Empower Your Users – Let Them Eat as Much PI as Possible

Presented by **Penne Hout**

Vertellus®

Leading Global Supplier of High-Growth, High Value Specialty Chemicals

Growing Trends In

Life Science   Health & Wellness   Natural & Green Chemistry
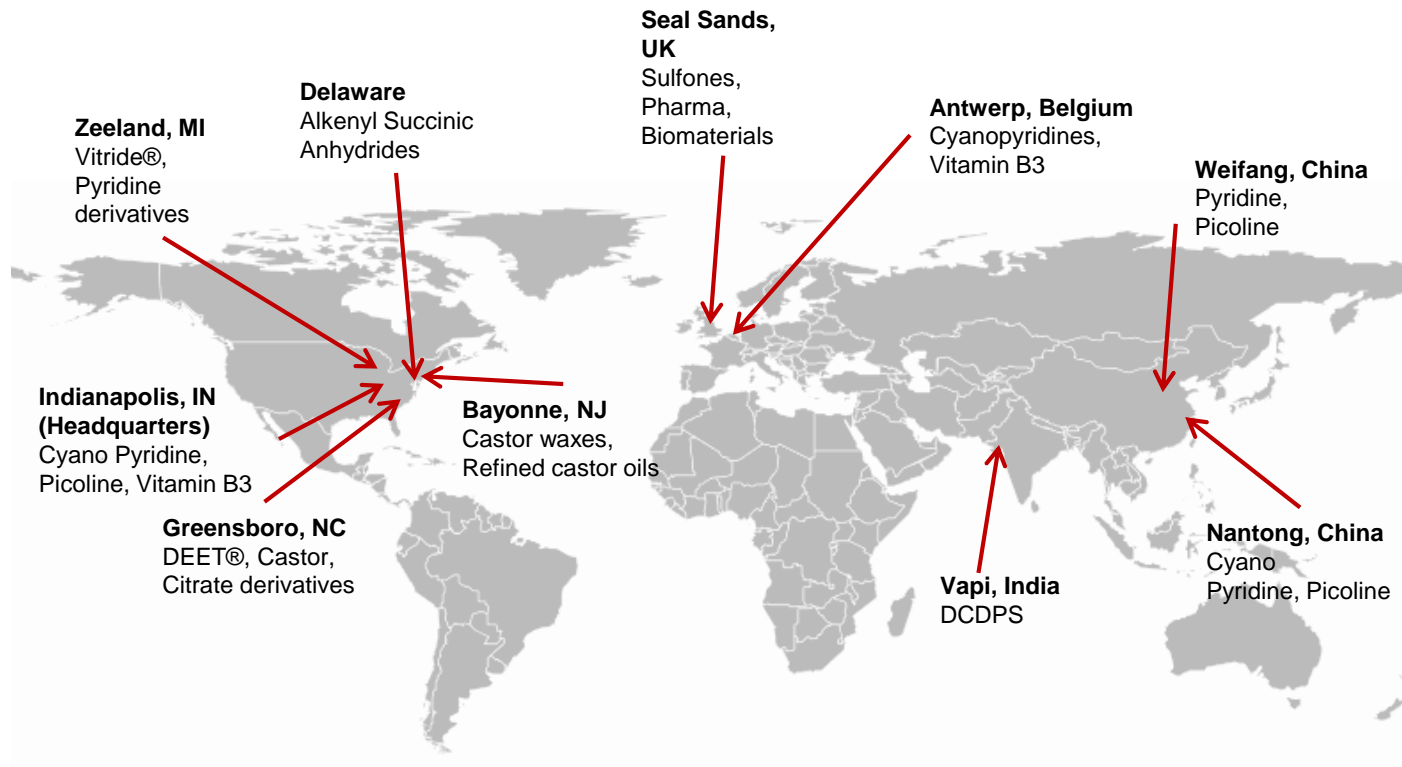
Revenues: $550+ million

People: 800+

Locations: 15 globally

Products: 500+

Customers: 1900+

Ownership: Wind Point Partners since 2007

Global Manufacturing Footprint

Seal Sands, UK
Sulfones, Pharma, Biomaterials

Delaware
Alkenyl Succinic Anhydrides

Antwerp, Belgium
Cyanopyridines, Vitamin B3

Zeeland, MI
Vitride®, Pyridine derivatives

Weifang, China
Pyridine, Picoline

Indianapolis, IN (Headquarters)
Cyano Pyridine, Picoline, Vitamin B3

Bayonne, NJ
Castor waxes, Refined castor oils

Greensboro, NC
DEET®, Castor, Citrate derivatives

Nantong, China
Cyano Pyridine, Picoline

Vapi, India
DCDPS

Leading Position In Markets We Serve

Market share and capacity leader for pyridine & picolines

#1 Pyridine

#1 Picolines

B3- Human Nutrition

B3 Animal Nutrition
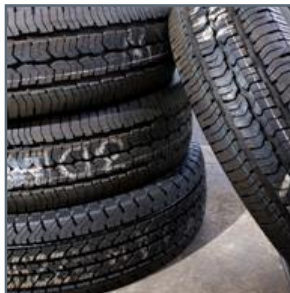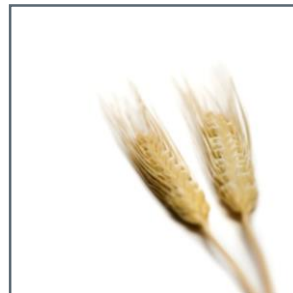
2nd Largest Maker of

