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Joint ventures to build national defence industries

Beyond offsets

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EXECUTIVE SUMMARY

Emerging economies are adopting a new approach to defence procurement and the development of their defence industrial base. These countries are among the world's largest military importers. They represent growth markets for defence original equipment manufacturers (OEMs) in developed economies. To secure lucrative procurement contracts, global defence players traditionally have used offset agreements to transfer technology, boost domestic industrial capabilities, and generate socioeconomic benefits for the buyer. Yet offsets have a poor track record in most emerging economies.

Instead, many countries are moving beyond offsets to forge joint ventures (JVs) with OEMs. JVs are a more promising way to develop the industrial base in emerging economies. The defence OEM contributes technical expertise, training, and intellectual property rights on products and processes. Many successful JVs include a local defence champion that can provide fast access to manpower, shared services, infrastructure, and support in navigating regulations.

There are four leading practices that can make JVs between defence OEMs and buyers in emerging economies more successful:

- Define an industrial strategy and build capabilities incrementally
- Agree on the terms for local content and technology transfer
- Take advantage of capabilities developed during the JV after it has ended
- Determine equity ownership and participation in advance

FROM OFFSETS TO JOINT VENTURES

Emerging economies are among the fastest-growing defence markets in the world. Many of these economies, however, have failed to build local defence capacity and capabilities, prolonging their dependence on defence OEMs from developed economies. The traditional approach to develop the local defence industrial base has been offset agreements. These stipulate that defence OEMs generate socioeconomic benefits in the buyer's country. Until recently, nearly every large defence procurement contract in such emerging economies as the Gulf Cooperation Council (GCC)[1] countries, India, and South Korea has required an offset package. However, many offset obligations fail to deliver the agreed-upon benefits, often because the emerging economy lacks the industrial and technical base to integrate the technologies (*see Exhibit 1*).

EXHIBIT 1

Offsets come with conditions and challenges

Country	United Arab Emirates	South Korea	India	Saudi Arabia
Project (Contract value)	Platform systems for missile launches US$ 1.6 billion	40 F-35s US$ 7.3 billion	36 Rafales (multi-role combat aircraft) US$ 7.9 billion	Production and support for Blackhawk helicopters US$ 3.8 billion
Target offset (of contract value)	60%	50%	30%	35%
Penalty	8.5% of unfulfilled offset obligation	10% of unfulfilled offset obligation	5% of unfulfilled offset obligation	Best effort
Project challenges	- Lack of domestic industrial and technical base to transfer required technologies - Domestic economy too small for international subcontractors to find suitable project investment opportunities - Difficulties in navigating local bureaucracies - Minimal impact of offsets on the local defence sector			

Source: Strategy&

As a result, some governments are moving away from offsets to create JVs with defence OEMs. Turkey, South Africa, and several developed economies have all used JVs to build their defence and industrial capabilities. These arrangements typically involve four stakeholders: the defence OEM, the defence OEM's government, the emerging economy government's agencies, and the local defence champion:

- The defence OEM commits to a long-term partnership to build military-industrial capabilities in the emerging economy.
- The defence OEM's government ensures that the arrangement is in line with national regulations.
- The emerging economy government's agencies, such as the local defence industrial and procurement body, oversee the regulatory components of the JV that would be challenging for the defence OEM alone. They often act with the support of a strategic investment fund and a regulator. These agencies use the JV to close the gap between military capabilities and industry by identifying technologies and products critical to national security. This is part of their overall mandate to build a vibrant ecosystem and incentive schemes to increase the JV's access to customers, small and medium-sized enterprises (SMEs), and research centres.
- The local defence champion, typically a private or semi-private and for-profit organization, takes on most of the direct responsibility for integrating the JV's technology into local industry, and developing local talent, the supply chain, and SMEs.

The experience of defence JVs in economies such as Turkey and South Korea shows that the fourth party, the local defence champion, is increasingly important to build local defence capabilities. The local defence champion ensures that OEMs fulfil their side of the bargain at an operational level. This means that the local defence champion is not responsible for regulation or policymaking.

This approach is catching on in the GCC. Saudi Arabia has created an institution to manage international defence contracts, Saudi Arabian Military Industries (SAMI), which is owned by the country's Public Investment Fund. SAMI is an active holding company and is responsible for establishing major JVs with foreign partners.

"The local defence champion ensures that OEMs fulfil their side of the bargain at an operational level.

