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# Keep the United States Locked In and Engage Europe: Smart Defense as a Way for the Asia-Pacific Region to Leverage its Strategic Role

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# I Executive Summary

This paper argues that pooling and sharing of defense capabilities is about tying nations into joint collaborative endeavors. Financial pressure is a motive for pooling and sharing to shoulder the burden of providing adequate capabilities. More important, pooling and sharing can also help ensure that nations that play a critical role for the stability of a region become and remain engaged to help stabilize it. This should be the primary rationale for considering pooling and sharing in the Asia-Pacific region. By following this line of argumentation, Asian-Pacific nations lock in the United States as the region's ultimate balancer. This, in turn, could serve as a useful wake-up call for Europe. If Europe wants to remain relevant as a transatlantic partner, the U.S. pivot to Asia must prompt the EU27 to reconsider its defense and security posture in the Asia-Pacific region. Pooling and sharing with Asia–Pacific partners might be the only way for Europe to engage in the region. As a consequence, pooling and sharing could prove to be most beneficial from an Asia-Pacific perspective, as it will help bring in new partners that have an interest in the long-term stability and prosperity of the region.

When it comes to defense and security, differences between the European Union (EU) member states and Asia-Pacific could hardly be bigger: Caught in the severest politico-economic crisis of the past decades, EU countries have turned inward to provide domestic stability. They are struggling to address the fallout of the crisis, not least by slashing defense budgets. This has prompted General Hakan Syren, the outgoing Military Committee Chairman, to warn that "a marginalized Europe is not a risk, but a fact."<sup>2</sup> As a consequence it is hardly surprising that European defense capability shortfalls that emerged during the international crisis management operations in the Balkans in the 1990s and have become even more prevalent since then still remain to be tackled. Despite these obvious problems, EU countries are operating in a state of relative geostrategic tranquility compared to other regions of the world.

The Asia-Pacific region, in contrast, is attracting the world's attention for different reasons. Economic progress has turned the region into the new geoeconomic center of gravity. With full pockets, the region's biggest defense spenders have embarked on a spending spree that is likely to overtake total European defense spending by the end of 2012.<sup>3</sup> Asian-Pacific countries have managed to remain largely unaffected by the U.S.-European economic and financial crisis, although trade interrelations do not render the region immune to problems that affect its key trading partners. National antagonism, regional tensions, and nationalist policies are still very well alive in the Asia-Pacific region. In addition, several countries are beefing up military capabilities not only to deter neighborsbut also for offensive and possibly pre-emptive purposes.<sup>4</sup> As a consequence, the region looks fragile and in need of an overall security framework to

<sup>2)</sup> Hakan Syren, "Facing realities - in search of a more European mindset," Keynote speech delivered at the Cyprus EU Presidency High Level Seminar, Brussels, September 19, 2012, p.3, http://www.consilium.europa.eu/media/ 1749978/ ceumc\_keynote\_speech\_cyprus\_presid\_seminar\_19\_sep2012\_2012.pdf(accessed October 16, 2012).

<sup>3)</sup> http://www.iiss.org/publications/military-balance/the-military-balance-2012/press-statement/ (accessed October 16, 2012). For a detailed assessment of current Asian defense spending patterns, see: Joachim Hofbauer, Priscilla Hermann, and Sneha Raghavan, Asian Defense Spending, 2000-2011. A Report of the CSIS Defense-Industrial Initiatives Group (Washington, DC: CSIS, 2012).

<sup>4)</sup> IISS, The Military Balance 2012 (London: Routledge, 2012), pp.205~208.

smooth ruffled feathers.

Against this background, a cursory look at both regions might suggest that European insights on defense cooperation do not matter to Asia-Pacific. However, this first impression is wrong. No doubt: EU and NATO nations are talking about pooling, sharing, and role specialization in light of dire economic and financial conditions. But from an Asia-Pacific perspective, the strategic rationale that comes with the notion of Smart Defense – the NATO label for pooling, sharing, and role specialization – is about tying nations into joint collaborative endeavors. In Europe, pooling and sharing is discussed to jointly shoulder the burden of financing scarce defense and security capabilities. In the Asia-Pacific region, Smart Defense could be seen as a means to make sure that outside nations become and remain engaged in the region. This is important to help stabilize the Asia-Pacific region and organize joint activities to settle problems in other parts of the world that will be of growing importance to Asia-Pacific nations that are about to emerge as the world's economic powerhouse. So whereas EU and NATO nations are talking about Smart Defense among "insiders," Asia-Pacific countries could seize the moment and use Smart Defense to strengthen bonds with "outsiders" from Europe and partners across the Pacific. This puts a particular spot on the role of the United States in both regions. The U.S. pivot to Asia can be seen as the ultimate strategic wakeup call for Europe to engage in pooling and sharing in order to remain relevant as a partner in the United States' key area of interest. Asia-Pacific countries could see value in pooling and sharing as a means to lock in the United States as the region's ultimate balancer and to solidify relations with Washington. As a consequence, both EU and Asia-Pacific countries might have a joint interest in pooling and sharing as a way to advance cooperation among them and with the United States.

### I Security and Defense Challenges for the Asia-Pacific

Europe has at least three overriding strategic interests in the Asia-Pacific region. First of all, the region is an important trade partner. Last year, the EU27 exported goods worth €330 billion (21.6% of EU27 exports) to the members of the Asia-Europe Meeting (ASEM) and imported goods worth €532bn (31.6% of EU27 imports) from there.<sup>5</sup> A more detailed look at bilateral trade relations reveals that the EU27 very much depend on high-technology products from Asian suppliers. ASEM countries, for example, provide over 80% of all EU27 imports of integrated circuits and electronic components and 78% of the EU's electronic data processing and office equipment imports.<sup>6</sup> In addition, ASEM countries such as China, India, Indonesia, Japan, Singapore, and South Korea are important suppliers of critical raw materials in some case representing 70% and more of the EU's totalcritical raw material imports (e.g., rare earth elements).<sup>7</sup>

Second, given Asia-Pacific's trade relevance, Europe has a strategic interest in ensured access to the respective markets and the transport corridors leading to and from the region. Most recently, however, there is growing concern that access to the maritime and other domains that

- 6) Figures according to trade statistics provided by the Directorate General for Trade of the European Commission, http://trade.ec.europa.eu/doclib/docs/2006/ september/tradoc\_113472.pdf (accessed October 17, 2012).
- 7) European Commission, Critical Raw Materials for the EU. Report of the Ad-hoc Working Group on Defining Critical Raw Materials (Brussels: European Commission, 2010): 77~81.

<sup>5)</sup> Established in 1996, ASEM is an informal cooperation process involving the ten ASEAN countries and China, India, Japan, Mongolia, Pakistan, and South Korea.

constitute the global commons (e.g., air, space, and cyberspace) will become increasingly contested in the twenty-first century. Finally, developments leading to a deterioration of regional stability in the Asia-Pacific region can be seen as the ultimate threat scenario, because they will significantly affect Europe's other two interests.

