infrastructure – and even to provide fire protection to reduce the risk of structural collapse under the extreme high temperatures involved in hydrocarbon fires.

The Incuity installation was straightforward, since it integrates easily with our existing control and historian systems. Our production lines include 13 vessels that are used to produce the marine and protective coatings, plus we have four filling lines, three of which are

for five-gallon containers and one that's for one-gallon containers. We use Rockwell Software's RSView human machine interface (HMI) software for all line operations and we download paint batch recipes from our QAD Manufacturing Pro enterprise resource planning (ERP) system.

Our production systems were linked easily to Incuity using standard OPC connectors to access both historical and real-time production data. We can now trend, plot, analyze and report on any details our people need to see in order to make better decisions about our batch processes, and we can publish this information in dashboards within the Incuity portal. Any authorized users can now access the published data on the Incuity server via standard browsers.

We started simply by using the Incuity trending and X-Y plotting features to monitor high integrity key performance indicators (KPIs) in our processes. This not only helped us familiarize ourselves with the Incuity business intelligence solution, it gave us good new insight into our plant performance. We've always trended and checked vessel weights to deduce batch events, but it had all been based on manual data collection and analysis previously. We used weight profiles to calculate details such as raw material addition times, throughput times and vessel charging times. The addition of the Incuity toolset allowed us to drill down and make phase changes that could:

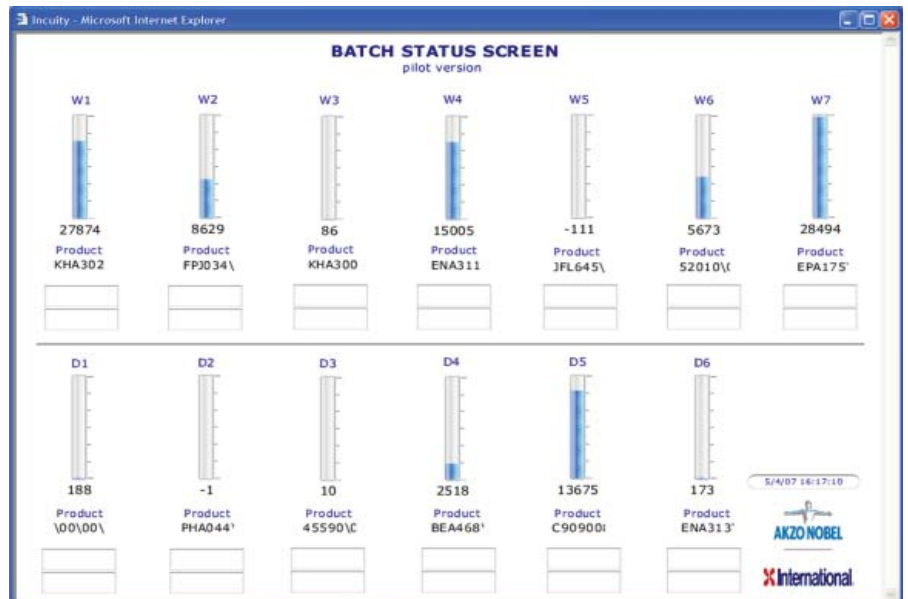
- Shorten raw material addition times
- Improve line speeds
- Reduce the time in quality control
- Shorten overall cycle and changeover times

The biggest value add with Incuity was the increase it provided in data integrity. We now knew we were evaluating the right KPIs and that the data quality was good, so we now had actionable data on a daily basis that would improve our business. That's what allowed us to reduce our operations from three shifts a day to two, while increasing the volume of paint products produced on the line.

With this initial success, we then added our filling lines and began looking at filling speeds. Knowing how much time elapsed between batches allowed us to better calculate filling line changeover times. We've now built dashboards that enable people to look at any point in time and see an overview of all vessels to see which ones are full, which are empty and what state the others are in. Our operators

now can view specific trend reports and review the profiles for the batches they've produced each day to see where they might further optimize the processes.

This has directly resulted in better performance, since these trends give us greater insight into how we're performing, i.e., how long processes take and how fast we actually produce paint products. We can see exactly how much time is consumed for each batch phase, see what the largest time consumers are and where we can eliminate or reduce idle times. This was especially valuable for a project we launched to seek out cycle time reductions. The trend information on phases and throughputs showed us where we needed to focus first. In addition, since we produce about 600 stock keeping units (SKUs) in all our product lines, this has been invaluable in accelerating our batch changeovers on both the batch and the filling lines.



Incuity provided the ability for us to monitor progress on individual lines and to overlay the trends from line to line, to see how consistent we could be. We never would have been able to see this improvement if we didn't have Incuity – and the early results have included a reduction in our batch cycle times of just over 30 percent.

## Flexible Resources for the Future

Our people have responded well to the possibilities they see in Incuity. It's intuitively easy to use, so they can easily leverage it to their own application needs. We see Incuity as a means for

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## Additional Locations

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Massachusetts  
Texas

Burlington, Ontario, Canada  
Duesseldorf, Germany  
Johannesburg, South Africa

implementing many information systems changes in the future. Our objective is to get to the point where we have our KPI dashboards available to everyone and people can simply drill down from there as they need to. We know we can do it with IncuityEMI.

Basically, we still have a semi-automatic process in place, so we haven't yet taken full advantage of the Incuity portal. We use the data trending heavily because there is still a lot of manual crunching of the electronic data, but soon we will automate that and make it more accessible to the less technical people in the organization.

Soon, this will provide new visibility into process operations for people in our front office. Any authorized person will be able to pull up trends in the dashboards and use that information for any

application needs they may have. They won't have to ask IT for help and they won't need to ask us for data.

We also plan to extend our IncuityEMI model to access our recipes in the ERP system. This will enable us to step through our processes in each recipe and close the loop with validated data directly from the field instrumentation within the SCADA environment.

This truly is an extraordinary success story. IncuityEMI was the major element that enabled everything to happen. It is not the only reason it all happened, but it was an important factor in our success, but the fact is we couldn't have gotten these amazing results without it. It was a critical enabling tool for us.