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## Globalization

### Aerospace suppliers need a flight plan to sustain growth

*A new concern is mushrooming on the horizon*

Commercial aerospace suppliers are enjoying an unprecedented surge in demand. Orders and air traffic have grown so much, the supply base is happily feeling tremendous pressure to keep up. But a new concern is mushrooming on the horizon: globalization.

Aircraft orders, backlogs, and production rates are increasing. The NEO and Max promise to deliver 12% to 15% in fuel savings, spurring airlines to accelerate replacement of older aircraft. Demand for twin-aisle aircraft is also rising. Sustained air traffic growth in Asia, the Middle East, and other emerging markets is fueling orders for A380s, 777s, and new 787s. All of this demand makes the airframers understandably nervous about rate readiness and part delivery schedules, but most suppliers are pleased with their business and prospects for the future.

Beneath today's layer of good fortune also lie worries about globalization. Emerging market carriers are the source for much of today's backlog and an even greater proportion of forecast demand. Normally the industry would cheer such a development. But the countries whose carriers are placing these orders are the same ones that aspire to build aerospace industries; many of them have substantial resource and capital backing from their governments.

This trend is undeniable, and its first victims will be Western-based suppliers.

To develop a better understanding of the threat, PwC commissioned a supplier globalization study. The study focuses on two dimensions critical to long-term global success: (1) operational readiness to support aircraft manufacturers in customer growth regions (for example, Asia, Latin America, and the Middle East) and (2) financial readiness to enable globalization expansion strategies. Suppliers with operations in customer growth regions are already ahead in the globalization game. Suppliers with abundant financial resources have the means to jump-start their globalization efforts.

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## About the study

PwC analyzed financial and operational data for 139 publicly listed commercial aerospace suppliers. The study excluded defense suppliers and, where possible, defense data for those suppliers that support both defense and commercial customers.

Financial readiness was assessed by using a composite score of:

- Revenue growth
- Operating cash flow
- Debt-to-equity structure
- Capital expenditure investments
- Research and development investments
- Asset quality
- Earnings ratio

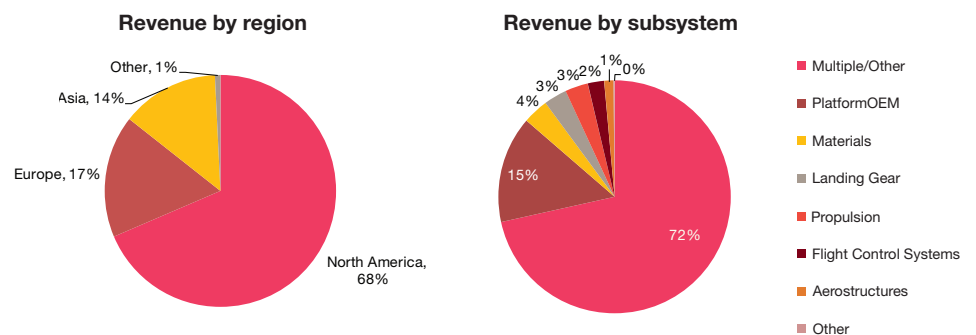
Operational readiness was assessed by using a composite score of:

- Manufacturing locations
- Manufacturing capacity
- Global customer base
- Global revenue

Based on relative weightings of each financial and operational metric, we calculated scores from 1 to 100 for all 139 companies for both financial and operational readiness, with 100 representing the highest possible score and 1 the lowest.

PwC collected data from a variety of sources, including annual reports, 10Ks, company websites, press releases, private databases, and industry interviews. To the degree possible, PwC validated each data input with two or more independent sources.