The ultimate goal of a defence JV is to create local technological capabilities that enable an emerging economy to compete for international contracts on an equal footing with established players. One example is the JV between Larsen & Toubro, one of India's leading defence OEMs, with MBDA, the European missile company. The JV was established in 2017 with the initial aim to localize missile and missile system production in India; Larsen & Toubro is now preparing to export fully assembled missile systems to European markets (*see Exhibit 2*).

EXHIBIT 2

An emerging economy JV leading practice

JV partners

Larsen and Toubro (India)

MBDA (France)

Market segment

Missiles and missile systems

Ownership

51% (registered in India and subject to Indian laws)

49%

Vision

Develop and supply missiles and missile systems to meet the growing requirements of the Indian armed forces and export markets

Board of directors

3 (incl. chairman)

2 (incl. vice chairman)

Products

- Fifth-generation anti-tank guided missiles
- Missiles for coastal defence
- High-speed target drones

Results

1. Mutual trust relationship through co-development and production of sub-systems
2. Natural progression of the partnership into a JV to exploit synergies
3. Prepare JV to export products (e.g., to Europe) to reach growth target markets

Source: MBDA

CORE INTERESTS OF STAKEHOLDERS IN A DEFENCE JV

Understanding and balancing the interests of all four stakeholders is critical to the JV's success.

Defence OEM
The defence OEM typically pursues three goals when entering a JV. The first is to gain market access and secure a preferred partner status with a long-term contract, or pipeline of contracts. The second is to limit exposure to commercial risk and make minimal up-front capital investments. The third is to retain control over its intellectual property (IP).

Defence OEM's government
The defence OEM's government is primarily interested in protecting the country's sensitive and unique defence capabilities and sustaining its defence industrial base. These governments seek to retain jobs and investments in their own country by implementing regulatory guidelines and IP export regulations.

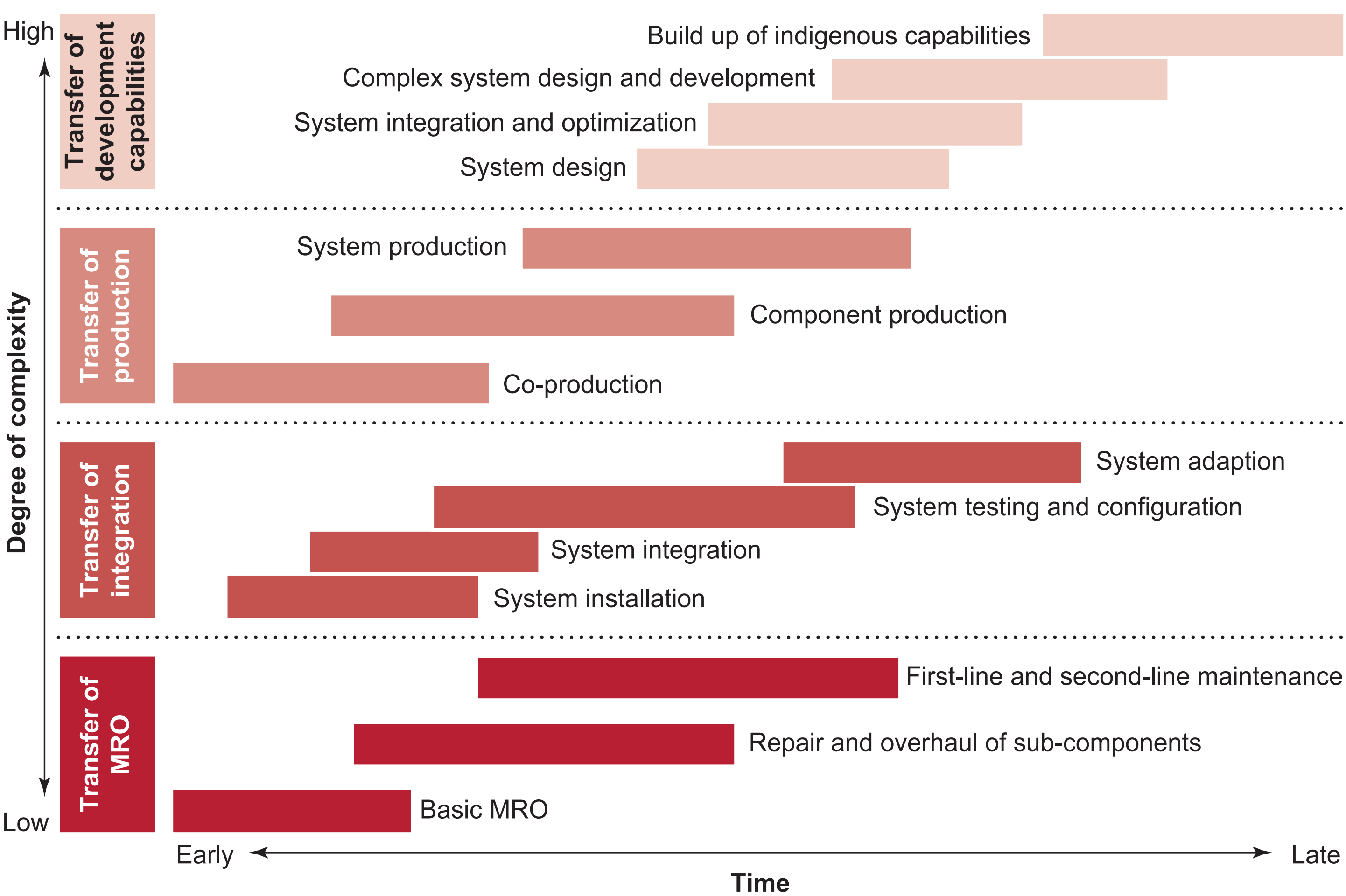
However, there are two key aspects that tempt these governments to support defence JVs abroad. First, these governments can exert political influence on emerging economies through defence JVs by imposing regulatory guidelines on military products. This pushes the emerging economies to "play by the rules" set by developed economies. Second, they can benefit from collaborating with emerging economies through defence JVs because they can share high development costs for defence products and benefit from future common R&D.

