

International Innovation Matters:

Are Major Defense Firms Really Ready?



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Access to international R&D-driven innovation is far more challenging than is currently appreciated, according to Avascent's second annual survey of senior aerospace, defense, and technology leaders.

International Innovation Matters: Are Major Defense Firms Really Ready?

Middle Eastern nations operate some of the most advanced military aircraft. For decades, it was a U.S. and European fleet, but this long-time trend has been disrupted as China's *Wing Loong* UAV has reportedly made inroads in several markets. To increasingly sophisticated buyers worldwide, access to new defense technologies matters more than ever – even more than traditional alliances and legacy industry relationships. With major leaps in unmanned systems, missile defense technologies, and cyber warfare capabilities, defense buyers are looking for affordable, accessible, and highly innovative solutions.

A similar disruptive dynamic is at work within Western militaries, particularly the United States. The Department of Defense is seeking innovative defense technologies from new sources, including technology firms in Silicon Valley. This expertise is often out of reach for traditional defense companies, as are international sources of research and development-driven innovation that are fenced off for bureaucratic or security restrictions.

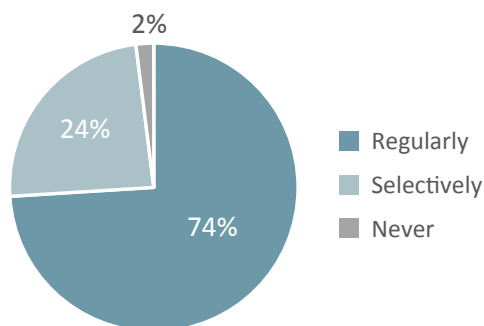
Survey and Methodology

Avascent's 2015 survey on global innovation, R&D and aerospace and defense industry competitiveness is the firm's second exploring defense market dynamics from the perspective of senior A&D leaders from around the world. For this survey, there were over 200 respondents presented with 23 open-ended questions. Participation was global, led by U.S. executives.

While the Pentagon is never going to buy Chinese technology, it seeks to disrupt status quo approaches to defense technology development, aiming to quickly acquire new and better systems and for less. Joint development programs, such as U.S.-Japanese co-investment in missile defense, may become increasingly common and led by the Aerospace & Defense (A&D) industry rather than government-to-government initiatives.

But the process of sourcing and supporting R&D innovation abroad will likely remain inconsistent for the foreseeable future. Some 55% of surveyed A&D executives say their firms are not ready to take advantage of international R&D-driven innovation. At the same time, 93% of executives surveyed in 2014 indicated that international markets will become increasingly important. This combination of the growing importance of international markets with a lack of readiness to integrate foreign R&D-driven innovation suggests defense firms may be unwilling to fund less

Should government support the adoption of foreign-derived defense R&D?



predictable research and development programs or unable to access many of the innovative offerings sought by their home governments as well as desirable customers in the Middle East, Asia-Pacific, and elsewhere.

Sources of International Innovation vs. Competition

The Avascent survey reflects a recognition within the industry that R&D-driven innovation is vital for maintaining military parity/superiority relative to rivals. Despite a clear concern that their firms are not ready to take advantage of international innovation, more than half of survey respondents see international innovation as having a major or perhaps even disruptive impact on three key market segments: unmanned systems, electronic warfare and C4ISR.

