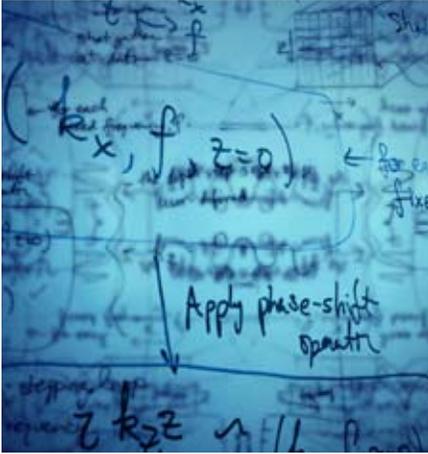




# Honeywell schedules big profits for its clients with FICO Xpress Optimization Suite

success story: optimization



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| <b>Client</b>    | Honeywell Process Solutions, a division of Honeywell International   |
| <b>Challenge</b> | Finding a partner with world-class optimization software that's transparent to the end user  |
| <b>Solution</b>  | FICO™ Xpress Optimization Suite  |
| <b>Results</b>   | A partner committed to innovation; an optimization software solution for improved scheduling decisions that can have a multi-million dollar impact for manufacturers |

## Honeywell

*"We've had nothing but a great experience embedding FICO's technology. Embedding Xpress has been a dream; we've had absolutely zero issues."*

—**Jeff Kelly**  
Solutions Architect,  
Honeywell Process Solutions

Long before gasoline is pumped into your car it flows through a highly orchestrated production process. In order for refineries to manage this process cost-effectively, each element must be carefully coordinated.

One of the keys to success is the production schedule. Yet, for many oil-refineries and other companies in the continuous process industries (oil and gas exploration and processing, petrochemicals, mining, minerals and metals), the production schedule is created through a surprisingly low-tech approach: Humans working manually with spreadsheets.

"I'm often surprised at the rudimentary approach to production scheduling many companies take," said Jeff Kelly, Solutions Architect, Honeywell Process Solutions, a division of Honeywell International. "Manual scheduling may work, but it's slow, inefficient and error prone when compared to optimization software."

A relatively new technology to the continuous process industries, optimization software generates better production schedules, enabling companies in continuous process industries to dramatically improve production efficiency and quality. Unlike manual scheduling, which is restricted by the analytic limitations of the human brain, optimization software uses

mathematical algorithms to quickly analyze hundreds of variables to determine the best schedule solution out of many thousands of scheduling scenarios. "Simply put, our customers come to us with the challenge of making better scheduling decisions in an automated and repeatable fashion."

### » FICO technology partnership key to success

When Mr. Kelly joined Honeywell Process Solutions his mandate was to build Production Scheduler, a software solution that the company would sell to prospects in the continuous process industries.

Rather than build the solution in-house, Mr. Kelly's strategy was to find a technology partner with exceptional optimization technology. He found that in FICO, a pioneer and industry leader in decision management and optimization software.

"Building our own optimization-based solution wouldn't get us the world-class performance we wanted," said Mr. Kelly. "Instead, we chose the FICO Xpress Optimization Suite, a powerful optimization technology that offered all the algorithms and computing performance to do the thinking for you, to do all the great searching to find better solutions to complex decisions."

Honeywell has sold over 30 copies of Production Scheduler worldwide in the continuous process industries. "We would not have been able to build Production Scheduler without Xpress, and we would not have had the sales we've had without Xpress," comments Mr. Kelly.

## » Optimization software enables faster, better business decisions

With powerful optimization software, Production Scheduler solves industrial-scale logistics problems and can help companies achieve quantifiable improvements in manufacturing efficiency and quality.

It does this by modeling the complexity of a manufacturing process, factoring in the hundreds of manufacturing constraints, and determining the best possible scheduling solution. Production Scheduler's optimization software provides the decision-making speed and accuracy to capture market opportunities that a manual scheduling approach would never be able to capitalize on. The solution is designed to handle the full range of scheduling and blending activities, including:

- Crude-oil marine and pipeline scheduling
- Refinery crude-oil scheduling
- Crude-oil blend optimization
- Process unit scheduling
- Blend scheduling and optimization
- Product distribution to terminals

The economic impact of scheduling optimization is significant. For example, in crude-oil blending for a typical oil refinery, the ability to improve inventory and capacity schedules can result in \$0.078 profit per barrel each day. While 8 cents appears to be a small financial impact for an oil barrel per day, the

downstream affect of scheduling demand-driven production for 100,000 barrels equates to an annual profit increase of \$2,850,000.

"Because the Xpress Optimization Suite can quickly model large-scale, complex problems, users of Production Scheduler can make more accurate business decisions and update to what's happening in the plant and market more frequently," says Mr. Kelly. This reduces risk and uncertainty because it allows companies to factor the most current information into their plans. "With automated and optimized decisions you can update to market conditions faster than your competitors can, which enables you to capture market opportunities faster than anyone else."

## » Powerful technology that's easy to use

Despite the power of the Xpress optimization software, it's surprisingly user-friendly. A chemical engineer by trade, Mr. Kelly has no formal computer programming training. Yet he had no difficulty building the optimization models that Honeywell's customers would use to solve their production problems.

"Xpress is very easy to use, even for people with little or no computer programming experience," says Mr. Kelly. "It's easy to build models for all kinds of problems that integrate well with the software solvers that create the schedule solutions."

Commenting on Honeywell's decision to embed the FICO™ Xpress Optimization Suite, Mr. Kelly has very positive things to say. "We've had nothing but a great experience embedding FICO's technology. Embedding Xpress has been a dream; we've had absolutely zero issues."

## » Optimization software as a strategic asset

Seeing firsthand how much faster and more accurately Honeywell's customers can solve problems with Production Scheduler, Mr. Kelly sees optimization technology as a strategic asset that every continuous process manufacturer should use. This is especially true for North American companies, as many of their competitors in Asia and India are aggressively embracing new technology such as optimization software. "What we are doing for our clients, if you were to draw their operating line when making all decisions manually, we are using that operating line to make them more competitive and profitable with automated scheduling optimization."

Mr. Kelly notes that some companies view optimization software as a risk, questioning whether the time and effort to build models will yield actual performance gains. "People may ask, is this optimizer going to be fast enough? Am I going to spend a lot of time and resources building a model and not have it perform? Well, that's not the case anymore. Xpress has proven to work for large scale, mission critical optimization challenges for our clients." Mr. Kelly sees no risk using the FICO Xpress Optimization Suite. "There's no question in my mind that companies using either Production Scheduler or the Xpress Optimization Suite independently will improve their manufacturing production throughput and quality."

Mr. Kelly is also pleased with FICO's commitment to innovation. "The incremental innovation FICO has added to Xpress has been excellent. The company is continually adding new features and enhancements that we've benefited from."



**For more information**

**US toll-free**  
+1 888 342 6336

**International**  
+44 (0) 207 940 8718

**email**  
info@fico.com

**web**  
www.fico.com