

Prettl Electric's customized app changes their view of the world

Executive Summary

Challenge: Prettl Electric, an automotive manufacturer, needed a way to give access to its worldwide production and shipping schedule to one of its customers. Lack of scalability, automation, and duplicated manual processes were becoming a problem.

Objective: The creation of a custom application that would provide an automated shipping schedule, complete with complex calculations, that could give customers and plants worldwide the ability to see the same shipping and production schedule any time, day or night.

Results: The secure application, built in Java servlets, offers a live Web view of the detailed production and shipping schedule for all of Prettl's products, as they move through plants worldwide toward their ultimate destination, the customer.

In the manufacturing world, MRPs (Manufacturing Resource Planning systems) have long been imperative for a smooth operation. But, as is the case with any "off the shelf" software package, there is no such thing as a perfect fit.

MRPs and other package solutions such as ERPs, SCMs, and CRMs have powerful capabilities, managing a litany of complex tasks in order to keep their respective companies on course. However, they must be tailored to fit the needs of the individual businesses that use them in order to truly harness their powers.

Prettl Electric, a division of The Prettl Group, is a leader in the production of wire harnesses used largely in the automotive industry in ABS braking systems and emission control systems.

Prettl Electric has relied on their MRP for years, but recently they refined their efforts with the development of a Web application that was able to single-handedly reduce employee workload, share live data, and improve production planning with a secure, portable, automated, and fully scalable solution.

How? They used a tool that they already had in their arsenal: the mrc-Productivity Series.

The challenge

When one of Prettl's customers, a major automotive supplier, had an additional demand for more harnesses from other sites, Prettl Electric agreed to manage the logistics for them as a customer service. This would prove to be more complex than they had anticipated.

The Prettl Group, their parent company, is a global powerhouse with offices and plants all over the world, so expanding this business partnership meant working with sister plants in Mexico, Germany, and the Ukraine as well as the United States.

To accommodate the necessary information sharing, the company decided to create a production and shipment schedule in Excel. It contained many of the necessary complex algorithms and calculations that go into global logistics, but they all had to be devised manually.

The spreadsheet also needed to be accessible to all of the plants involved as well as the customer, and to show the shipping schedule, estimated arrival dates, and customer requirements.

The spreadsheet provided an at-a-glance view of logistics across the board. All parties could update it as changes were made, and each version was marked with a number so that everyone knew which

version to reference. Then, it would simply be e-mailed to each location. Only it wasn't so simple.

Any method can become a liability if your information systems are not properly in place. When your customer is ordering "just enough" from your business, based on what their customer requires from them... what happens to you as a supplier if you are using incorrect or out of date information?

For example, you need to provide 30,000 units to your customer two weeks from now but a last minute update has added an additional 10,000, and your plant in the Ukraine doesn't have the new information. *Your* customer is expecting the correct shipment, and *their* customer depends on it.

Like dominos, an inaccuracy in data sharing could cause your customer delivery problems of their own, and their customer delivery problems, and soon. Would a mistake like that trigger a loss in business? Can you afford to find out?

More importantly, what measures can you take to prevent that from happening?

Although Prettl's excel sheet worked for a while, the process would eventually require a more sophisticated method. And, when Marcus Barkey, Prettl's IT Manager, went in search of a better solution, he found that **the answer had been right under his nose the whole time—the mrc-Productivity Series.**

The business needs

When Barkey stepped back to look at the situation, he realized the system needed to be automated—and fast. "We have tools in place, we have quality people, yet we're asking them to copy data from one system into another, and then duplicate data and complicated formulas. It's a ridiculous waste of time."

First of all, the production and shipping schedule was constructed manually in Excel. Specifications and requirements were entered into Prettl's MRP, and then that data would be removed from the MRP and entered into the spreadsheet.

As information on the spreadsheet changed, or information in the MRP changed, the schedule was updated, and the information put back into the MRP. That meant the system required manual maintenance as well as manual entry of the data, leaving more opportunity for human error.

Secondly, it wasn't in real time. Because Prettl was dealing with worldwide plants, the time zones were not the same, and people were not all at work at the same time when a version revision was sent out. So, it was possible to have two people working with different numbers.

For instance, let's say there were two plants that needed to make a change to version 2. One plant changed their column and sent out a version 3. The other plant changed their column at the same time and created a separate version 3. Which version 3 is correct? Neither. And when someone updates one of those to version 4. What then? It was showing a potential for disaster.

