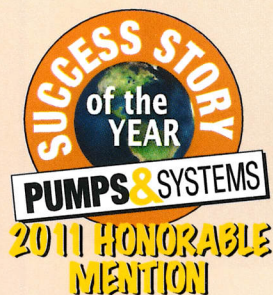


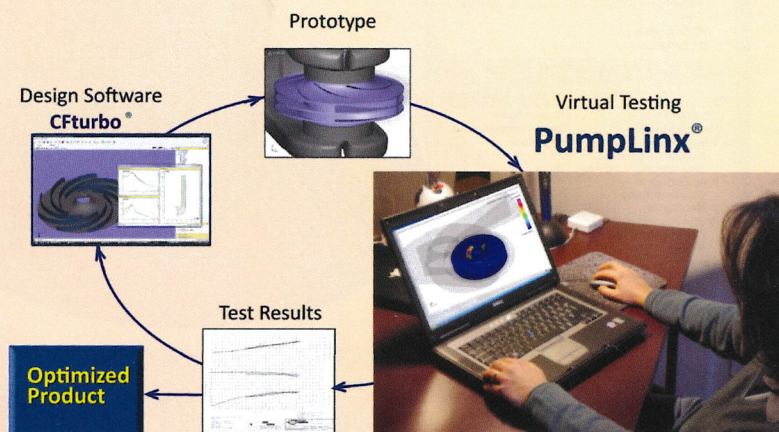
# Success Story of the Year 2011

Lori K. Ditoro



## Best PumpWorks Improves Cooling Water Pump Performance

**B**est PumpWorks used traditional design coupled with advanced simulation design tools and virtual testing to redesign an impeller in an existing housing to change the performance characteristics to enable evaluation of a system. Several design concepts were evaluated with the aid of the simulation tools.

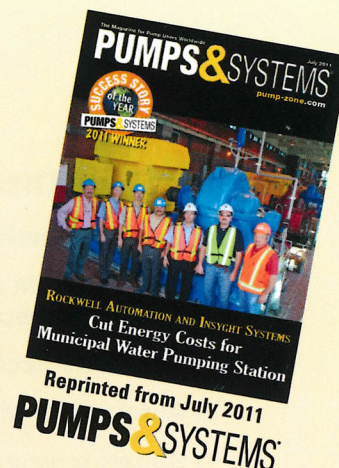


The iterative simulation process enabled the optimization of the final design, which was subsequently tested and shown to perform as predicted. The unit is now installed and being used to evaluate the system behavior.

The design engineers at Best PumpWorks designed an impeller that met the customer's requirements using CFturbo and PumpLinX in less time and at lower cost than would have been possible otherwise. The simulation results allowed for the evaluation of different prototypes and provided head, efficiency and horsepower predictions that were very close to the subsequent test data. The design theory and correlations, coupled with the accurate predictions and flow visualization enabled the Best PumpWorks engineers to use the analysis as a predictive tool and as a "thinking" tool to solve the problem and deliver a quality product to the customer.

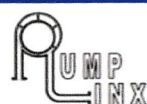
This was a team effort lead by Best PumpWorks, with the support of software (CFturbo and PumpLinX) and respective engineers from CFturbo and Simerics Inc.

*Individuals involved in the program: George Maddox (Best PumpWorks), Sam Lowry and Zheming Wu from Simerics, Dr. Gero Kreuzfeld and Ralph Peter Müller from CFturbo*



**P&S**

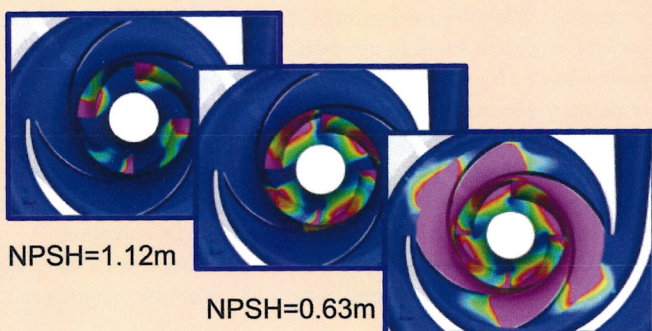
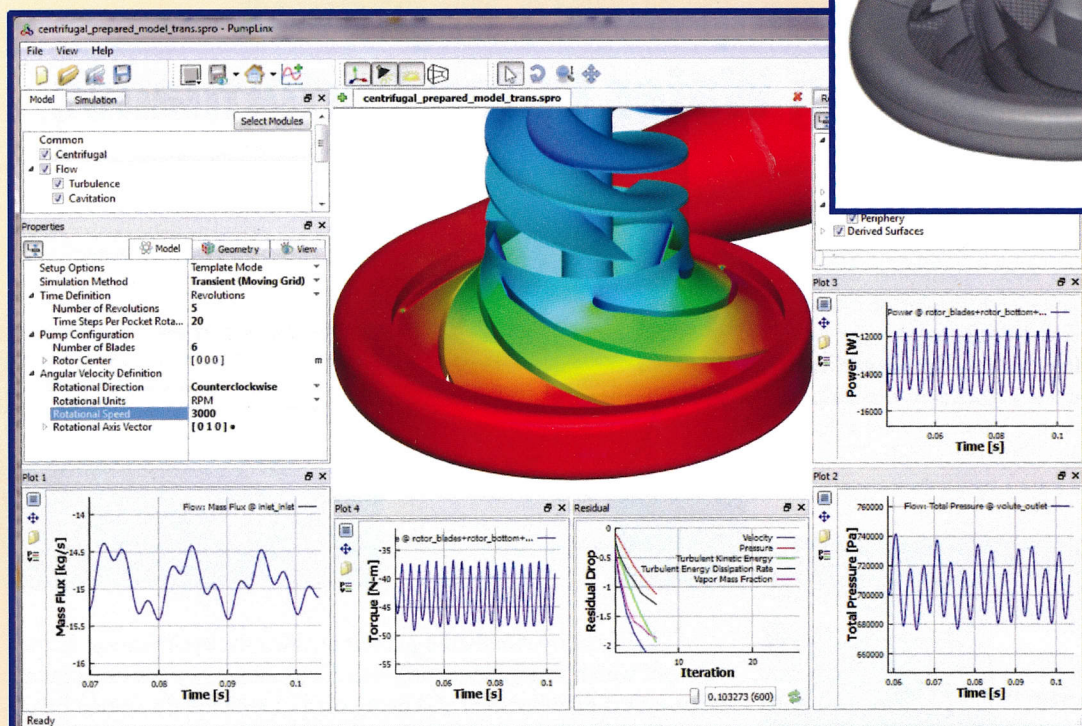




**PumpLinX**  
DESIGNING BETTER PUMPS

## PumpLinX Discriminators:

- Comprehensive aeration & cavitation models
- Full transient simulations in a tenth of the time of most other software
- Routinely accommodates micron scale details
- Automated grid generation and fast set-up
- Superior treatment of rotating-sliding interfaces



## Optimize the Design

**Reduce Cavitation**  
**Improve Efficiency**  
**Reduce Noise & Vibration**  
**Reduce Pressure Ripple**  
**Accelerate Development**  
**Extend Life**



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