## Study population (total revenue = \$748B)



Sources: Annual reports, 10Ks, company websites, press releases, private databases, and industry interviews

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Findings

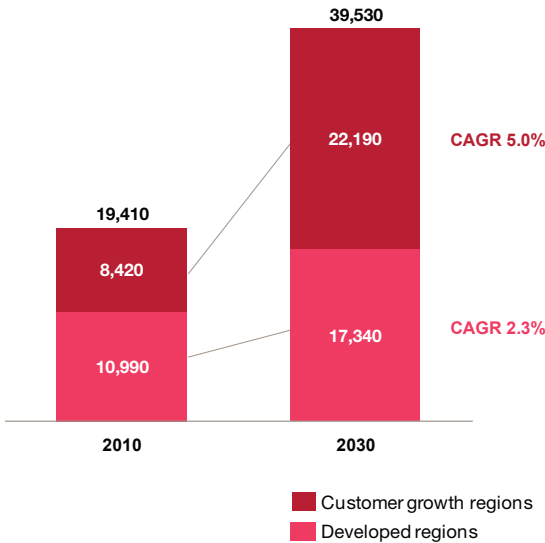
Emerging market demand is forecast to grow twice as fast as developed market demand as the global commercial fleet more than doubles to nearly 40,000 aircraft by 2030. Most of this growth will occur in Asia, Latin America, and the Middle East. China and India, in particular, account for a substantial proportion of the foreseen increase.

The source of this new demand has significant ramifications for suppliers. China, India, and the Middle East all have ambitious industrialization aspirations, particularly in the aerospace sector. Each region has numerous industrialization levers at its disposal — and is becoming increasingly aggressive about using them.

According to China’s 12th Five-Year Plan (2011-2015), building a competitive commercial aerospace sector is one of China’s top seven priorities. China is funneling tremendous human and capital resources into the commercial aerospace industry and shifting its focus from “buy technologies from Western suppliers” to “develop and build technologies in country.”

China’s goal is not simply to become a major supplier to Boeing, Airbus, and others. China has grand plans to develop and build commercial aircraft.

Global commercial aircraft fleet



Sources: 2011 Boeing Commercial Market Overview Forecast, PwC analysis

The ongoing development of the ARJ21 and C919 reflects how China is positioning itself. The ARJ21, being produced first, is largely built on foreign R&D and domestic manufacturing. The C919, however, will be built on Chinese-foreign R&D partnerships because the Chinese government requires local presence for the program’s suppliers. The government’s significant focus and Chinese aircraft supply-base requirements are China’s key tools for building aerospace capabilities. This new partnership model does introduce risk of intellectual property leakage. But suppliers that want to participate in the fast growing China market will need to figure out how to manage this risk.

*Companies that want to capture a greater share of emerging market sales will need to demonstrate their commitment to these markets, most often with a local production presence.*

In India, the government's main tool for developing aerospace capabilities has been a robust offset policy. Offset policies are designed to redirect government funds paid to international companies back into the home country. Initially introducing a 30% offset requirement for contracts of a certain size, the Indian government has become more flexible, exempting certain products while also allowing international companies to bank offset credits.

Offset requirements for OEMs such as Airbus and Boeing pump millions of dollars back into the Indian aerospace market. India's strong protection of intellectual property and large number of engineers have led these companies and others such as Snecma to set up research facilities there.

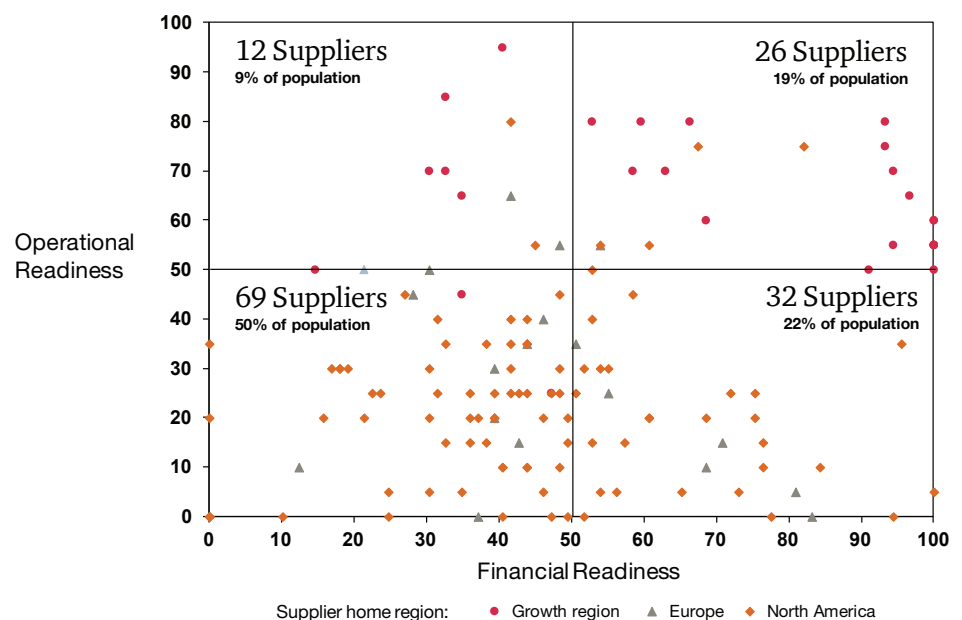
While companies including Hero Motors and Mahindra are attempting small aircraft manufacturing, most aerospace work focuses on basic manufacturing; maintenance, repair, and overhaul; and software.

