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Business Process Technologies Panel
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CuNi Market Conditions and Supply Chain Challenges for the Shipbuilding Industry

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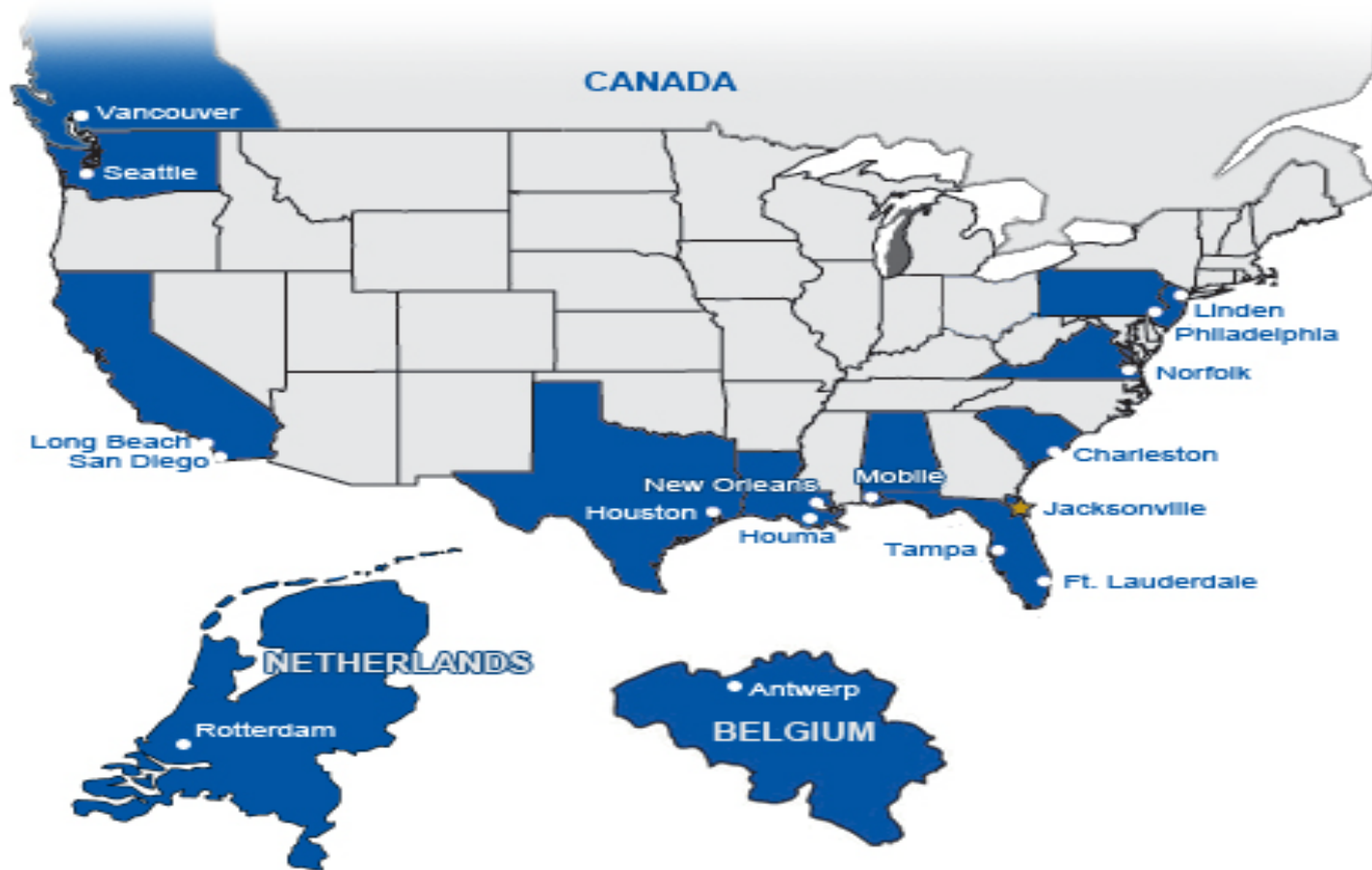


Introduction of W & O

- Founded in the early 1960's; Pipe, Valve and Fittings since 1975
- Branch operations in all major US ports
- Largest US distributor of piping products to maritime industry
- Partner and/or supplier to most shipyards in the US
 - Both new construction and repair
 - Commercial and Navy/Government
- Focused solely in maritime