Finally, while the spreadsheet worked fine for the fifty-odd products that the companies had originally agreed to, it just wasn't scalable. The products were going to grow to a couple hundred, with potential for more growth in the near future, and it was becoming clear that **their business was outgrowing the spreadsheet.**

A great thing for the business was a problem for IT. As Barkey explained, "We could see that what was already becoming cumbersome was starting to become downright unmanageable."

The IT manager and his team decided to first focus on the definite needs: a solution in real-time, automated, globally accessible, while at the same time, it's entirely secure.

The solution

As he began looking at his needs, the versatility of the mrc-Productivity Series

began to stand out. "We bought the mrc-Productivity Series three years ago, initially to use as a reporting tool to work with our MRP. We had this MRP that we had invested all of this money in, and it worked very well, except in the area of some of its reports."

"I also knew that the mrc-Productivity Series was powerful and created applications very quickly. I'm a one-man shop, and using my RPG skills, I would be spending a week on one report. As a reporting tool, it allowed me to write one in minutes."

When Barkey realized that he could use the mrc-Productivity Series to create live Web applications, he made his decision. With this development tool, he was able to access the data directly from the MRP, automate the complicated shipping calculations within the application, and display a live, graphical production schedule globally on a secure extranet.

The Web application they created with the mrc-Productivity Series not only fulfilled Prettl's needs but it exceeded Barkey's expectations:

--The data and calculations are now **fully automated**, so there is no more double data entry or manual calculations.

--It's **fully scalable**: the application can handle as many products as needed by the customer, from fifty, to a hundred, to ten thousand.

--The application is built in Java servlets, so it is **fully portable**.

--The application automatically creates a color-coded **at-a-glance view** of the shipping schedule. Red for problems with quantities, yellow for products that don't have a lot of safety stock, and green for shipments with no foreseeable issues.

--And, perhaps, most importantly, because the application is displaying live data, directly from Prettl's MRP, **everyone is sure to be looking at the same information**, whether they are in the Ukraine or Germany, or South Carolina, day or night.

"Now our process is so much more reasonable," says Barkey, "Our customer sends us requirements, then we filter where material is, tell our sister plants what to make next, and at the same time allow them secure access to the live data

they require to keep current and do what they need to do."

The future

The success of Prettl's initial extranet solution is the foundation for many new successes as well. "The best part is, after just a few weeks of having this Web application, we began to streamline the process. Not having to create these manual processes began to free up our time and allowed us to take a fresh perspective. We looked further into the process and realized it was over detailed, and overcomplicated. So, we streamlined it...and we were able to do so because our mrc application automated everything for us," says Barkey

It seems the benefits of this one solution are beginning to catch the imagination of Prettl executives all over the company. For example, one department recently requested a way to automatically post requirements to their extensive list of vendors to improve efficiency on that end of things as well. Additionally, a number of different executives have requested an executive dashboard; similar to the one that mrc demonstrates on crazybikes.com, to allow decision-makers to have up-to-the minute access to current sales, product schedules, and internal reports.

"I'm looking forward to exploring these different solutions. I believe we're just beginning to think outside of this application to other areas where our business could be more efficient. Executives have already come to me from many different departments, and the majority of their requests can be quickly fulfilled with the mrc-Productivity Series. I'm looking forward to taking on the challenge."

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Pretti's Global Planning System

The screenshot displays the 'Global Planning System' for Pretti in Ukraine. It features a complex data grid with columns for 'Plant', 'Part No.', 'Description', 'Planned Qty', 'Actual Qty', and a series of dates from 2005 to 2007. The data is color-coded, with red indicating potential issues or delays, yellow for warnings, and green for normal or completed status. The interface includes a search bar and various navigation icons at the top.

Pretti's Work Order Schedule

The screenshot shows the 'Work Order Schedule' interface. It features a table with columns for 'Line Item', 'WO No.', 'Part No.', 'Description', 'End', 'Cost', 'Order Qty', 'Prod. Qty', 'Remark 1', and 'Remark 2'. The table lists various work orders with their respective dates and quantities. The interface includes a search bar and navigation icons at the top.