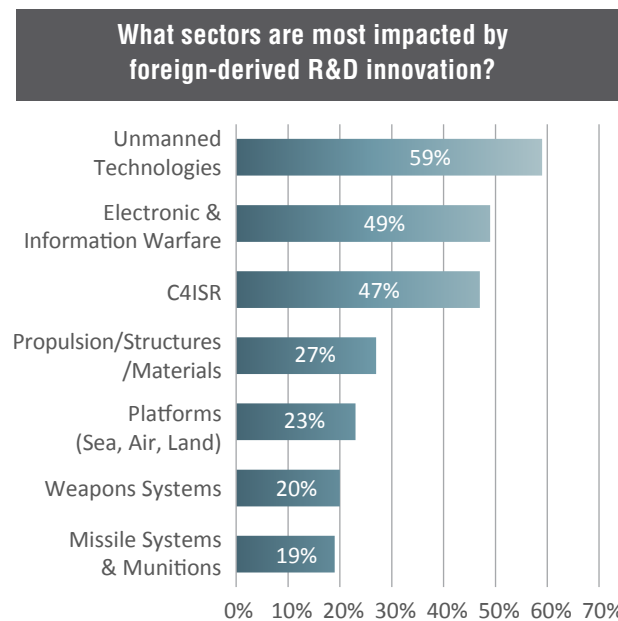
When it comes to international sources of innovation as measured by country, the U.S. emerges as the most innovative, followed by the

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United Kingdom, Germany, France, Canada and Japan. Following this roster of Western nations was China and then Russia. These findings raise the question of whether it is easier to recognize innovation in familiar and accessible programs and partners, rather than those in non-aligned or rival nations. Such blind spots in identifying new sources of innovation could lead to an executive bias toward the familiar.

Avascent's previous A&D survey, conducted in 2014, revealed a growing awareness of real competition from new entrants in areas such as unmanned vehicles, electronic warfare and ISR systems. Simply put, there are more competitors in more markets, a trend driving industry's desire for more government support to win international business. The 2014 survey highlighted the emergence of South Korea, Turkey, Brazil and others, who stood out as sources of competition in key market segments. It was no surprise that these same countries featured in this year's survey, which focused on sources of high-tech R&D-driven innovation.

When assessing emerging competitors and sources of innovation from Avascent's two aforementioned surveys, respondents suggested that relatively few countries were both consistent competitors and sources of innovation. China, however, stood out as both a competitor and a source of innovation (albeit less so than some of the traditional Western European markets). While assessing the



Chinese competitive landscape is anything but new for more commercially-oriented firms, it does represent a shift in mindset for defense-focused companies that have traditionally discounted China’s impact on military innovation.

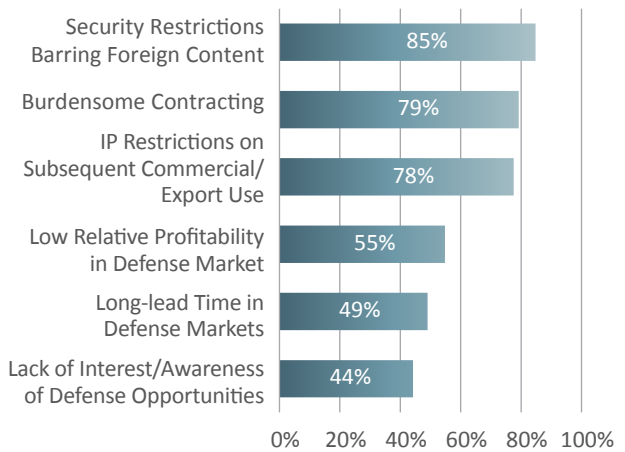
Making International A&D Innovation Attainable

Faced with major barriers such as IP control and national security requirements, defense firms can still come up with successful strategies. From the survey, the analysis shows that partnerships and the development of joint offerings are the strongest avenues for firms looking to harness international innovation, followed by IP acquisition or licensing, M&A activity, and then formal joint ventures (JVs). Tellingly, organic investment is viewed as the least effective approach.

The results from questions focused on the non-traditional domestic—“commercial” in industry parlance—sources reveal a similar pattern, albeit



What are the most challenging barriers to adopting foreign R&D innovation?



fewer respondents in general support sourcing innovation from abroad than from domestic non-defense companies. Executives also indicated less appetite in relative terms for JVs and M&A activity in the international arena, reflecting the complexity—security requirements, state-ownership/control, and other hurdles—of cross-border defense investment.

If many innovative international (and commercial) technologies are frequently out of reach, from a corporate or acquisitions perspective, what can be done to ensure they are accessible to industry in the near future?