W & O Locations



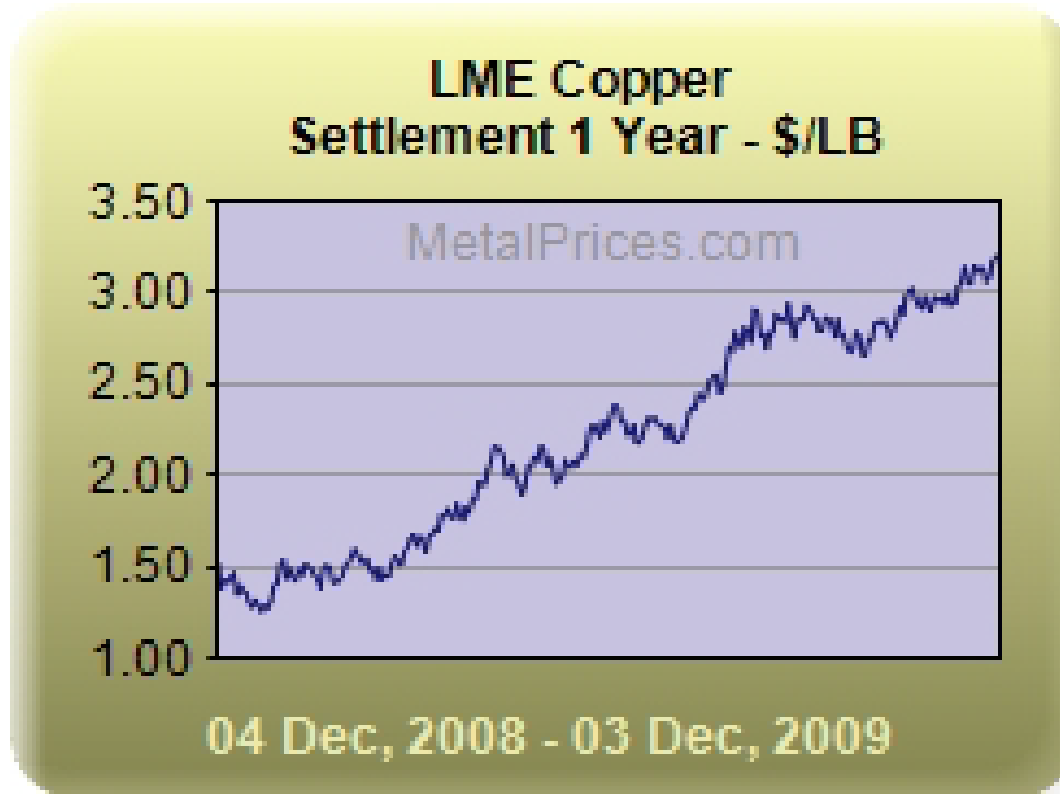
CuNi Market Conditions

Copper Pricing



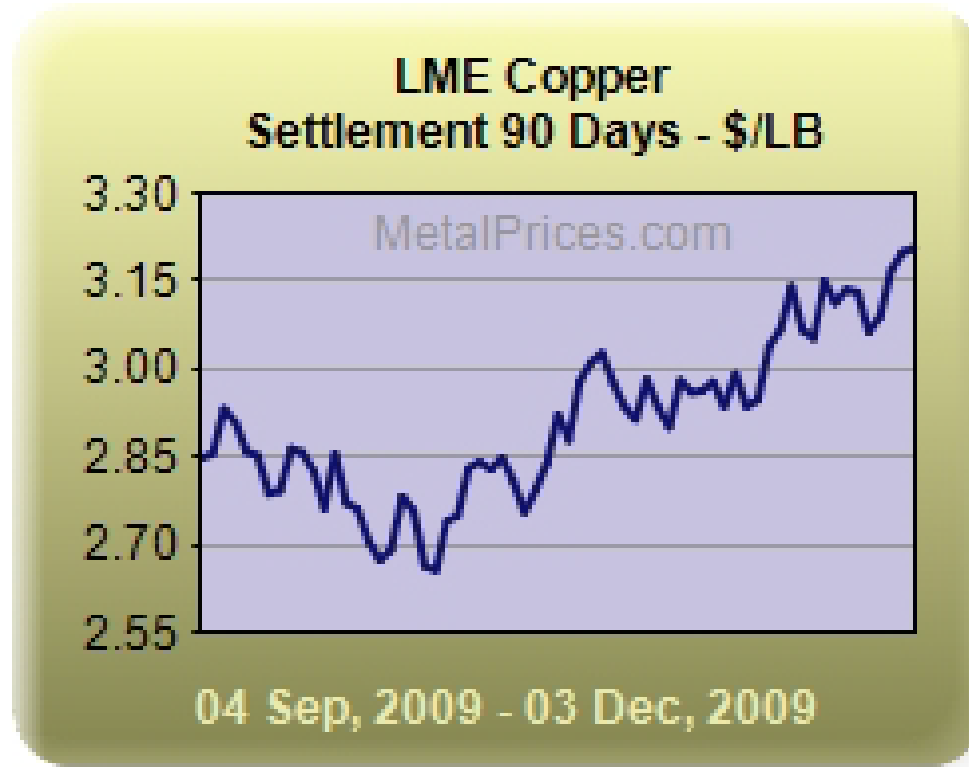
CuNi Market Conditions

Copper Pricing



CuNi Market Conditions

Copper Pricing



CuNi Market Conditions

Nickel Pricing

LME Nickel Settlement 5 Years - \$/LB



06 Dec, 2004 - 03 Dec, 2009

CuNi Market Conditions

Nickel Pricing

LME Nickel Settlement 1 Year - \$/LB



CuNi Market Conditions

Nickel Pricing



CuNi Market Conditions

- 1993 – 2005 copper ranged from \$.60/lb to \$1.60/lb
- 2006/2007 jumped to \$3.00/lb – \$4.00/lb range
- 1/1/2009: \$1.50/lb
- Today: \$3.20/lb +/-
- Over 100% increase this year alone