The United Arab Emirates (UAE) has primarily used sovereign wealth investments and offsets to expand domestic aerospace capabilities. The UAE revised its offset policy in 2010 to support an industrial base delivering social and economic development through partnerships, technology and knowledge transfer, and the establishment of high-value work in the UAE.

One example is Strata, a composite aerostructures company owned by Mubadala that was just awarded a 10-year contract from Boeing to produce composite ribs for the 777 and 787. Another example is Mubadala MRO, a combination of Abu Dhabi Aircraft Technologies (ADAT) and SR Technics that's already one of the largest independent MRO companies in the world.

These country-based industrialization strategies have a direct bearing on aerospace companies—OEMs and suppliers, too. Companies that want to capture a greater share of emerging market sales will need to demonstrate their commitment to these markets, most often with a local production presence.

## Supplier globalization readiness

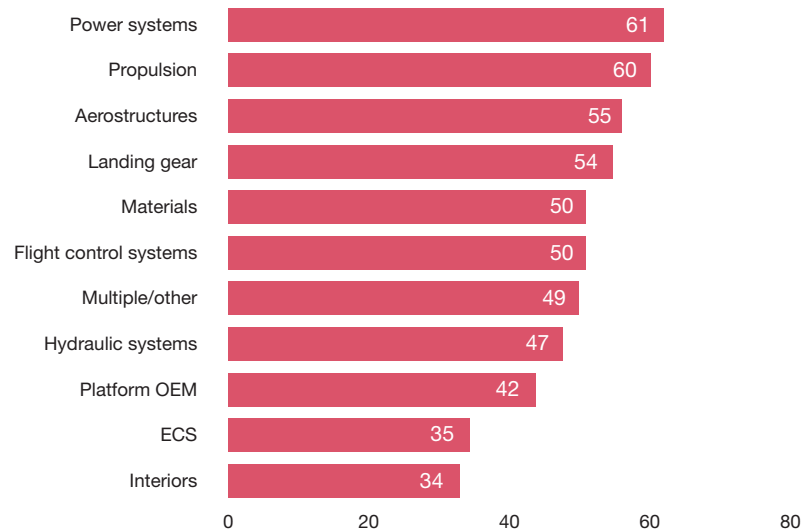


*Some Western suppliers are investing in customer growth regions even at the expense of short-term profits.*

Suppliers in both North America and Europe are much more likely to have facilities in the other developed region. Such a high-cost footprint was grudgingly acceptable when there were few alternatives. But the rapid ascent of indigenous aerospace suppliers is making an NA- or EU-centric production strategy increasingly untenable. China has already established 36 joint ventures with foreign aerospace suppliers, one or more for each major subsystem of a commercial aircraft.

Some Western suppliers are investing in customer growth regions even at the expense of short-term profits. For example, the Tianjin A320 final assembly line is operating at higher cost than its German sister plant, but Airbus recognizes the longer-term strategic value of manufacturing in China. Rolls-Royce is another example. Rolls-Royce located an engine assembly operation in Singapore explicitly to be close to its growing Asian customer base. The new plant is expected to see its first engine delivery in the third quarter of 2012.

