

## Grundfos uses HUGIN analytics to optimize production line processes

In November 2004 Grundfos signed a contract with Hugin Expert A/S and Dezide ApS to buy the software solution Advisor for optimization of production line processes in Grundfos Electronics. Grundfos Electronics produces controllers for Grundfos motors and pumps.

As a reseller of the Advisor tool, Hugin Expert concluded the sales process, whereas Dezide was in charge of the implementation process and consultancy.

The Advisor-solution is a software product that supports complex problem solving. In a specific situation with a failing technical product, Advisor will guide the operator by suggesting a sequence of questions and repairs. Advisor will continually calculate the optimal sequence to repair based on a goal of solving the problem in fewest possible steps and the lowest possible cost in time, money and risk.

During the last half year a pilot project has been carried out in Grundfos Electronics with the purpose of investigating whether Dezide Advisor could increase the efficiency and precision among employees in the production. The pilot project was successful and has now resulted in Grundfos buying the Hugin/Dezide solution.

It is expected that Advisor can optimize the production processes in several places. For instance it is expected that Advisor will shorten the time it takes to diagnose controllers with 10 20%. In addition it is expected that employees in general will become better able to find the exact root cause and repair this correctly in the first attempt. At the present time, controllers often pass through several different and geographically dispersed locations when errors are discovered so there is a potential of significant savings in time and costs if controllers can be diagnosed and repaired locally. Advisor can also be used as a training tool for new employees that will be able to diagnose controllers much faster.

Advisor also helps ensure that controllers stay on the production line as long as possible by ensuring that only those that cannot be repaired on the production line are removed. Advisor also supports different levels of expertise such that the questions and repairs suggested depend on whether the user is a production line operator or an engineer with a high technical experience.

In general Advisor will support Grundfos Electronics as a learning organization where there will be a gradual development and improvement of a knowledge base on diagnosis and repairs in controllers. This knowledge base will keep improving as experience grows and will hopefully become increasingly useful in more and more processes.

Advisor is the leading product on the market for intelligent problem solving as it can assist with solving even very complex problems with the shortest possible sequence of steps. Grundfos develops the necessary knowledge base in collaboration with Dezide such that Advisor becomes as good at solving complex controller problems as the most highly skilled engineer. The Advisor product is flexible and allows the operator to skip questions that cannot be answered, and in addition it is self-learning and keeps improving itself as more and more problems have been handled.

Based on the success in the Grundfos project, Hugin and Dezide are now planning to start a marketing effort in the industrial segment where the Advisor product will be useful in efforts to increase efficiency and precision in production.

Previously the Dezide Advisor has mostly been used for customer self-service in telecoms. For instance has TDC in Denmark used Advisor for Internet self-service with great success. An example of this can be seen at: <a href="http://8047.tdconline.dk/mail">http://8047.tdconline.dk/mail</a>. Also sunrise, TDC s subsidiary in Switzerland, makes use of the software and example of this can be seen from: <a href="http://sunrise01.dezide.com/sunrise-eng1.html">http://sunrise01.dezide.com/sunrise-eng1.html</a>.

## Grundfos

Grundfos is one of the world's leading manufacturers of pumps with an annual production of over 10 million pumps. Grundfos has sales and production subsidiaries across the globe and produces pumps for a range of different purposes, including water supply and the construction and manufacturing industries. Grundfos has revenues of over 12 billion DKR and employs over 11,700 employees world-wide. The company's values are responsibility, foresight and innovation.

## **HUGIN Expert A/S / Dezide**

Hugin Expert A/S was established in 1989 and is located in Aalborg, Denmark. Hugin Expert Is a leading provider of advanced decision support t tools that can add intelligence to products and services. HUGIN Software analytics have been adopted by companies, leading R&D departments and government agencies across the globe for decision analysis, decision support, risk prediction, fraud detection, diagnosis, health monitoring, troubleshooting, risk management and safety assessment.

Dezide was established in 2001 as a spinoff of Hewlett-Packard. Dezide is a provider of intelligent problem solving software targeted at Internet Service Providers, Mobile Operators, IT support centers, manufacturing industries and large defence corporations, and provides end-users with efficient problem solving guidance and knowledge sharing capacity.