



**Aerogistics: New Supply Chain Complexities with Emerging Markets**



# Agenda

- Aerogistics Study Methodology
- Aerospace Key Trends
- Emerging Markets and Compliance

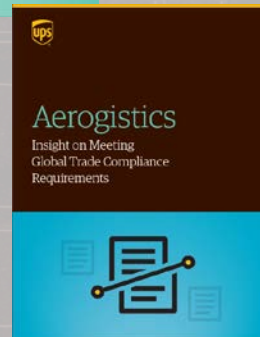
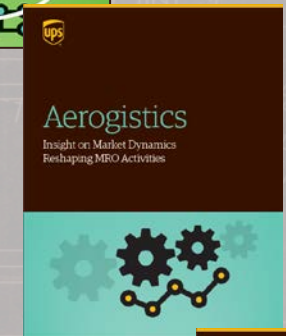
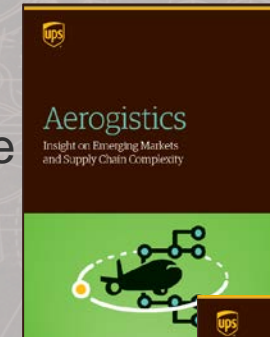


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SUB-ASSY



# 2015 Aerogistics Study Overview

- UPS worked with IDC Manufacturing Insights, to develop a series of three Aerogistics whitepapers on topics causing change and complexity in the aerospace supply chain including:
  - Emerging markets and supply chain complexity
  - Market dynamic reshaping MRO activities
  - Meeting global trade compliance requirements
- On behalf of UPS, IDC Manufacturing Insights:
  - Fielded a survey of 76 United States-based A&D firms with annual revenue greater than \$10 million.
  - Conducted an in-person focus group with seven participants from United States-based A&D firms with annual revenue greater than \$10 million.
  - Utilized additional data and intelligence from its Supply Chain Strategies research program.





# Two key industry trends are driving changes in the MRO environment

- MROs are preparing for next generation aircraft
  - Phasing our services for some older aircraft
  - Some shifting towards providing more engine and / or component work
- Strong Global Growth
  - Orders represent over \$1 trillion in sales and bring book to build ratios higher than 2:1 as order backlogs continue to grow
  - Orders coming from non-traditional countries





# Much of the growth can be attributed to emerging markets

- Asia / Pacific and the Middle East expected to grow three times the growth of the US thru 2020
- Manufacturers moving key supply chain activities into emerging regions to respond to this growth
- Activities include parts production, MRO services and even aircraft assembly:
  - Example: November, 2015, Boeing and Tata announce aerospace joint venture in India produce aerostructures for the AH-64 Apache helicopter and compete for additional manufacturing work across Boeing platforms, both commercial and defense.



# Improving service levels is a key reason for expanding into emerging markets

## Top Drivers for Moving Manufacturing/Service Into Emerging Markets



Improving service levels by bringing production and/or service closer to demand



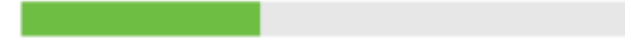
Responding to customer requirements to locate service facilities within operating countries



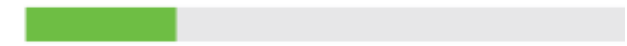
Cost benefit of China or other low-cost manufacturing is no longer compelling



Skills or technology limitations in existing locations



Responding to government or regulatory body requirements to locate manufacturing within client country