Several different trends have the potential to seriously distort regional power relations and thus also affect European interest. From a European perspective, the following five trends can be singled out as the most important:

### I. Shifting geostrategic and geoeconomic zones of influence

The reconfiguration of geostrategic and geoeconomic zones of influence in the Asia-Pacific region goes hand in hand with the region's growing economic clout. As Table 1 shows, trade relations with China and the United States matter most across the region. However, at the aggregate level the EU27 is the region's most important trade partner, with an overall trade volume of €775.433 million (2010).<sup>8</sup>

This is only a snapshot of the current situation, however. Future trade projections by the U.S. Citi Bank suggest that China's and India's rise will fundamentally alter trade patterns in the next 40 years. By 2050, China's and India's expected joint share of 27.2% of world trade will be almost three times larger than the combined future trade share of the United States and Germany. This will affect trade corridors. In 2010, intra-

<sup>8)</sup> Overall trade with the United States accounted for €679.190 million, whereas foreign trade with China was worth €609.732 million. See: http://trade.ec. europa.eu/doclib/docs/2006/september/tradoc\_113472.pdf (accessed October 17, 2012).

European trade accounted for 19.9% of world trade, followed by trade among advanced and emerging Asian countries as well as emerging Asian countries and Western Europe. By 2050, trade among advanced and emerging Asian countries is expected to account for 14.9% of the world total, followed by trade among emerging Asian countries (12.5%) and trade between emerging Asian countries and Western Europe (8.3%). Interestingly, trade between Western Europe and North America, which accounted for 5.8% of world trade in 2010, is no longer listed among the world's top 10 trade partnerships in 2050!<sup>9</sup>

Table 1: Major Trade Partners of Selected Asian-Pacific Countries 2011 (in % of total imports and exports)

							Rankir	ng of Ti	rade Pa	artners						
		No	o 1			No	o 2			No	o 3			No	<b>b</b> 4	
	Imp	oort	Exp	oort	Imp	oort	Exp	oort	Imp	oort	Exp	oort	Imp	ort	Exp	ort
IND	PRC	12.3	UAE	12.4	UAE	8.8	USA	10.7	CHE	6.3	PRC	7.9	USA	5.8	HKG	4.3
IDN	PRC	18.7	PRC	13.3	JPN	14.1	JPN	11.3	SGP	7.5	USA	9.7	USA	7.8	IND	8.2
JAP	PRC	21.5	PRC	19.7	USA	8.7	USA	15.3	AUS	6.6	ROK	8.0	SAU	5.9	TWA	6.2
MYS	JPN	12.6	SGP	13.4	PRC	12.6	PRC	12.6	USA	10.7	JPN	10.4	THA	6.2	USA	9.5
PRC	JPN	11.2	USA	17.1	ROK	9.3	HKG	14.1	TWA	7.2	JPN	7.8	USA	7.0	ROK	4.4
PHL	JPN	11.0	JPN	18.5	USA	10.9	USA	14.8	SGP	8.1	PRC	12.7	ROK	7.3	SGP	8.9
SGP	MYS	10.7	MYS	12.2	USA	10.7	HKG	11.0	PRC	10.3	PRC	10.4	JPN	7.2	IDN	10.5
ROK	PRC	16.5	PRC	24.2	JPN	13.0	USA	10.7	USA	8.5	JPN	7.1	SAU	7.0	HKG	5.6
THA	JPN	20.8	PRC	11.0	PRC	13.3	JPN	10.5	MYS	5.9	USA	10.4	USA	5.9	HKG	6.7
TWN	JPN	18.6	PRC	27.2	PRC	12.8	HKG	13.0	USA	9.2	USA	11.8	ROK	6.3	JPN	5.9
VNM	PRC	23.6	PRC	11.1	ROK	13.2	USA	10.9	JPN	10.4	JPN	10.8	TWN	8.6	ROK	4.7
	-															

Country codes: AUS Australia, CHE Switzerland, HKG Hong Kong, IDN Indonesia, IND India, JPN Japan, MYS Malaysia, PHL Philippines, PRC People's Republic of China, ROK Republic of Korea, SAU Saudi Arabia, SGP Singapore, THA Thailand, TWN Taiwan, UAE United Arab Emirates, USA United States of America, VNM Vietnam

Source : http://www.gtai.de/GTAI/Navigation/DE/Trade/Maerkte/wirtschaftsklima.html (accessed October 16, 2012)

<sup>9)</sup> Willem Buiter and Ebrahim Rhabari, Trade Transformed. The Emerging New Corridors of Trade Power (New York: Citi Global Perspectives & Solutions, 2011), pp.22~24.

Up to now, trade relations have always been a strong indicator of security relations. Thus the big question is how emerging patterns of future trade corridors will affect security relations in and beyond the region.<sup>10</sup> The Citi Bank study suggests that if the United States and Europe have an interest in remaining relevant actors in the region, now is the time to leverage existing trade partnerships to advance security cooperation.

# 2. Anti-access and area denial challenges (A2AD)

As the international geostrategic environment is in a state of transition, developments that endanger the freedom of the global commons have caught the attention of strategic communities around the world. The global commons bind together the sea, air, space, and cyberspace domains that are of paramount importance for the free flow of goods, people, resources, and information. Actors that are able to manipulate the quality and the direction of these flows exert strategic influence. This explains the importance of anti-access and area denial challenges (A2AD) that endanger unhindered use of the global commons.<sup>11</sup> Right now, Asia-Pacific is ripe with A2AD challenges: For example, rivalingsovereignty claims over marine resources in the South China Sea are threatening maritime stability in one of the world's busiest sea lanes. Chinese investments in dedicated anti-

- 10) For an in-depth look at possible future development paths, see: Avery Goldstein and Edward D. Mansfield, eds., *The Nexus of Economics, Security, and International Relations in East Asia* (Stanford: Stanford University Press, 2012).
- For a similar argument, see: Andrew F. Krepinevich, "Strategy in a Time of Austerity: Why the Pentagon Should Focus on Assuring Access," *Foreign Affairs*, Vol. 91, No. 6 (November-December 2012): 58-69; Caitlin Lee, "Planning beyond the pivot," *Jane's Defence Weekly*, October 31, 2012, pp.26~32.

ship missiles and anti-satellite capabilities are reasons of concern with regard to the freedom of action at sea and in space.<sup>12</sup> In addition, ongoing disputes between China and Brazil over environmental standards and iron ore shipping make it clear that A2AD is not only a military problem but also will affect trade relations.<sup>13</sup> Finally, cyber vulnerabilities that come with hardware and software products constitute another source of contention, with adverse effects on bilateral trade relations and the protection of critical infrastructures.<sup>14</sup>

