Dynamic Logistics – Moving us into the Future

Logistics changing role in Global Supply Chain Optimization

Presented by: Bill Luttrell, Werner Enterprises, Inc.
1. Globalization transformation towards Regionalization
2. Geopolitical Risk
   a) Tariffs
   b) Trade Agreements
3. Dynamic Supply Chain and Mobility Technology
   a) Logistics Technology
   b) Trucking
   c) Rail
Globalization transformation towards Regionalization

- Continued Trade Growth expected (Tariffs?)
- Domestic and FDI (M&A vs. Greenfield)
- Digital Transformation (half of Capex on Technology)
- Security a major concern

- Evolving Sourcing / Procurement – now available Regionally
- Reduction / Shifting of Key Trade Lanes – reflecting:
  - Resiliency and Optionality (requires vision)
  - Lowering Logistics costs
  - Consumer focused Supply Chains and JIT delivery
  - Risk reduction
  - Nearshoring
  - Reshoring and Onshoring
Geopolitical Risk - Major Readjustment of U.S. / Global Trade Policy

- **Focus is on China**  
  - IPR / Forced Technology Transfer  
  - State Owned Banks / Preferred Loans  
  - Non-Market Pricing & Costs / Anti-Dumping  
  - Targeted M&A, FDI and Infrastructure Loans  
  - Cyber / Commercial Espionage  
  - Made In China 2025 Industrial Policy

- **WTO Reform**  
  - Appellate Body / Dispute Settlement

- **The IMF and Trump**  
  - **MARKET VS NON-MARKET**

- **US Trade Agreements**  
  - South Korea  
  - Argentina  
  - Australia  
  - Brazil  
  - NAFTA / USMCA  
  - Japan  
  - UK  
  - Germany  
  - France

Other US Trade Agreements in place:  
- Chile, Colombia, Panama, Peru,  
- Bahrain, Jordan, Morocco, Oman,  
- Singapore

Strategic Restraint >>> Establishing Enduring Institutional Order >>> Sustainable Free & Fair Global Trade
Dynamic Supply Chain and Mobility Technology

Mobility Technology:
- Mobile CRM
- IoT
- Robotics
- Blockchain in Transportation Alliance (BiTA)
  - Emerging technologies in Transportation
  - 2017, 500+ members, 25+ countries
  - Blockchain and Distributed Ledger Technologies (DLT)
    - Encrypted blocks
    - 5G Technology .... The 4\textsuperscript{th} Industrial Revolution

- Blockchain and International Commerce and Trade Facilitation and Efficiency
  - Finance
    - Expedited Letters of Credit and Insurance
  - Customs
    - Realtime documentation compliance verification and approvals
  - Tracking the provenance of goods (Visibility)
    - Realtime movement of goods monitoring
    - Realtime alternative backup planning
  - Payment
    - Secure, realtime transactions

Truck / Rail / Ocean / Air / 3PL / Mfg / WHD / Tech
Software / Consulting / Financial / Insurance / OEM
Dynamic Supply Chain and Mobility Technology - Trucking

- Trailer tails and skirting
- Automated tire inflation
- Low rolling resistant tires
- Lighter weight equipment
- Drive tandem fairings
- Minimized tractor-trailer gap
- GIS Positioning
- Ultra low sulfur diesel fuel
- Diesel Exhaust Fluid (DEF)
- Aerodynamic tractor models
- Speed reduction
- Automatic transmissions
- Advanced lubricant
- Automatic engine shut-offs
- Advanced engine efficiency
- Collision Mitigation System
- Adaptive Cruise

“Werner trucks are currently pinged every 15 minutes, ..... with 5G implementation, locations will be realtime”

ELECTRONIC LOGGING DEVICES (ELD’S)

AUTONOMOUS TRUCKING
• 263K → 286K shift vital and will require significant infrastructure Capex
• Big Data gathering and implementation will determine winners and losers
• Precision Scheduled Railroading (PSR) .... co-op essential to both Class I & Short Lines
• Positive Train Control (PTC) and Tier 4 Locomotives competitive advantages
• Lineside Technology, Smart Sensors, Automated Inspection very important
• Big Question ----- Autonomous Trains
"Logistics should determine Location..... Rather than Location dictating Logistics"
For more information please contact:
Bill Luttrell – Director Corporate Real Estate
Office: 402.895.6640  ext 100-4420
Cell: 402.578.3414
E-mail: bluttrell@werner.com