Improving control over quality and intellectual property



Source: UPS Aerospace & Defense Survey, IDC, April 2015

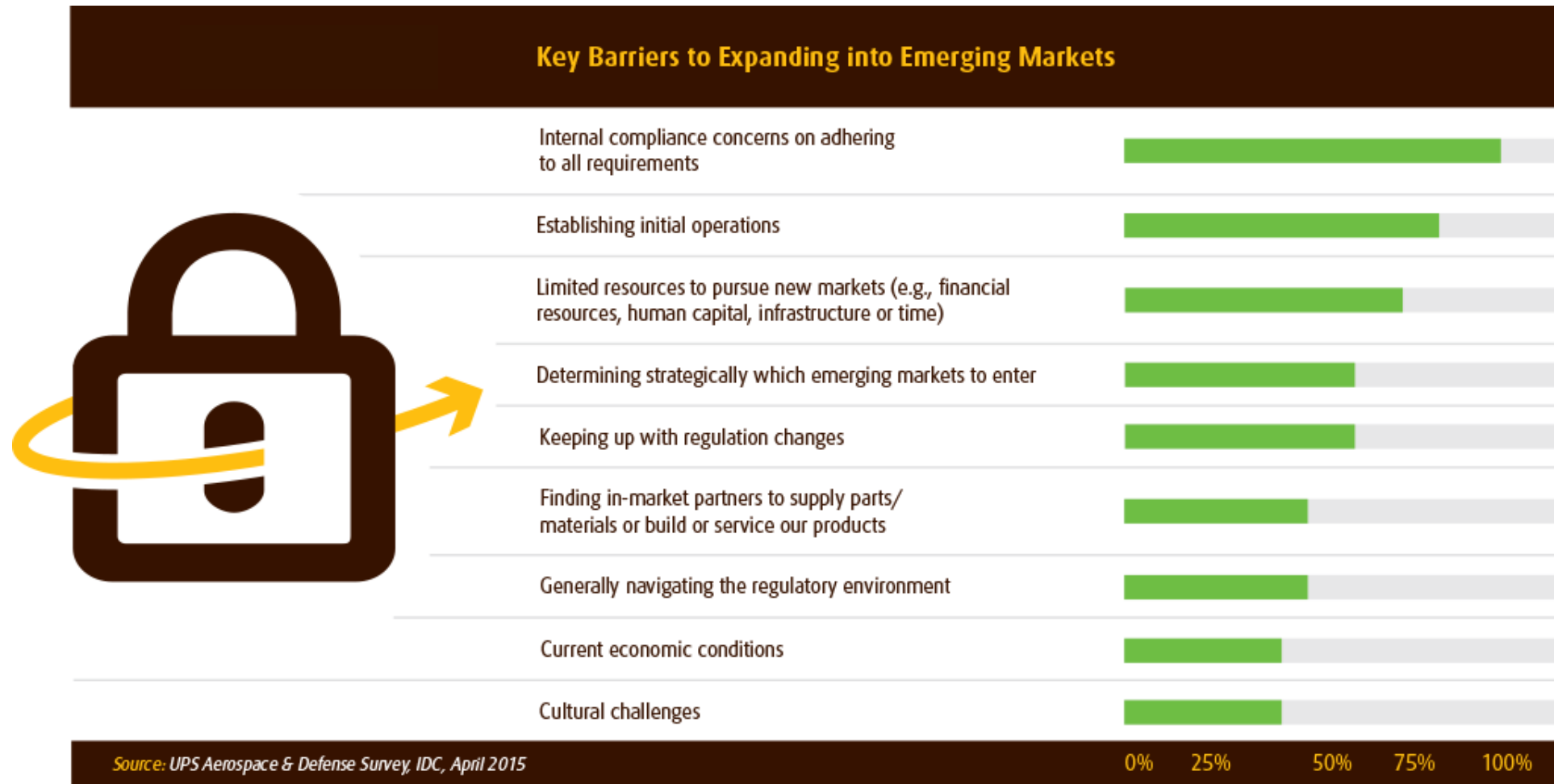
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*What are your reasons for expanding into emerging markets?*