- 12) Office of the Secretary of Defense, Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2012 (Washington, DC: Department of Defense, 2012): 6-10. For a more detailed assessment, see also: Office of the Secretary of Defense, Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2011 (Washington, DC: Department of Defense, 2011), pp.28~32.
- 13) Leslie Hook and Robert Wright, "China blocks Vale's large iron ore carriers," *Financial Times*, January 31, 2012, http://www.ft.com/cms/s/0/b0fa84e6-4bf6-11e1-b1b5-00144feabdc0.html#axzz29ZJ49Xlk; Fayen Wong and Jeb Blount, "Vale/China iron ore ship dispute deepens," *Reuters*, February 2, 2012, http://mineweb.com/mineweb/view/mineweb/en/page504?oid=144539&sn=Deta il&pid=504; Alison Leung and Randy Fabi, "China's ban on Vale's iron ore carriers costs Chinese firms," Reuters, May 10, 2012, http://www.mineweb. com/mineweb/view/mineweb/en/page504?oid=151218&sn=Detail (accessed October 17, 2012).
- 14) Permanent Select Committee on Intelligence, Investigative Report on the U.S. National Security Issues Posed by Chinese Telecommunication Companies Huawei and ZTE (Washington, DC: U.S. House of Representatives, 2012); U.S.-China Economic and Security Review Commission, The National Security Implications of Investments and Products from the People's Republic of China in the Telecommunications Sector (Washington, DC: U.S.-China Economic and Security Review Commission, 2011).

# 3. Maritime instability and insecurity

Changing global trade patterns will reinforce the importance of ensured access to maritime sea-lanes in the Asia-Pacific region. This underlines the strategic importance of A2AD challenges. The world's busiest harbors today are in Asia-Pacific. Of the world's ten most important container terminals in terms of throughput, eight are located in Asia-Pacific.<sup>15</sup> In Germany, for example, access to these ports and the respective sea routes is indispensable, as more than 60% of Germany's foreign trade (by value) with India, China, and Japan is shipped.<sup>16</sup>

Access to marine resources is another driver for conflicting sovereignty claims over neighboring Exclusive Economic Zones (EEZ). Interests clash mainly over oil and gas resources around the Spratly and Parcel Islands. Estimates vary greatly. Quoting Chinese and other sources, the U.S. Energy Information Agency reports possible oil resources of up to 105 billion barrelsand possible gas resources of up to 900 trillion cubic feet.<sup>17</sup> If these resources turned into proved reserves, they would equal approximately the current reserve capacity of Kuwait (oil) and Qatar (gas).<sup>18</sup> As the overall demand for fossil energy in the region is on the rise, we can expect

- 15) Shanghai leads the list followed Singapore and Hong Kong. See: United Nations Conference on Trade and Development, *Review of Maritime Transport* (Geneva: UNCTAD, 2011), p.89.
- 16) In 2010, German total foreign trade with China accounted for €130bn, €35bn with Japan and €15bn with India. See: Jahresbericht 2011. Flottenkommando, Fakten und Zahlen zur maritimen Abhängigkeit der Bundesrepublik Deutschland (Glücksburg: Flottenkommando, 2011), p.95.
- http://www.eia.gov/countries/regions-topics.cfm?fips=SCS (accessed October 17, 2012).
- 18) BP, BP Statistical Review of World Energy (London: BP, 2012), pp.6, 20.

sovereignty claims over access to these resources to become even fiercer, thus providing a serious source of instability in the region.

# 4. Urbanization

According to UN projections, the world population is to grow from roughly 7 billion today to around 9.15 billion in 2050.<sup>19</sup> At the same time the distribution between urban and rural population will change dramatically. In2009 the distribution was about equal. By 2050, around 6.29 billion people will live in urban areas and only 2.86 billion in rural areas. In 2025, the world's top 10 urban agglomeration areas will be home to approximately 230 million people. Of these 10 megacities, seven are to be found in the Asia–Pacific region.<sup>20</sup> This will put urban political, economic, and transport infrastructures under severe stress.<sup>21</sup> In this regard, George Kaplan is right to point out that the "impersonal quality of urban life" can add to the radicalization of people that were attracted by urban areas promising economic success and a better way of living as a consequence, it "is in the megacities of Eurasia principally where crowd psychology will have its greatest geopolitical impact."<sup>22</sup> Prospects of failing megacities in densely

- 19) Department of Economic and Social Affairs, *World Urbanization Prospects: The 2009 Revision* (New York: United Nations 2009).
- 20) Tokyo leads the group of megacities in the Asia-Pacific region with 37.1 million inhabitants, followed by Delhi and Mumbai. Dhaka is fifth, followed by Calcutta, Shanghai, and Karachi at ranks eight to ten.
- 21) See in particular: UN-HABITAT, *The State of Asian Cities 2010/11* (Fukuoka: United Nations Human Settlements Program, 2010), http://www.unhabitat. org/pmss/listItemDetails.aspx?publicationID=3078 (accessed October 17, 2012).
- 22) Robert D. Kaplan, *The Revenge of Geography: What the Map Tells Us About Coming Conflicts and the Battle Against Fate* (New York: Random House 2012), p.123.

populated instable coastal areas can thus be seen as a key future threat scenario that will drive future security and defense requirements.

# 5. Climate change

Climate change can act as a threat multiplier. According to a recent UN-HABITAT report, "75% of all people living in areas vulnerable to sea level rises are in Asia, with the poorer nations most at risk".<sup>23</sup> If climate change leads to refugees and internal displacement, megacities might have to shoulder an extra burden. In addition, an OECD report analyzing the impact of coastal floods on infrastructures pointed out that 15 out of 20 cities that will be affected by coastal floods by 2070 are located in Asia.<sup>24</sup> The consequences are obvious: China, for example, has built most of its import terminals for the supply of liquefied natural gas (LNG) on the east coast, which is likely to be affected by raising sea levels. Finally, climate change could also affect the Arctic region, which would have mixed consequences for Asia–Pacific. On the one hand, the opening up of the Northern Sea route could shorten travel distances from Europe to Asian ports by up to 20 days.<sup>25</sup> On the other hand, shipping goods to Asia via the Arctic could shift current shipping patterns towards harbors in the North, there by adversely

<sup>23)</sup> UN-HABITAT, The State of Asian Cities 2010/11, p.184.

<sup>24)</sup> R. J. Nicholls et. al., Ranking Port Cities with High Exposure and Vulnerability to Climate Extremes: OECD Environment Working Papers No. 1 (Paris: OECD, 2008), pp.23~27.

<sup>25)</sup> Charles Emmerson and Glada Lahn, Arctic Opening: Opportunity and Risk in the High North (London: Chatham House, 2012), p. 30; Svend Aage Christensen, Are the Northern Sea Routes Really the Shortest? Maybe a Too Rose-Coloured Picture of the Blue Arctic Ocean: DIIS Brief (Copenhagen: Danish Institute for International Studies, 2009).

affecting current harbor operators that are mainly located in Southeast Asia.  $^{26}$ 

Today, concerns about the negative consequences of these and other trends are driving defense spending in the Asia-Pacific region. But the region's countries can only afford to expand on the current spending spree, if economic progress continues. Most recently, the Asian Development Bank (ADB) has lowered its growth forecast for many Asian-Pacific countries.<sup>27</sup> It is unclear if slowing growth is temporary or structural. In any case, the new ADB outlook serves as a reminder that steady economic process is far from guaranteed. Therefore, it is useful to take a more detailed look at current EU and NATO activities to cope with the impact of financial shortages on defense.

