

# Forms of Cooperation

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	Gov't/Industry Role	Risk	Main Features	Examples
Science & Technology Exchanges	Mainly government driven	Low to medium	<ul style="list-style-type: none"> <li>• Project-specific exchanges or structured programs</li> <li>• Bilateral agreements that may/ may not be balanced (50-50)</li> <li>• Certain exchanges generating technical data often require special export license.</li> </ul>	Active bilateral agreements authorizing such exchanges number in the hundreds
Government-sponsored codevelopment programs	Government initiates effort; industry follows up	Medium to high	<ul style="list-style-type: none"> <li>• Most complex; holds greatest promise but also highest risk</li> <li>• Normally reserved for only closest allies</li> <li>• Large investment required</li> <li>• High-quality/sensitive technology &amp; know-how shared; export control issues</li> <li>• Require a gov't-to-gov't MOU</li> <li>• Single contractor or multiple teams</li> </ul>	RAM, Sea Gnat (IR decoy ship self defense system), JP-233 Airfield Attack System, Family of Air-to-Air Missiles, Family of AntiArmor Weapons, AV-8B, NATO Frigate Replacement, NATO Identification System, MIDS, MLRS; Advanced Sea Mine, Modular Standoff Weapon, MEADS; JSF; Evolved Seasparrow Missile; X-31 Enhanced Fighter Maneuverability aircraft
Industry-sponsored codevelopment programs	Industry initiates program with offer to foreign competitor	Medium to high	<ul style="list-style-type: none"> <li>• Single contractor or multiple teams Industry identifies potential customer (U.S./Europe) based on assessment of customer's military user requirement; determines degree of involvement of other firms</li> <li>• Allows for greater efficiency than gov't-sponsored programs</li> </ul>	AV-8B (early stages), X-31, CFM-56 engine, Gripen aircraft (later stages), Kestrel AntiArmor system (later stages), EH-101 Helicopter, Norwegian Advanced Surface-to-Air Missile (NASAMS)
Government-sponsored coproduction programs	Government offers coproduction to other government; industry follows up by offering incentives	Low	<ul style="list-style-type: none"> <li>• Single contractor or multiple teams</li> <li>• A means to transfuse proven, first-line military systems into allied forces in timely fashion, with low technical, cost, and schedule risk</li> </ul>	F-104, F-4, and F-16 aircraft (initially with Belgium, Denmark, the Netherlands, and Norway; subsequently with others); M-483 Improved Conventional Munition (with the Netherlands); Stinger Man-portable Air Defense system (with German-led European consortium)

Forms of Cooperation (*continued*)

	Gov't/Industry Role	Risk	Main Features	Examples
Industry-sponsored licensed production	Industry driven	Low to medium	<ul style="list-style-type: none"> <li>• Managed through gov't-to-gov't MOU and implemented through industry agreements</li> <li>• Program's viability dependent on economies of scale</li> <li>• U.S. gov't actively promoted in 1960s–1980s, but less inclined today</li> <li>• An additional means to transfuse proven, first-line military systems into allied forces in a timely fashion</li> <li>• Driven by industry, managed through licensing agreements, regulated by gov't (technical assistance agreement [TAA] process)</li> <li>• Sponsor company responsible for securing export license; gov't may lobby potential customer on behalf of domestic company</li> </ul>	NATO SeaSparrow, Standard Missile 2, AT-4 AntiArmor weapon, Mobile Subscriber Equipment, P-3C Maritime Patrol Aircraft
Acquisition from offshore suppliers	Government decision; often countered by various incentives from prospective foreign suppliers	None	<ul style="list-style-type: none"> <li>• A low-investment means to meet domestic military requirement (esp. subsystems and commercial components)</li> <li>• Evaluation of acquisition of defense equipment/ technology (e.g., U.S. foreign weapons evaluation program)</li> <li>• Politically controversial; decisions often favor domestic solutions</li> </ul>	AV-8 aircraft, T-46 (Hawk) aircraft, AT-4 AntiArmor weapon, 9mm handgun, Squad Automatic Weapon, Small Utility Support Vehicle, Chobham Armor, 120mm Smoothbore tank gun, Roland Missile System, Martin Baker ejection seat
Government/industry incentives	Joint effort by industry & government	None	<ul style="list-style-type: none"> <li>• Active industry-gov't collaboration difficult to orchestrate</li> <li>• Incentives package to foreign gov't for defense acquisition, designed to meet policy &amp; industry concerns/ interests of targeted country</li> </ul>	NATO AW&C Aircraft, Patriot Air Defense System (Germany, the Netherlands)