# Maintaining compliance is a top concern when expanding into emerging markets

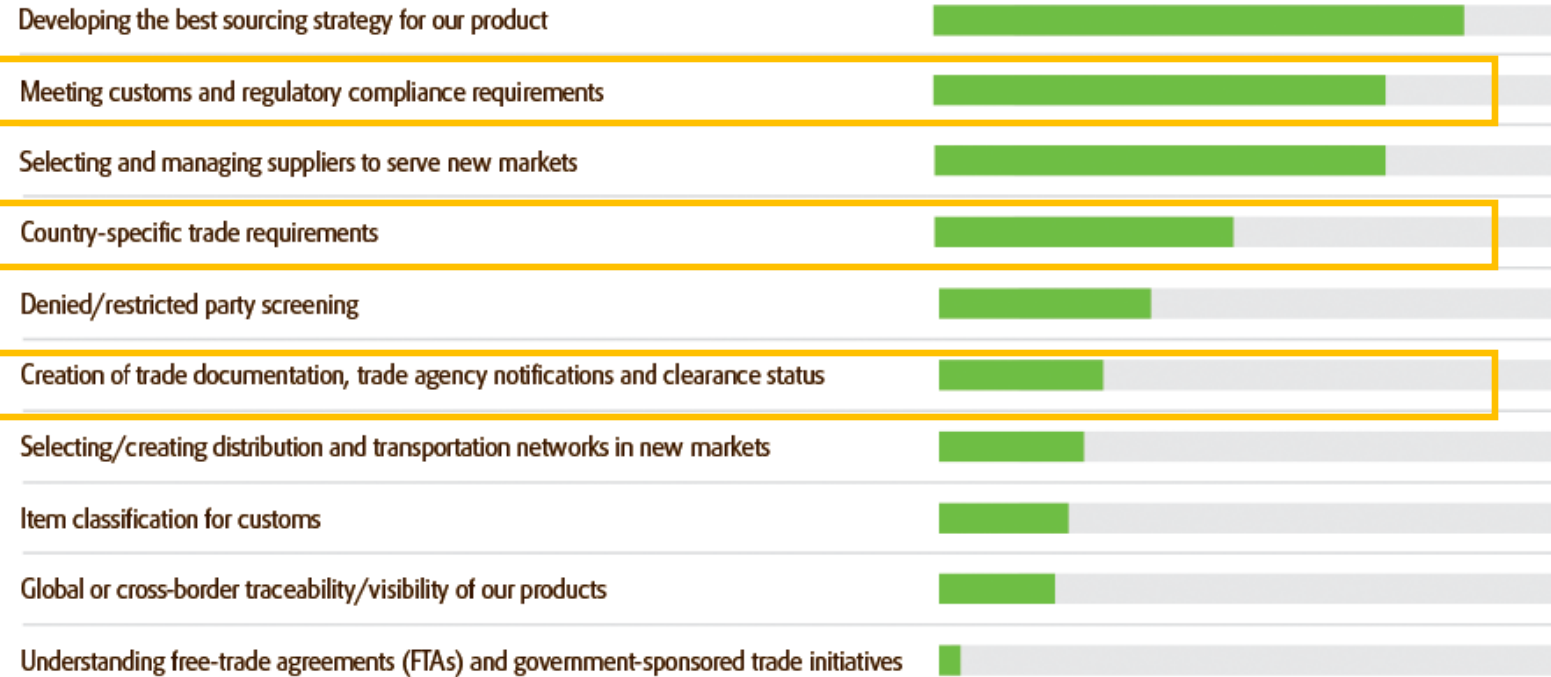


*What are your barriers for expanding into emerging markets?*



# Compliance issues are key challenges in managing global trade

## Key Global Trade Management Challenges



Source: UPS Aerospace & Defense Survey, IDC, April 2015

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*What are some of your challenges in managing global trade?*





# Technology is a major component in strengthening compliance

## Steps Taken to Strengthen Global Trade Compliance Expertise



Source: UPS Aerospace & Defense Survey, IDC, April 2015

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*What are some of steps that your company has taken to strengthen your compliance expertise?*







From figuring it out to getting it done,  
we're here to help.