#### II European Security and Defense: Waiting for Smartness

In NATO and EU circles, the ideas of pooling, sharing, and role specialization have been circulating for quite some time. The political momentum in favor of these approaches has been a function of the two organizations' performance in ongoing international operations.

Technology matters to armed forces, and technology gaps can seriously

<sup>26)</sup> Joshua H. Ho., "The Arctic Meltdown and its Implication for Ports and Shipping in Asia", in Arctic Security in an Age of Climate Change, ed. James Kraska, (Cambridge, UK: Cambridge University Press, 2011), pp.39~40.

<sup>27)</sup> Asian Development Bank, Asian Development Outlook 2012 Update. Services and Asia's Future Growth (Manila: Asian Development Bank, 2012), http://www. adb.org/sites/default/files/pub/2012/adou2012.pdf (accessed October 17, 2012).

hinder multinational military cooperation. This lesson has been driven home again and again by all international operations conducted since the 1991 Gulf War. Throughout the 1990s, European nations struggled to provide military support for international stability operations in the Balkans. In 1999, NATO Operation Allied Force over Kosovo demonstrated Europe's military ineffectiveness almost brutally.<sup>28</sup> As a consequence, the 1999 NATO Washington Summit adopted the Defense Capabilities Initiative to focus on closing gaps in five key areas: deployment and mobility, sustainability and logistics, command and control information systems, effective engagement, and force survivability.<sup>29</sup>

After September 11, 2001, the pendulum swung in a different direction. Now the focus was on war-fighting and combatting terrorism in regions far away from Europe. Cooperation between the United States and its European allies in Iraq and Afghanistan turned out to be difficult due to the capability gaps that had been identified before but had not been remedied. In addition, the overall geostrategic landscape began to change. As international engagements in the two regions turned from intervention to stabilization, it became amply clear that the United States would act more cautiously with regard to international military operations in coalitions while at the same time preparing a redisposition of its force posture vis-à-vis the Asia-Pacific region that had already been discussed in the 1990s. The new U.S. approach of "controlled engagement"<sup>30</sup> was on

- 28) Anthony H. Cordesman, The Lessons and Non-Lessons of the Air and Missile War in Kosovo: Executive Summary (Washington, DC: Center for Strategic and International Studies, 1999).
- 29) For more on this initiative, see: Department of Defense, Strengthening Transatlantic Security: A U.S. Strategy for the 21st Century (Washington, DC: Department of Defense, 2000), p.15.
- 30) George Friedman, "The Emerging Doctrine of the United States," *Strat for*, October9, 2012, http://www.stratfor.com/weekly/emerging-doctrine-united-states.

display in the first half of 2011 during NATO Operation Unified Protector against Moammar Gaddafi's forces in Libya. Post-operation assessments suggest that many of the shortfalls identified during Operation Allied Force were still at play, in particular in the fields of intelligence, surveillance, and reconnaissance, command and control, specific strike assets, and other core capabilities.<sup>31</sup> In a very illustrative example of the cumbersome modalities of modern joint warfare, LTC Christopher Bennet, U.S. Air Force

#### Table 2: NATO's 24 Smart Defense Projects

- NATO Universal Armaments Interface
- Remotely controlled robots for clearing roadside bombs
- Pooling Maritime Patrol Aircraft
- Multinational Cooperation on Munitions
- Multinational Aviation Training Center
- Pooling & Sharing Multinational Medical Treatment Facilities
- Multinational Logistics Partnership for Fuel Handling
- Multinational Logistics Partnership-Mine Resistant Ambush Vehicle maintenance
- Deployable Contract Specialist Group
- Multinational Logistics Partnership-Helicopter Maintenance
- Immersive Training Environments
- Centers of Excellence as Hubs of Education and Training
- Computer Information Services E-

- Learning Training Centers Network
- Individual Training and Education Programs
- Multinational Joint Headquarters Ulm
- Female Leaders in Security and Defense
- Joint Logistics Support Group
- Pooling of Deployable Air Activation Modules
- Theater Opening Capability
- Dismantling, Demilitarization, and Disposal of Military Equipment
- Multinational Military Flight Crew Training
- Counter IED-Biometrics
- Establishment of a Multinational Geospatial Support Group
- Multinational Cyber Defense Capability Development
- 출처: Multinational Projects (Brussels: NATO, 2012), http://www.nato.int/nato\_static/ assets/pdf/pdf\_2012\_10/20121008\_media-backgrounder\_Multinational-Projects\_en.pdf (accessed October 16, 2012)

<sup>31)</sup> Tom Withington, "Libya Lessons: NATO hears Calls for Better C2, More Targeting Experts," Defense News, January 25, 2012, http://www.defensenews. com/article/20120125/C4ISR02/301250006/Libya-Lessons-NATO-Hears-Calls-Better-C2-More-Targeting-Experts (accessed October 17, 2012).

Europe, told an international conference that Operation Unified Protector saw "nine different countries with aerial refueling capabilitiessupporting 16 different receiver countries with 27 different types of receiver aircraft."<sup>32</sup>

Against this operational background and in light of the dire consequences of the current economic and financial crisis, NATO and EU countries are again turning to pooling, sharing, and role specialization to overcome existing capability shortfalls. At the 2012 Washington Summit, NATO nations adopted the Smart Defense initiative.<sup>33</sup> Smart Defense builds on the three core principles of prioritization to bring national capability priorities in line with NATO's needs; specialization "by design" to enable NATO members to concentrate on national strengths and coordinate the respective activities; and cooperation to achieve economies of scale for the provision of the respective capabilities. To advance Smart Defense, General Stéphane Abrial (Supreme Allied Commander Transformation) and Ambassador Alexander Vershbow (Deputy Secretary General) have been appointed as special representatives. Together with the EU and the defense industry, NATO nations will use Smart Defense to achieve progress in the areas outlined in Table 2.

Among EU members, pooling and sharing received a political boost by the 2010 Ghent initiative.<sup>34</sup> The "food for thought paper" tabled by Berlin

- 32) Quoted in: Gareth Jennings, "US tanker force looks to learn Libyan lessons," *Jane's Defence Weekly*, October 3, 2012, p.5.
- 33) For more on this, see: http://www.nato.int/cps/en/natolive/topics\_84268.htm? (accessed October 17, 2012).
- 34) Before the Ghent Initiative, London and Paris adopted a new bilateral defense cooperation treaty that underlined close cooperation in defense industrial matters. See: UK-France Summit 2010 Declaration on Defense and Security Cooperation, London, November 2, 2010, http://www.number10.gov.uk/ news/uk-france-summit-2010-declaration-on-defence-and-security-cooperation/ (accessed October 17, 2012).