Emerging economy government and its agencies
The government of an emerging economy, and its agencies, seek to develop an independent defence industry that is not subject to foreign export regulations and that sustains operational readiness. However, creating new JVs requires that governments invest considerable sums on tangible and intangible assets. In return, these emerging economy governments and their agencies need socioeconomic benefits from a JV, including jobs for highly qualified workers and an increase in output — goals that offsets have not accomplished.

Local defence champion
The local defence champion aims for a high degree of autonomy from external technology and skills. It can achieve this by building local capabilities through a sophisticated and integrated local supply chain. Local defence champions expect the support of defence OEMs in building contractually agreed local capabilities for R&D, product development, and production. Ultimately, local defence champions want to supply more than their home market and enter the export business.

The ultimate goal of the JV is to help establish a local defence industry with indigenous maintenance, repair, and overhaul (MRO); integration; production; and development capabilities for even more complex weapons systems. The emerging economy acquires these incrementally and in parallel, with each facilitating and reinforcing the other (*see Exhibit 3*).

EXHIBIT 3
An incremental approach to building defence capabilities



Note: MRO = maintenance, repair, and overhaul.
Source: Strategy&

There are four principles that emerging economies can use to receive the greatest benefit from JVs.

Define an industrial strategy and build capabilities incrementally
It is important to take an incremental approach to establish a fully operating, local supply chain with basic defence engineering and manufacturing capabilities.

These can start with transferring MRO activities for already delivered systems from the defence OEM to the emerging economy. This is a fast and easy way for the JV and the associated local supply chain to become operational. The most common next step is supply-chain integration including final assembly, test activities, and configuring and adapting military products.

Then the JV can focus on transferring production, starting with co-production with the OEM, followed by the independent production of smaller components. The final step is to create autonomous design and development capabilities. This often entails exhaustive training and work-shadowing by local workers of defence OEM colleagues, and the transfer of such OEM development capabilities as source codes.

Agree on the terms for local content and technology transfer
Emerging economies should expect a sizable share of local content in terms of assembly, integration, production, and development activities when buying defence systems and platforms. These localization quotas can reach up to 50 percent of the actual procurement or service contract. Experience in GCC countries indicates that the OEM must ensure the transfer of IP rights, along with documentation, management, and technical assistance to the JV and the local supply chain. An additional incentive for the defence OEM is a royalty fee paid by the JV to compensate for IP.

The localization request through JVs comes with a price for the emerging economy government. The required technology transfer often carries a price premium of 15 percent to 30 percent of the main defence contract, compared to a purely transactional OEM deal. This premium covers the necessary duplication of production facilities and equipment. It includes a buffer for operational contingencies because of the initial learning curve and expected inefficiencies.

The local defence industrial and procurement agency plays a critical role in enforcing and monitoring any technology transfer stipulated in the JV. The agency can achieve this in three ways. First, it can set minimum shares for localization and the participation of SMEs. Second, it can assign programme managers to monitor technology transfer. Third, it can make contract payments conditional on the fulfilment of terms of technology transfer and local content targets. These measures can counteract the tendency of the military to acquire capabilities as cheaply and quickly as possible, with the danger of the JV delivering less than it could because of supply chain and technology transfer shortcuts.