While many companies may have core competencies in leading-edge technologies, it is critical to develop an *external innovation strategy* that evaluates a combination of IP, M&A, partnerships, and more formal joint ventures.

Taking Avascent’s 2014 and 2015 survey results into account, as well as Avascent’s experience helping corporate and government clients make

sound strategic decisions about technology investments, there are a number of steps leaders can take:

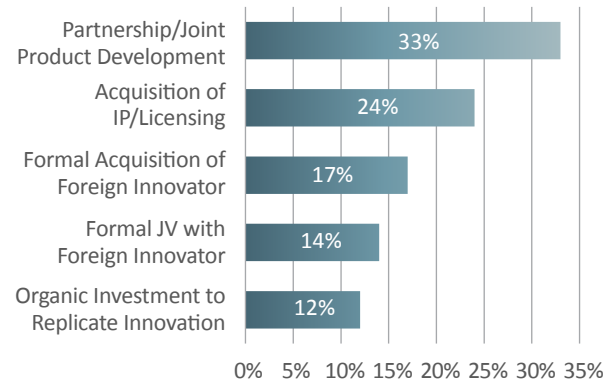
A&D industry:

- Build a “Global Innovation Strategy” team that integrates capabilities in international, R&D, offsets, corporate development, legal, supply chain and communications as well as the key business areas; the team should meet at least quarterly
- Develop core competencies in external partnerships, joint ventures, IP licensing, and M&A, based on portfolio analysis; recognize that internal initiatives likely are not enough to achieve success
- Seek innovation in process, development, and manufacturing across the lifecycle, as well as technology insertion from international partners
- Review internal processes targeting “paperwork” and organizational structures that may slow or hamper successful innovation initiatives
- Develop country playbooks that focus on potential partnership opportunities, industrial participation, and competitors
- Educate potential international partners and home government end-customers about the financial and technological benefits of new innovation-sourcing strategies

Defense decision-makers:

- Support or sponsor international industry R&D investment programs in priority market areas and partner countries
- Prioritize shared development of disruptive/innovative technologies

What are the most common business approaches for adopting foreign R&D innovation?



- Create industry/government task forces to assess the rising importance, scale and complexity of offsets and industrial participation
- Advocate for allied R&D role in developing the U.S. “Third Offset” strategy

Looking Over the Horizon

When considering international sources of defense innovation, one of the biggest challenges is not technological but cultural: defense industry leaders must open the innovation aperture to focus on more than end products, such as a missile or command and control system. Design processes or specific applications of a technology can be even more meaningful in their ability to shape a company’s overall approach to pushing technological boundaries, rather than growing a single market segment.

This is an era when innovation matters to all governments. If the defense industry is to satisfy this appetite, then companies must be willing—and able—to pursue and employ international sources of innovation.

About the Author

Aleksandar Jovovic is a Principal at Avascent where he counsels clients on a broad spectrum of critical issues involving strategy, value-creation, and new market penetration. His sector expertise encompasses aerospace & defense, services and infrastructure, and public sector markets. Alek has played a major role in expanding Avascent's international practice, focused on growth and strategy development in markets outside the United States. As part of this effort, Alek has directed Avascent's international defense analytics solution, a decision-support tool that covers some fifty international markets. As part of Avascent's global consulting practice, he has led dozens of engagements focused on successful international market identification and entry strategies. For more information, please contact: ajovovic@avascent.com.

Avascent extends its appreciation to AIA and NDIA for sharing the above mentioned survey with their members.

About Avascent

Avascent is the leading strategy and management consulting firm serving clients operating in government-driven markets. Working with corporate leaders and financial investors, Avascent delivers sophisticated, fact-based solutions in the areas of strategic growth, value capture, and mergers and acquisition support. With deep sector expertise, analytically rigorous consulting methodologies, and a uniquely flexible service model, Avascent provides clients with the insights and advice they need to succeed in dynamic customer environments.

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