

<b>Project</b>	€ 500k/year energy savings in phosphate plant
<b>Industry / Asset</b>	Phosphate production / Steam turbine (cogeneration)
<b>Country</b>	Belgium
<b>Year</b>	2012

The Context	Pictures / Graphs
How to optimize steam extraction to minimise global energy spending (natural gas & electricity)?	<p>Steam Extraction (T/h) &lt; 17.3</p> <p>Steam Flow Inlet (T/h) &lt; 49.6</p> <p>Root cause analysis - Extract from decision tree</p>
<b>Our Solution</b>	
<ol style="list-style-type: none"> <li><u>Detection of inefficiencies</u> A + 100k tons of steam / year gap in energy efficiency was revealed through our process analysis and data mining approach</li> <li><u>Diagnosis</u> Root cause analysis through variability exploration of historical data and process thanks to analytics tool</li> <li><u>Prognosis</u> Waste of steam extraction of 5 tons/h, resulting in a € 60/h financial loss</li> <li><u>Intelligence: Performance Optimization</u> Short-term actions: Install dashboard to monitor extraction flow (actual vs optimum), improve communication between various departments and enhance reporting practices</li> </ol>	
<b>The Benefits</b>	
<ul style="list-style-type: none"> <li>- Increased steam extraction of 5 tons / hour</li> <li>- Significant cost reduction</li> <li>- Better management and monitoring</li> <li>- More sustainable operations</li> <li>- Implemented in &lt; 3 months</li> </ul>	<p>Operator dashboard for steam extraction</p>
<b>The ROI</b>	
<ul style="list-style-type: none"> <li>- Recurrent savings of € 500k / year on energy equivalent to 7.000 tons of CO2 per year in gas consumption, or a 15% reduction</li> </ul>	