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and Stockholm identified three categories for advanced cooperation: increasing interoperability for capabilities and support structures that are essential for individual nations; exploring opportunities for joint action "where closer cooperation is possible without creating too strong dependencies" (e.g., strategic and tactical air lift); and identifying "capabilities and support structures where mutual dependency and reliance (...) is acceptable in an international role- and task-sharing framework (e.g., military training, fest and evaluation facilities)."<sup>35</sup> These ideas were picked up by the 2010 EU Council Conclusions on Military Capability Development and have since been taken over for implementation by the European Defense Agency (EDA). Throughout 2011, the EDA worked on identifying possible pooling and sharing projects as outlined in Table 3. Some of these projects are already underway, such as the European Satellite Communication Procurement Cell, for which EDA signed a contract with Astrium as the first provider of commercial SATCOM in September 2012. $^{36}$ EU Defense Ministers meeting on September 27, 2012, reiterated the importance of pooling and sharing and agreed on developing proposals for a voluntary code of conduct.<sup>37</sup>

37) http://eda.europa.eu/news/12-10-02/Ministers\_of\_Defence\_welcome\_EDA\_s\_ Pooling\_Sharing (accessed October 17, 2012).

<sup>35)</sup> Intensifying Military Cooperation in Europe. Ghent Initiative. Food for Thought Paper, pp.1~2, http://www.robert-schuman.eu/doc/actualites/papsweallpoolsharingnot.pdf (accessed October 17, 2012).

<sup>36)</sup> http://eda.europa.eu/news/12-09-28/European\_Defence\_Agency\_facilitates\_ access\_to\_commercial\_SatCom\_services\_for\_Member\_States (accessed October 17, 2012).

<ul> <li>Helicopter Training Program</li> <li>Maritime Surveillance Networking</li> <li>European Satellite Communication Procurement Cell</li> <li>Medical Field Hospitals</li> <li>Air to Air Refueling</li> <li>Future Military Satellite Communications</li> <li>Intelligence Surveillance Reconnaissance (including Space Situational Awareness)</li> <li>Pilot Training</li> <li>European Transport Hubs</li> <li>Smart Munitions</li> <li>Naval Logistics and Training</li> </ul>

Table 3: EDA's Pooling and Sharing Projects

Pooling and sharing as well as role specialization build on comparable ideas but can ignite different logics. That iswhy a convincing strategic rationale and a systematic framework to drive and coordinate defense planning across EU and NATO nations would be needed, but it is still lacking. To be fair: The EU in particular has come a very long way to establish institutions for defense cooperation among its members, and NATO has achieved progress as well (Box 1). The problem is that for the time being, most actions have been driven bottom-up rather than top-down. Thus key strategic capability shortfalls remain unaddressed.

Box 1: The overall EU–/NATO framework to facilitate pooling, sharing, and role specialization.

- Strategies, Concepts, and Risk Analyses: Agreement about the values nations care for and the interests and norms that drive action is essential to foster cooperation. Up until now, NATO and the EU have played an instrumental role in framing a joint understanding of the challenges that need to be tackled and the ways to achieve common solutions. Joint strategies such as the new NATO Concept or Europe's Security Strategy are important capstone documents to align national thinking.
- Institutions: The EU and NATO both provide an institutional framework for defense cooperation. Existing bodies and regular meetings facilitate cooperation by enabling the formation of trust. Institutions can also take over specific tasks

Source : EDA's Pooling and Sharing (Brussels: EDA, 2011), http://www.eda.europa.eu/ docs/documents/factsheet\_-pooling\_sharing\_-\_301111(accessed December 2, 2012)

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and thus support joint international activities in the fields of procurement and defense science and technology. In addition to the political institutions, NATO and the EU also enabled the establishment of joint military structures (e.g., headquarters, joint units), which are an important facilitator at all levels of military decision-making and operation.

- Operations: Since the end of the Cold War, NATO and the EU have provided the framework for joint mili-tary operations in Europe, Africa, the Greater Middle East, the Mediterranean Sea, and in the Indian Ocean.
- Tools: The EU and NATO provide military planning tools to support national defense planning. By devising scenarios for the definition of joint force goals, organizing force generation conferences, and offering planning and review processes, the two organizations work toward the harmonization of defense planning among their members. In doing so, combined work on military standards plays an important role to advance military interoperability.
- Defense Trade: The EU and NATO have gone a long way to facilitate defense trade among member na-tions. Particularly within the EU, nations have worked towards the goal of facilitating mutual defense supplies and lowering barriers for cross-border defense projects. As Appendix A shows, Intra-EU27 de-fense supplies from 2005 to 2011 accounted for 62% of all defense imports. At the single-nation level, the United States was the biggest supplier (30%), followed by Germany (24%), the Netherlands (9%), France (8%), Sweden (7%), and Italy (6%). Despite the significant ratio of EU-based defense supplies, overall collaborative defense equipment procurement is relatively low and varies significantly among EU nations. In absolute terms (in 2010), the United Kingdom and France spent the most in this category fol-lowed by Italy, Germany, and Spain.<sup>38</sup>
- 38) United Kingdom: €2,760 million, France: €1,847 million, Germany: €1,398 million, Spain: €703 million. See: Defence Data: EDA participating Member States in 2010 (Brussels: European Defence Agency, 2012), p.24, http://www.eda. europa.eu/docs/documents/National\_Defence\_Data\_2010\_4.pdf (accessed December 2, 2012).

Pooling and sharing build on economies of scale. Several countries join forces either to maintain existing or acquire new capabilities together. By shouldering the burden, each partner is given additional leeway, and the combination creates new added value. The degree of sovereignty transfer varies. NATO's Strategic Airlift Capability based on C-17 Globe master III transport aircraft, the Alliance's AWACS fleet, and the European Air Transport Command can be seen as successful pooling and sharing examples. Role specialization builds on the idea of competitive advantages. A nation specializes in providing a specific capability either because it has a very strategic interest in this capability, has built a reputation in delivering it, or agrees to specialize as part of a bi-/multilateral accord. The latter option, however, which is also labeled specialization by design, has hardly occurred so far. The Czech NATO CBRN battalion is one example of role specialization.<sup>39</sup>

39) On these and many other issues, see: Tomas Valasek, Surviving Austerity. The case for a new approach to EU military cooperation (London: Centre for European Reform, 2012); Jakob Henius and Jacopo Leone MacDonald. Smart Defense: A Critical Appraisal (Rome: NATO Defense College, 2012); "The European Air Transport Command. A Successful Example for Pooling and Sharing. Interview with Major-General Jochen Both, first Commander of the EATC 2010-2012," The Journal of the JAPCC (Autumn/Winter 2012): 34-38; Jean-Pierre Maulny and Fabio Liberti, Pooling of EU Member States Assets in the Implementation of ESDP (Brussels: European Parliament Subcommittee on Security and Defense, 2008); Heiko Borchert and René Eggenberger, "Rollenspezialisierung und Ressourcenzusammenlegung: Wie Europas sicherheitspolitische Fähigkeiten gestärkt werden können" [Specialization and Pooling: How to Strengthen Europe's Security and Defense Capabilities] inHans-Georg Erhart und Burkhard Schmitt, eds., Die Sicherheitspolitik der EU im Werden: Bedrohungen, Aktivitäten, Fähigkeiten (Baden-Baden: Nomos, 2004), 230-244; Rachel Lutz Ellehuus, Multinational Solutions versus Intra-Alliance Specialization(Copenhagen: DIIS, 2002); Gilles Andréani, Christoph Bertram, and Charles Grant, Europe's Military Revolution (London: Centre for European Reform, 2001).