### Average financial readiness by subsystem



Suppliers' financial readiness is less precarious, but still stressed in many cases. Among surveyed companies, 41% are financially ready to make the changes necessary to grow with the global aerospace market. The recent sales gains have helped refill company coffers and relieve overhead costs, but they come with increasing demands for working capital and expansion capital.

As a group, propulsion and power systems suppliers have the best financial position, while interiors, environmental control systems, and other suppliers remain stretched financially. Their positions have important ramifications because the low-readiness categories also are the most vulnerable to encroachment by companies in low-cost countries. Poor-performing suppliers also represent potential takeover targets for stronger suppliers in growth regions. In 2010, the first Chinese acquisition of a US-based supplier occurred when AVIC purchased Teledyne Continental Motors.

Taken together, these two scores illustrate an even larger vulnerability: Only 26 of the 139 companies are ready both financially and operationally for significantly more demand in customer growth regions. And of the 26 companies, 20 of them are indigenous to these regions; they are the new class of emerging aerospace suppliers.

Right now their size and numbers are modest. But they have the financial means, operational footprint, cost advantage, and government backing to become significant competitors in their segments.

*How a company goes about setting up and operating its global network can have a huge effect on its ultimate success.*

Emerging country suppliers remain concentrated in the lower-value portions of the supply chain. Western suppliers in the higher-value segments such as avionics and propulsion currently enjoy a degree of protection because of their higher sophistication and technological know-how. But a greater number of suppliers are expected to emerge in these segments, too.

## Strategies for success

Western suppliers need to embrace globalization or risk losing share to emerging market suppliers. They need to accelerate plans to establish and grow manufacturing presence in higher-priority growth regions: China, India, and the Middle East.

Although hard work is required, moving from an “export-oriented” business model to a truly global business model is possible, even for smaller suppliers. It starts with a firm commitment and a focus on nine key dimensions of globalization:

- **Market reach.** Get deeper into key markets. Yes, there is fierce local and global competition, but these battles need to be fought now, while the window of opportunity is still open.
- **Market offering.** Localize products to match low price points where needed. In many cases, emerging market customers neither need nor want all the capabilities of Western-designed products. Develop products and solutions for the local market, and maintain a portfolio that’s coherent with your other products.
- **Operations.** Get the right footprint. In addition to market access, global production creates opportunities to tap into lower-cost locations and build flexibility into your production footprint, too.
- **Procurement.** Although many emerging markets are also the sites for production in low-cost countries, it’s imperative that the manufacturer maintain a strong focus on quality and on-time delivery. This may involve extra expense, but the company needs to maintain a reputation as a truly global supplier, not just one with a local operation.
- **IP development.** True globalization includes R&D as well. Build the R&D network and capabilities so that innovation flows both ways. Invest in the intellectual property needed to protect these investments.
- **Capital.** Match your competitors’ access to strategic capital and lower hurdles for return on investment. To recruit Western suppliers, many emerging markets eagerly offer tax incentives and low-cost loans. Take advantage of these incentives to reduce capital outlays.
- **Talent.** Attract the right people for strategic leadership positions in these emerging markets. New markets can be tricky. It pays to have knowledgeable leaders to help navigate around the local obstacles.
- **Operating model.** Make partnerships and alliances more effective. In many cases partnerships or alliances make sense, and a robust partner management model helps the supplier get the most out of these relationships.
- **Governance.** Balance home office and regional headquarters’ oversight with appropriate local decision making. The local leadership on the ground usually has a good understanding of the conditions and decisions required to be successful.

In many ways, expanding capacity in a new region is no different than in a home market: Space needs to be procured, production equipment installed, people hired and trained, processes qualified, and so forth. But how a company goes about setting up and operating its global network can have a huge effect on its ultimate success.

# Globalization

PwC has extensive experience in assisting aerospace suppliers to globalize successfully. We understand aerospace manufacturing, technology, finance, tax, and regulatory requirements. Many companies have established an aerospace presence in growth markets with the help of our in-country and international staff. With our experience and knowledge, PwC can help you evaluate your globalization alternatives quickly, accurately, and confidently.

## **How PwC can help**

*To have a deeper discussion, please contact:*

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