Take advantage of capabilities developed during the JV after it has ended
The JV partners should continue the development of capabilities beyond the contract. They should use these jointly developed capabilities to secure new contracts in domestic and export markets. This is important because many JVs have a short life. Some become idle after the delivery of the initial contract, leading to a loss of capabilities. The OEM withdraws its resources and does not provide its local partners with access to export markets.

One example of a JV that went beyond the initial contract is FNSS Savunma Sistemleri (FNSS) in Turkey, the country's leading land vehicle company. FNSS is the fruit of a JV between Nurol Holding and FMC Corporation, which is now part of BAE Systems. The JV completed its first armoured combat vehicle project in 1986. Thereafter, the two partners jointly have developed tracked and wheeled combat vehicles. Today, FNSS is producing an indigenously developed medium tank with PT Pindad, the local defence champion in Indonesia.

Determine equity ownership and participation in advance

JV negotiations present the unique challenge of achieving a fair ownership split among the parties. This is especially complicated when contributions from both sides are inherently unequal, or when the value of intangible assets is difficult to evaluate. Simultaneously, ownership structures are often set at early stages because of official regulations and policies. The typical ownership split in JVs established by several GCC countries is 51 percent for the local champion and 49 percent for the defence OEM.

There are several types of contributions required to establish a successful defence JV (*see Exhibit 4*).

EXHIBIT 4

The spectrum of equity contributions in a joint venture

Contribution type		Description	OEM	Local defence champion	Government		Equity
					OEM home	Emerging	
Cash		Cash injection to fund the investment requirements of the JV	✓	✓			High
In-kind	Tangible assets	**Local defence champion:** Non-product-specific facilities and infrastructure leased to the JV at cost **Emerging economy government:** Strategic subsidy to cover expenses		✓		✓	
In-kind	Personnel	**OEM:** Experienced management staff, senior engineers, functional specialists **Local defence champion:** Business development, program management, local supplier identification, access to talent pool	✓	✓			
Intangibles	Legal	**OEM:** Licenses, patents, copyrights, trademarks **Local defence champion:** Brand, qualifications	✓	✓			
Intangibles	Competitive	**OEM:** Technology and management know-how **Local defence champion:** Market access, securing non-recurring costs, down payments, access to clients' decision makers	✓	✓			Low

Note: OEM = Original Equipment Manufacturer Source: Strategy&

Cash contributions

At the earliest stages, a cash injection covers operational costs such as management salaries, initial training, and infrastructure like basic IT or bidding expenses. In most cases, the defence OEM and local defence champion provide this cash. However, the amount needed can differ quite significantly, depending on how the parent companies of the JV handle the incurred costs before signing a contract. The cash injection can be significantly lower than passing all costs through the JV if the parties agree to keep the largest categories, such as salaries or training costs, with the parent companies until the first contract is signed.

In-kind contributions of tangible assets

Tangible assets are, in large part, covered by the emerging economy. OEMs from developed defence markets are often reluctant to contribute these assets to the JV as it brings higher risks. However, the local champion and the government of the emerging economy are typically willing to make tangible assets available as they are necessary for building development and production capabilities. Local defence champions commonly contribute by acquiring non-product-specific facilities and infrastructure and leasing them back to the JV. Emerging economy governments should provide strategic subsidies in the form of capital that allows the JV to acquire product-specific infrastructure, such as special tooling or test benches.

In-kind contributions of talent

Talent is another in-kind contribution needed when setting up a JV. OEMs provide this, including a senior management team, technical experts, engineering and manufacturing personnel, and training staff. In return, the local defence champion facilitates access to local talent. Furthermore, the local champion provides an overview of in-country capabilities and capacities, along with the local supply chain, and establishes links to begin developing local resources.

Legal intangibles

Legal intangibles enable the JV to differentiate itself from the competition. The local defence champion can open doors to ministries and procurement agencies in the emerging economy. The defence OEM contributes through product-specific intellectual property rights, licenses, and technical plans and drawings.

Competitive intangibles

The local defence champion contributes to all competitive intangibles by providing access to the local defence market, in particular to the client's decision makers. The defence OEM provides differentiating products, efficient processes, and technology to build a competitive advantage for the JV.