Pooling and sharing as well as role specialization can be organized on a permanent or ad-hoc basis, thereby following different focus areas (Box 2). Ad-hoc solutions are mostly driven by operational needs, and their configuration depends on overriding political calculations. However, the current fiscal environment is most likely to limit national leeways in terms of ad-hoc pooling or specialization, as the scope of existing military capabilities will be cut back. Thus today's defense budget reductions might inadvertently cause "structural specialization by default."

Box 2: Four different focus areas for pooling, sharing, and role specialization.

- Task Focus: In this case, the national level of ambition is the driving force, as it defines the risk that a na-tion is willing to take when engaging militarily. For example, a nation could focus on early entry forces, the provision of intelligence, surveillance, and reconnaissance or strike assets. When engaging in pooling and sharing with partners, the respective nation will put major emphasis on similarities of political ambitions, strategic culture, and public opinion in favor of the respective tasks.
- Life Cycle Focus: The life cycle of defense capabilities covers preparation (e.g., planning, doctrine, science and technology), procurement and recruitment, training and education, development and sustainment of defense-industrial capacities, operations and maintenance as well as all aspects pertaining to the management and development of the respective processes and structures that are needed to run defense establishments. Nations can pool, share, and specialize along the life cycle, for example by fo-cusing on the provision of training facilities or engaging in logistics.
- Decision-Making Focus: Readiness in decision-making very much depends on the areas of engagement. Countries ready to support early entry forces will need quick political reaction mechanisms. This should be kept in mind when selecting a partner, as differences in national decision-making can slow and

even prevent joint deployment.40

Geographic Focus: Geographic proximity and geostrategic interests can lead to the formation of jointly operated capabilities (e.g., among Scandinavian countries) and can prompt a country to build up special capabilities (e.g., cultural awareness and understanding for what is going on in the neighboring region).

Structural agreements leading to permanent solutions can mostly be found among nations that share strategic ambitions, work within comparable politico-administrative frameworks, and operate similar assets. The United Kingdom-France agreement on sharing future aircraft carriers is certainly one of the most striking structural arrangements. Other nations, such as the Netherlands, Belgium, and also the Scandinavian countries, have significantly integrated their military units with neighboring countries, which has pushed their cooperation to new levels.<sup>41</sup>

So far, progress on delivering tangible effects with pooling, sharing, and role specialization has been "episodic.<sup>42</sup> As a consequence, EU and NATO nations have not yet succeeded in establishing the capabilities that they collectively do not have.<sup>43</sup> This outcome mirrors the lack of political will,

- 40) Marc Houben and Dirk Peters, The Deployment of Multinational Military Formations: Taking Political Institutions into Account (Brussels: CEPS, 2003), http://www.ceps.eu/book/deployment-multinational-military-formationstaking-political-institutions-account (accessed October 17, 2012).
- 41) For a very helpful overview of current examples of structural pooling in Europe, see: Valasek, *Surviving Austerity*, pp.18~19.
- 42) Valasek, Surviving Austerity, p.8.
- 43) Sven Biscop and Jo Coelmont, Pooling & Sharing: From Slow March to Quick March? Egmont Security Policy Brief (Brussels: Egmont Royal Institute for International Relations, 2012), p.2.

Source : Borchert and Eggenberger, "Rollenspezialisierung und Ressourcenzusammenlegung," pp.234~235.

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which can be explained by the growing divergence on strategic issues that is about to hamper intra-EU and NATO defense cooperation. Furthermore, the existing framework does not yet help to mitigate all risks that come with giving up more sovereignty in defense. For example, there is no guarantee that every nation will adhere to prior commitments and abstain from withdrawing troops that might render multinational capability pools useless; it is still unclear how uncoordinated national spending cuts should yield joint European solutions that close existing capability shortfalls; and robust controlling and auditing processes toevaluate national contribution to pooling and sharing initiatives with a view on jointly agreed availability, deploy ability, and readiness levels remains to be agreed upon.<sup>44</sup>

# N Asia-Pacific's Road to Smart Defense Cooperation with Europe and the United States

Discussions about possible avenues for smart defense solutions in the Asia-Pacific region should start from the premise that pan-regional trust is low. Some nations enjoy good and stable relations with neighboring partners and other countries across the region. But overall, antagonisms

44) For more on this, see: Valasek, Surviving Austerity, pp.21~27; Henius/ MacDonald, Smart Defense, pp.32~47; Maulny/Liberti, Pooling of EU Member States Assets in the Implementation of ESDP, pp.16~18; Claudia Major, Christian Mölling, and Tomas Valasek, Smart But Too Cautious: How NATO Can Improve Its Fight Against Austerity (London: Center for European Reform, 2012); Bastian Giegerich, "NATO's Smart Defense: Who's Buying?" Survival, Vol. 54, No. 3 (June-July 2012), pp.69~77. prevail.<sup>45</sup> For the time being and with the exception of strong bilateral ties, the Asia-Pacific region does not seem ripe for deliberate defense-related role specialization. The remainder of this paper will thus not address this issue. This puts the focus on pooling and sharing, which both depend on multilateral cooperation.

The current track record for multilateral security and defense cooperation in the region is mixed. For example, the failure of ASEAN states to come to an agreement over current disputes in the South China Sea has been interpreted as a serious blow for this regional organization.<sup>46</sup> Past efforts to use ASEAN to unify defense procurement were of limited success due to diverging views among key members.<sup>47</sup> By contrast, initiatives like ReCAAP and SHADE (Box 3) prove that successful pan-regional initiatives exist. Despite these "islands of success," it seems fair to argue that pooling and sharing initiatives that build on a selected number of few partners might seem more appropriatethan pan-regional approaches.

- 45) The sudden worsening of relations between Japan and South Korea is an illustrative case. See: Brendan Taylor, "Japan and South Korea: The Limits of Alliance," Survival, Vol. 54, No. 5 (October-November 2012), pp.93~100.
- 46) Ian Storey, "China pushes on the South China Sea, ASEAN unity collapses," China Brief XII, No. 15 (August 4, 2012), pp.8~10.
- 47) In May 2010, ASEAN countries adopted the Concept Paper on Establishing ASEAN Defence Industry Collaboration, http://www.aseansec.org/documents/ 18471-k.pdf. See also: Sneha Raghavan and Guy Ben-Ari, "ASEAN Defense Industry Collaboration," CSIS Defense-Industrial Initiatives Group Current Issues No. 25 (July 2011), http://csis.org/publication/diig-current-issues-no-25-asean-defense-industry-collaboration (accessed October 18, 2012); Trefor Moss, "ASEAN's slow security evolution," Jane's Defence Weekly, February 29, 2012, pp.30~32.