CuNi Market Conditions

- Why the spike/volatility?
 - Primary drivers
 - Housing: 400 lbs/average American home
 - Power industry
 - Construction in general
 - Equipment manufacturing
 - China: real economic growth vs. stockpiling (rather than investing in weakening US currency)
 - Starving for resources: China PMI Index at all time high

CuNi Market Conditions

- Copper is:
 - Broadly used
 - Directly tied to construction/equipment manufacturing
 - Those areas tend to precede other areas of economic activity
- Copper is a **LEADING** indicator

CuNi Market Conditions

Other Factors

1. Exchange rate challenges
 - 1.48 \$/Euro today
 - 1.26 \$/Euro 1 year ago
- Copper and nickel: are global commodities
- It takes more US dollars to purchase same number of lbs

CuNi Market Conditions

2. Supply Issues

- Labor strikes/tensions
- Lack of expansion and new mine development projects

3. Speculation: Worldwide investment agencies are very bullish on copper

- China is a wild card

CuNi Market Conditions

- Copper and nickel tend to mirror each other's movements
 - 70/30 vs. 90/10
 - Usually 25% - 40% higher for 70/30

CuNi Market Conditions

Nickel Drivers

- Key component in production of SS alloys
- As such, overall economic activity tends to drive nickel prices
- Expected to rise in the second half of 2010

CuNi Market Conditions

Recap

- Roller coaster/high volatility since the summer of 2006 (3 ½ years) “Metals Gone Wild”
- Value of \$ under pressure
- Economic uncertainty
- China impact significant and, at times, speculative along with other developing nations (India)
- Future is unknown: Old days of stable pricing are unlikely

Our Challenge

**We need to build and repair
ships/oil platforms, etc.
into this uncertain
environment**

The Supply Chain

MANUFACTURERS/PRODUCERS

- Overall supply base is shrinking/consolidating
- US/Mexico/Europe: for pipe/tubing
- North America: pipefittings and flanges
- Tend to compete and specialize in certain size ranges and product types: this limits the real competition even further
- Ongoing attempts to enter market by China, Korea, India have yet to produce a reliable, high quality alternative



The Supply Chain

MANUFACTURERS/PRODUCERS

- The stakes are too high to accept any dilution of quality; traceability, chemical content, etc.
- Operating at close to capacity (70 – 95%)
 - Global construction of Navy vessels – US/Canada/Australia/China
 - Marine offshore industry – platforms, drill ships, etc.
 - Ongoing acceptance of CuNi for maritime piping applications: driven by life cycle cost considerations
 - Typical lead times: 12 – 16 weeks



The Supply Chain

DISTRIBUTION

- A similar story to that of manufacturing
- Overall, number of distributors has shrunk
- Three to four major distributors – all others are second tier and either buy smaller quantities from manufacturers or buy from larger stocking distributors
- Copper nickel products – very expensive and risky to stock

The Supply Chain

Why/How?

- Domestically, our Navy has reduced its fleet from 600+ to less than 300
- Acquisitions: larger distributors acquiring smaller ones
- Requires a certain critical mass in volume/revenue to earn strong enough returns
- Partnering agreements have locked out those that are not competitive or capable of being full line distributors. Our customers are demanding this

The Supply Chain

Both supply chain tiers tending to be stronger financially with a keen/focused knowledge of the industry

Overall Supply Chain Support of Shipbuilding Activities

CHALLENGES

1. Multi-year construction cycle vs. intense volatility in metals
 - Manufacturers/producers can hedge material/firm pricing for twelve months and, at times up to eighteen months
 - Forecasting of usage
 - +/- 20% acceptable: will share in the risk
2. Shrinking/limited supply chain
 - R & D to expand product line and size capabilities
 - Facility improvements to increase capacity
 - Reduction of lead times
 - Stronger players are breeding competition/ingenuity



Overall Supply Chain Support of Shipbuilding Activities

CHALLENGES

3. Warehousing of this expensive product

- Vendor managed inventory
 - Working closely with shipyards to forecast needs
 - Shipyards clear out their inventories
 - Create physical capabilities to expand yard activities
 - Shipyard focused on core competencies
 - Supply chain feels the void: Could/Should be win/win

Conclusion

**Challenging times demand
increased collaboration,
communication and
teamwork**