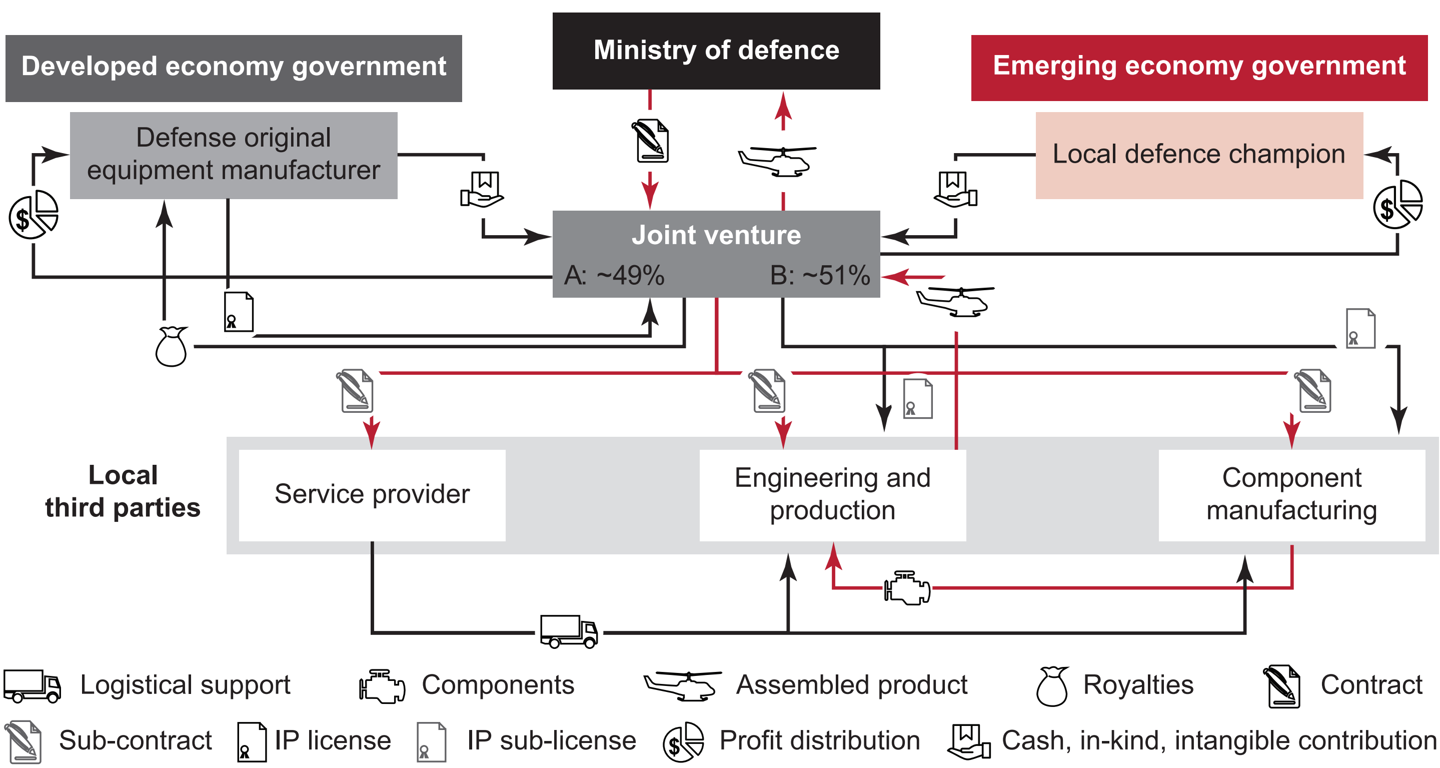
CONNECTING THE ELEMENTS FOR A SUCCESSFUL DEFENCE JV

The success of defence JVs depends on how all these elements come together. The JV serves as a central link among all involved parties, orchestrating the necessary requirements to ensure that individual contracts are successfully fulfilled and, as important, that the emerging economy is building its manufacturing and industrial capabilities.

The contract flow is an important consideration. In most cases, military contracts are signed directly by the local JV and a governmental institution such as the ministry of defence or a subordinate procurement agency. Once a contract is signed, the JV sub-contracts defined work packages to the most suitable suppliers, from integrated service providers to component manufacturers and engineering and production firms (*see Exhibit 5*). If these suppliers are missing key capabilities, the JV can fill that gap by sourcing specific, product-related IP from the OEM to sub-license it to the suppliers. In return, the OEM receives a royalty fee from the JV. By transferring technology via IP rights, the JV fosters the generation of local content in the emerging economy.

EXHIBIT 5

An emerging economy defence joint venture



Source: Strategy&

CONCLUSION

Defence JVs require commitment and collaboration. They will take time to succeed. However, by transferring knowledge and building local capabilities, they can ensure that emerging economies develop competitive defence industries of their own.

ENDNOTES

1. The GCC countries are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

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