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- Box 3: Pooling of Information to Advance Defense and Security Cooperation in the Asia-Pacific Region.
  - Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (Re-CAAP): ReCAAP serves as an information exchange platform to fight piracy and armed robbery by facili-tating communication, analyzing incidents, facilitating capacity building efforts, and cooperating on joint exercises as well as other activities. Seventeen contracting parties established ReCAAP in September 2006 (Bangladesh, Brunei, Cambodia, China, Denmark, India, Japan, South Korea, Laos, Mynamar, the Netherlands, Norway, Philippines, Singapore, Sri Lanka, Thailand, and Vietnam). The ReCAAP Information Sharing Center (ISC) maintains a secure web-based information system for disseminating information among all contracting parties on a 24/7 basis.
  - Shared Awareness and Deconfliction (SHADE): The goal of SHADE is to advance cooperation in the field of counter-piracy operations in the Gulf of Aden and the Western Indian Ocean. SHADE focuses on in-formation exchange to improve joint situational awareness and joint situational understanding. The initi-ative also involves several international organizations and the maritime industry. SHADE meetings are held at the premises of the Combined Maritime Forces (CMF) in Bahrain. Twenty-seven nations support SHADE and the CMF (Australia, Bahrain, Belgium, Canada, Denmark, France, Germany, Greece, Italy, Japan, Jordan, Republic of Korea, Kuwait, Malaysia, the Netherlands, New Zealand, Pakistan, Portugal, Saudi Arabia, Seychelles, Singapore, Spain, Thailand, Turkey, UAE, United Kingdom, and the United States).

Sources : http://www.recaap.org/Home.aspx; http://combinedmaritimeforces.com(accessed: October 18, 2012)

For pooling and sharing to lift off in the Asia-Pacific, it is necessary to develop a different rationale than in Europe. In Europe, the provision of defense capabilities in times of fiscal austerity is the main driver. As a consequence, the focus is on reorganizing existing defense cooperation among EU and NATO members to become more efficient. In the Asian-Pacific region, the situation is different. Economic progress and current security challenges are driving defense spending. Economic efficiency is a secondary issue, at least for the moment. In addition, there is a need for partners to help advance regional security. The U.S. pivot to Asia provides an opportunity for Asia-Pacific nations to join forces with Washington to make sure that the United States will remain engaged in the region as a balancer that could mitigate differences between some of the region's aspiring powers.

Currently, U.S. foreign policy is in a stage of transition. Washington has made it clear that the Asia-Pacific region will be the new focus area. But it remains to be seen whether the U.S. commitment will match the quality of its strategic engagement established in Europe after the Second World War. Thus, at least some Asian-Pacific nations have an interest in strengthening bonds with the United States. These nations could use bilateral pooling and sharing as a means to create an interlocking web of collaborative defense initiatives. If this idea were to bear fruit, it would also force European nations to come to terms with their defense and security posture in a region that is vital for EU27 trade relations. Therefore, pooling and sharing between Asian-Pacific nations and the United States could pull European nations towards cooperation as well. The fact that the EU nations are cash strapped could make things more difficult but might also open doors for new financing schemes with Asia-Pacific nations.

When considering areas for pooling and sharing, existing capabilities, local defense industrial capacities and ambitions, and the role of outside defense suppliers must be analyzed. The resulting picture is complex:

 Unlike European nations, ASEM members depend mainly on outside defense suppliers (Appendix B). From 2005-2011, total defense imports by ASEM members were worth \$62,959 million. At around 42% the lion's share fell on Russia, with deliveries worth \$26,267 million. U.S. supplies accounted for 25% (\$15,943 million), and the EU27's share was worth \$13,152 million (21%). In contrast, Intra-Asia-Pacificdefense supplies only accounted for \$4,158 million or 7%, with China taking the lead (\$3,440 million). There are signs of growing interest in exploring joint defense procurement.<sup>48</sup> But for the time being, pooling and sharing must take into account the interests of these foreign suppliers – a situation that is likely to make it more difficult for local governments to find multilateral solutions.

- 2. So far, European defense suppliers have been competing among themselves and with the United States and Russia for access to Asia-Pacific defense markets. If pooling and sharing is to advance European interest as well, thought should be given to the idea of joint European export activities. Table 4shows that at least on paper there is room for cooperation among European defense suppliers. Although European companies have supplied a broad spectrum of weapon systems to Asia-Pacific countries, several clusters could emerge, as will be discussed below.
- 3. Suppliers are only one part of the equation, however. We also need to take into account defense industrial capacities and ambitions of Asia-Pacific nations when considering pooling and sharing options:<sup>49</sup>
- 48) A notable example is the Next Generation Fighter Project pursued by Indonesia and South Korea. See: Trefor Moss, "Asia's Next Fighter Project," *The Diplomat*, July 14, 2011, http://thediplomat.com/flashpoints-blog/2011/07/14/ asias-next-fighter-project/ (accessed October 18, 2012).
- 49) Paul Kallender-Umezu, "Japan Strives to Overcome Defense Industrial Base Crisis," *Defense News*, June 24, 2012, http://www.defensenews.com/article/ 20120624/DEFREG03/306240003/Japan-Strives-Overcome-Defense-Industrial-Base-8216-Crisis-8217-; Trefor Moss, "Japan's Defense Industry Lifeline," *The Diplomat*, December 31, 2011, http://thediplomat.com/2011/12/ 31/japan's-defense-industry-lifeline/ (accessed November 19, 2012); Jon

- Despite the country's well-known high technology base, Japan's defense industry has been suffering so far. But Tokyo's defense posture seems to be changing. As of recently, the country has become much more active, for example by providing defense support to the Philippines, boosting defense ties with Australia, and relaxing rules on defense exports. A recent report by the ministerial Defense Production and Technology Base Research Committee also suggested restructuring the national defense industrial base. Current key procurement projects include the Next Generation Fighter competition, the expansion of its submarine force, and the procurement of new amphibious assets.
- Indonesia's defense industry has so far focused on licensed manufacturing. Local capabilities to design and develop military platforms are limited. Nonetheless, the country's ambitions are growing, in particular in the maritime domain. The country has ordered new submarines from South Korea and is working with China to build anti-ship missiles. In addition to developing electronic systems, Indonesia is also focusing on surveillance technologies.
- Malaysia disposes of indigenous defense capabilities in lower-level technology areas such as aerospace Maintenance, Repair, and Overhaul

Grevatt, "Japan looks to new defence policy to boost defence industry," Jane's Defence Weekly, October 30, 2012, p. 23; Indonesia. IHS Jane's Navigating the Emerging Markets (Surrey: IHS Jane's, 2012); Malaysia. IHS Jane's Navigating the Emerging Markets (Surrey: IHS Jane's, 2012); Republic of Singapore. IHS Jane's Navigating the Emerging Markets (Surrey: IHS Jane's, 2011); South Korea. IHS Jane's Navigating the Emerging Markets (Surrey: IHS Jane's, 2012); Vietnam. IHS Jane's Navigating the Emerging Markets (Surrey: IHS Jane's, 2012); Guy Anderson and Jon Grevatt, "Rich pickings. Emerging markets: Southeast Asia," Jane's Defence Weekly, September 19, 2012, pp.20~29; Guy Anderson, "A Changing Game Board: How Competition on the International Defence Market is Shifting" (Surrey: IHS Jane's, 2012); IISS, The Military Balance 2012 (London: Routledge, 2012), pp.206~208.

