Focus on the “Push - Pull” Boundaries to Improve Supply Network Performance

Frank Cackowski
Director TIMET Customized Products & Services
October 9, 2007
Overview

- What is the Push-Pull Boundary?
- Applying Push-Pull to a titanium supply network
- Maximize “Pull” benefits
- “Other” Considerations
- Conclusions
DEMAND CHARACTERISTICS & SUPPLY CHAIN DESIGN

Demand Volume

High

Push

*Fast & Efficient*

Push – Pull

*Delayed Differentiation Distribution Strategy*

Push – Pull

*Distribution Strategy*

Low

Pull

*Responsive & Adaptive*

Low

High

Source: David Simchi-Levi, MIT Forum for Supply Chain Innovation
A Key Design Element: Push-Pull Supply Chains

The Supply Chain Time Line

PUSH STRATEGY
Suppliers
Low Uncertainty

Pull-Pull Boundary

PULL STRATEGY
Customers
High Uncertainty

Source: David Simchi-Levi, MIT Forum for Supply Chain Innovation
Defining the Push - Pull Boundary

18 Month Forecast

- Ti Sponge
- Shop A

Push material per forecast

Demand signal meets and enhances your forecast

Forecast “Push”
- Total volume
- Alloy & grade

Pull specific products per demand signal

Demand “Pull”
- Dimensions
- Quantity & location

Let’s look specifically at titanium plate……
Titanium Plate Example

Sponge to Slab at Mill = Months

Push material per forecast

Rolling Mill

Pull products per demand signal

Plate Mill to Shop = Weeks

Give me ½ inch plate instead of 3/8 inch at Shop A…

Additional opportunities to reduce Wastes….
Maximizing Benefits

The Push-Pull boundary is a leverage point
Position Buffer
LEAN focal point
Information focal point

If only it were so simple…….
Other Considerations

Goal = Maximizing profitability

Supply network metrics & goal alignment
“Part detail” information sharing       Partner capabilities
“Champions” at all levels
Conclusions:

Identifying the Push – Pull boundary creates leverage points to optimize your titanium supply network

Use these leverage points to maximize

• Inventory investments
• Decision making information
• Continuous improvement resources

Evaluate your titanium suppliers as potential “Champions”
Thank You

Contact Information

Frank Cackowski
Director TIMET Customized Products & Services
224 Valley Creek Blvd
Exton, PA
15601

Email => Frank.Cackowski@TIMET.com
Telephone => 610-968-1279

Special Thanks: Dr. William Killingsworth, Executive Director MIT Forum on Supply Chain Innovation
billk@mit.edu  phone = 617-253-5974