Vitamin B3

Leading Position In Markets We Serve

Market share leader in over 70% of product revenue

Vinyl Pyridine

Pyridine Derivatives

Specialty Pyridines

#1 or #2 market share in over 90% of product revenue

Citric-Based Natural Plasticizers
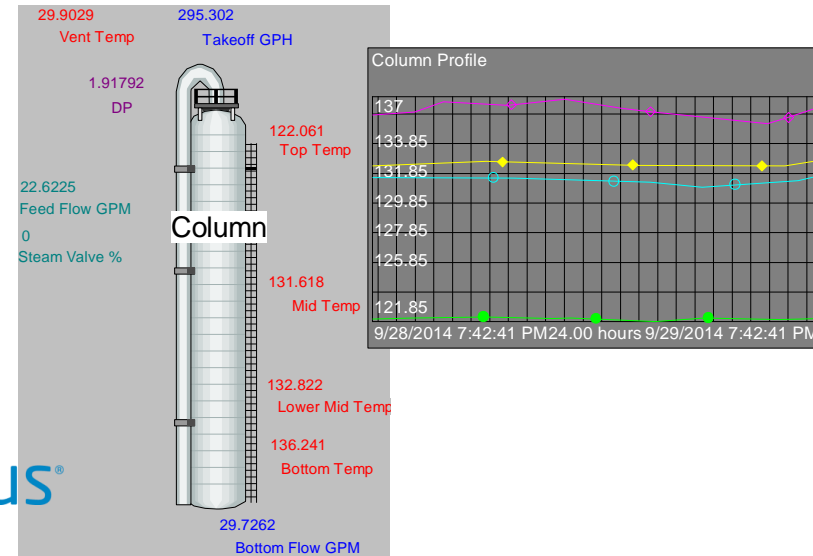
DEET®

Castor Oil Specialties

Vertellus Approach to Implementing PI System

- Give power and provide training to users to create:
  - Graphics
  - Annotations
  - Notifications
  - Calculations

- Pie for PI
  - Premise: Each PI System user bring their PI System application
  - Feed and Train Users at the same time
  - VP of Manufacturing, Site Director, and Site Operations Manager would judge the entries and determine a winner
  - Grand Prize: Pie

PI ProcessBook for Unit Operations

PI System users took off on creating process books to monitor their process. In the process, they could use the books to learn the process better. In the last 2 years, the units have several new engineers that needed to learn the units quickly. Developing PI ProcessBooks, they increased their learning curves.

Business Challenge

- New employees
- Need for quick reference

Solution

- Process Books developed implementing:
    - Graphics
    - SQC
    - Animation

Results and Benefits

- Quicker learning curve and recognition of "out of bounds" operations.

Yield Calculation

The yield in the pyridine reactor is monitored by all levels in the corporation. By being able to plot the yield based on the variables used to calculate it, the engineer could determine what the yield was going to be before it is calculated. This also uses the lab results as a data point.

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Business Challenge

- Monitor and respond to yield shifts in main pyridine reactor in real time.

- Determine which variables are affecting the yield and trend them against the yield.

Solution

- Utilize PI function that pulls Labworks data into PI as data points.

- Develop PI calc utilizing process conditions and Labworks data.

Results and Benefits

- The yield is worth several thousand dollars/day

- More reliable reporting

Morning Update Notification

Key process variables and indicators are reported in a morning meeting. The benefit of this PI application is to provide all of the information first thing in the morning. This way everyone has access to the data and are ready to discuss before the morning meeting.

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Business Challenge

- Keep the pyridine unit running at optimal conditions for yield and throughput.

Solution

- Create a notification that summarizes the KPIs across the unit that publishes each morning.

Results and Benefits

- The unit staff all have access to the information and identify potential issues in the unit.

Reactor Feed Rate Notification

Feed rates to the Pyridine Reactor are an indication of whether or not the unit is experiencing process upsets. The notification allowed management and engineers to quickly address the issues.

Feed Rate
9/29/14 8:00:00 AM
xxxxxxkg/h

Business Challenge

- Operators were busy addressing the issue and wouldn't alert management.
- Address the issues in the unit quickly to bring the rates back up.
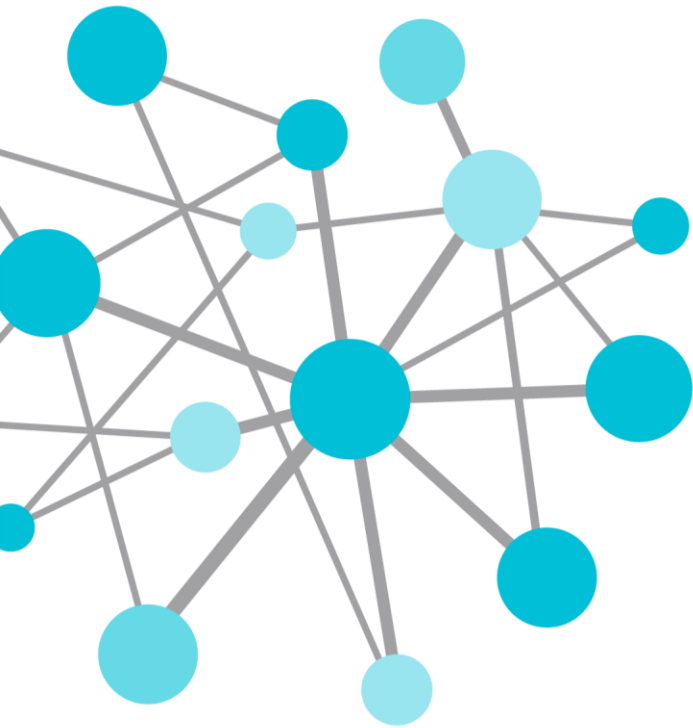
Solution

- A notification was created to alert manager and engineer that the rates to the reactor had been reduced.

Results and Benefits

- Reduction in rates could mean thousands of dollars per day in absorption.

Penne Hout

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THANK YOU

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