Line Item	WO No.	Part No.	Description	End	Cost	Order Qty	Prod. Qty	Remark 1	Remark 2	
	Auto WO			Post Date		Complete	Complete			
	66664				0	0	0	Chg THIS HAS NOT BEEN TRARED DO NOT RUN		
	70544				0	0	0	Chg REMOVING ORDER		
M0	75626	8062F0080	HOUSING NATUR FM	23/05/01/25	0	5,300	3,940	Chg		
M0	75899	8064E2101 A	BRUSH HOLDER WITH SEAL	23/04/01/22	0	4,225	4,225	Chg CHANGE DIMENSION ON RADIUS		
M0	75635	8064E2111 A	BRUSH HOLDER NON-CONNECTOR	23/05/01/21	0	16,250	2,250	Chg		
M0	75815	0134339496	BRUSH HOLDER WITH SEAL	23/05/01/24	0	200	200	Chg		
M0	75925	0134339480	BRUSH HOLDER WITH SEAL	23/05/01/25	3,200	12,800	200	Chg		
M0	75956	0134339563	BRUSH HOLDER WITH SEAL	23/05/01/26	1,000	1,500	1,400	Chg		
M0	76377	0134339564	CLIP TUBE	23/05/01/20	0	550	0	Chg		
M0	76616	M002403	WARE ASSEMBLY WHITE	23/05/01/07	0	320	0	Chg		
M0	76619	M002404	WARE ASSEMBLY GRAY	23/05/01/07	0	430	0	Chg		
M0	76620	M002405	WARE ASSEMBLY BLACK	23/05/01/07	0	410	0	Chg		
M0	76922	M001611	WARE ASSEMBLY WHITE	23/05/01/07	0	4,300	4,200	Chg		
M0	79039	0123190799	CONVULSIONED CONDUIT CUT	23/05/01/24	0	500	0	Chg		
M0	79034	01180520406	CLIP TUBE D-0MM	23/05/01/22	0	1,200	1,200	Chg		
M0	76438	M001621	WARE ASSEMBLY BLACK	23/05/01/24	0	3,850	2,900	Chg		
M0	76714	01180520276	CLIP TUBE D-0mm	23/05/01/24	0	250	0	Chg		
M0	76742	M001627	WARE ASSEMBLY BLACK	23/05/01/24	0	1,500	0	Chg		
M0	76743	M001628	WARE ASSEMBLY GRAY	23/05/01/24	0	400	0	Chg		
M0	76744	M001629	WARE ASSEMBLY WHITE	23/05/01/24	0	3,300	0	Chg		
M0	76774	M002446	WARE ASSEMBLY BLACK	23/05/01/26	0	500	0	Chg		
M0	76777	M002446	WARE ASSEMBLY WHITE	23/05/01/26	0	1,200	0	Chg		
M0	76778	M002447	WARE ASSEMBLY GREY	23/05/01/26	0	500	0	Chg		
M0	76884	M002398	WARE ASSEMBLY WHITE	23/05/01/24	0	310	0	Chg		
M0	76916	M001621	WARE ASSEMBLY BLACK	23/05/01/20	0	2,400	3,000	Chg		
M0	76915	M001622	WARE ASSEMBLY GRAY	23/05/01/20	0	2,400	2,400	Chg		
A1	M0	76734	M000405	WARE ASSEMBLY WHITE	23/05/01/07	0	4,300	4,300	Chg NO SEALS	
A1	M0	76832	M000903	WARE ASSEMBLY WHITE	23/05/01/07	0	200	300	Chg	
A1	M0	76339	M000405	WARE ASSEMBLY WHITE	23/05/01/21	0	5,500	5,400	Chg NO SEALS	
A1	M0	76717	M000014	WARE ASSEMBLY WHITE	23/05/01/21	0	200	0	Chg	
A1	M0	76838	M001483	WARE ASSEMBLY BLACK	23/05/01/27	0	130	0	Chg	
A2	M0	76434	M001636	WARE ASSEMBLY WHITE	23/05/01/24	0	4,250	4,250	Chg NO CRMP	
A2	M0	76732	M000910	WARE ASSEMBLY BLACK	23/05/01/24	0	100	0	Chg	
A2	M0	76734	M000909	WARE ASSEMBLY BLACK	23/05/01/24	0	300	0	Chg	
A2	M0	76737	M001420	WARE ASSEMBLY BLACK	23/05/01/24	0	400	0	Chg	
A2	M0	76738	M001427	WARE ASSEMBLY GRAY	23/05/01/24	0	300	0	Chg	
A2	M0	76739	M001428	WARE ASSEMBLY WHITE	23/05/01/25	0	800	0	Chg	
A2	M0	76752	M001911	ASSEMBLY BLACK	23/05/01/24	0	500	0	Chg	