(MRO), manufactures small arms and munitions, and is engaged in shipbuilding. For the future, Malaysia puts priority on developing C4ISR technologies and has an interest in unmanned aerial systems. Satellite services, information technology, and simulation systems are among the country's focus areas as well. However, as of recently Malaysia has pushed back the procurement of several key platforms such as the new Multi-Role Combat Aircraft. In contrast, the new Scorpene submarines have been deployed.

- Singapore certainly is the region's leader in terms of indigenous defense industrial capabilities. Existing capabilities span a broad spectrum ranging from naval, ground, and air systems (including MRO and engine technologies) to communication systems as well as surveillance, radar, and sensor systems. Unmanned systems round off the country's defense industrial capabilities. Among others, Singapore is investing in foreign systems, such as the KC-135 Tanker replacement, the F-35 fighter jet, and submarines.
- South Korea has a mature national defense industrial base that is active in the development of air, land, and sea systems as well as defense electronics with a focus on C4ISR and command and control systems. Despite the country's declared goal of defense-industrial self-reliance, South Korea is investing in new foreign build platforms, such as nextgeneration fighters and attack helicopters, mainly of U.S. origin.
- Thailand has established national capabilities in the fields of MRO for air and land systems and is engaged in naval construction. Developing missile systems using Chinese technologies is said to be among Thailand's future priorities together with C4ISR and unmanned systems.
- Vietnam's existing defense industrial capabilities are rudimentary in the fields of air and sea systems. The country's national defense industrial ambitions are limited. But Vietnam has embarked on serious

efforts to improve existing naval and air capabilities

Based on this brief overview, the following clusters could be considered for smart defense cooperation:

- When it comes to propulsion systems, Germany is literally the "powerhouse," with diesel engine deliveries across the region. France and the United Kingdom also play a strong role, in particular in the field of aircraft engines. Energy efficiency is of paramount importance for armed forces in order to reduce the energy footprint and save money due to sky rocketing fuel prices. This could provide interesting opportunities to create MRO hubs, if not already offered by the respective companies. Research and development for energy efficiency could benefit from the fact that Asian countries also play a strong role in the automotive and shipbuilding industries. Smart cooperation in an Asia-Pacific efficient propulsion system cluster would provide attractive incentives for different public and private stakeholders.
- In the missile segment France plays a key role. Most of the missile systems delivered to Asia-Pacific customers are built by MBDA,<sup>50</sup> which is co-owned by EADS, BAE Systems, and Finmeccanica. Buyers' attention for missile developments is likely to be driven by the use of missiles as effective A2AD tools, the problem of missile proliferation, and the need for missile defense in the region. Consolidating European interests in this field could thus leverage Europe's supplying power vis-à-vis the United States, China, and Russia. If European nations could agree on jointly marketing key platforms (e.g., vessels, attack aircraft) needed for missile defense could

<sup>50)</sup> Other main EU suppliers include Thales and Saab, for example.

also open doors for fruitful cooperation with the United States and even Russia.

- Unlike the missile market, the underwater market for torpedoes is more contested among European suppliers. Here Germany's Atlas Elektronik, DCNS from France, and Italy's WASS, a Finmeccanica subsidiary, are competing with each other. As will be discussed below, there are opportunities for cooperation in the underwater segment but most likely on a bilateral supplier-client basis. However, the situation could change, if European companies were to agree on more cooperation to address Asia-Pacific torpedo markets.
- Clustering opportunities could also exist in the radar market. Given the growing concern about A2AD, wide area sensors will be much needed. Table 4makes it clear that France, the Netherlands, and Sweden have delivered different types of radars and electro-optical systems to Asia-Pacific customers. In most cases, the supplier is Thales or Saab. This opens the door for Asia-Pacific nations to think about joint MRO approaches and collaboration to advance future radar technology.
- C4ISR emerges as an area of collaboration only for the most advanced defense industrial nations in the Asia-Pacific, such as Singapore, South Korea, and Japan.<sup>51</sup> This would fit well with the current European supplier profile in the radar market and with existing expertise for electro-optical components.
- 51) Many Asia-Pacific countries have an interest in procuring C4ISR assets, but only few have the necessary industrial capability to enter technology development and production projects. See also: Wendell Minnick, "In Asia, C4ISR Market is Growing," *Defense News, November 12, 2012*, pp.12~14. For a more general analysis, see: Michael C. Horowitz, "Information-Age Economics and the Future of the East Asian Security Environment", in Goldstein/Mansfield, eds., The Nexus of Economics, Security, and International Relations in East Asia, pp.211~235.

# Table 4: Transfer of Weapon Systems from EU27 Suppliers to Selected ASEM Countries (2000~2011)

	IND	IDN	JPN	MYS	PHL	SGP	ROK	THA	VNM
Air Systems									
Airborne early warning & control aircraft								SWE	
Fighter ground attack aircraft	FRA	UK						SWE	CZE
	UK								
Light transport aircraft	DEU								POL
Light aircraft		FRA						AUT	
Maritime patrol aircraft	DEU	FRA					UK	DEU	POL
		ESP							
Trainer aircraft	POL	DEU			ITA				ROM
Trainer/combat aircraft	UK	565		IIA		IIA		DEU	CZE
Transport aircraft		ESP		DEU				SVVE	
				ESP					
SIGINT aircraft				UK			FRΔ		
ASW heliconter									
Helicopter		FRA	UK	FRA	POI		FRA	UK	
			en	UK				<u>on</u>	
Light helicopter	FRA	FRA	DEU	FRA		FRA	DEU	FRA	
		DEU		ITA					
UAV		FRA							
Naval Systems									
Frigate		NDL		DEU		FRA			
Offshore patrol vessel								UK	
Patrol craft		DEU							
Submarine	FRA			FRA		SWE	DEU		
				ESP					
Support ship	DEU								
	ITA								
Ground Vehicles/Ground Systems									
Armored bridge-laying system				POL					
Armored engineering vehicle				POL					
Armored recovery vehicle	POL			POL		DEU			
Armored personnel carrier		FRA							
lank				POL		DEO			
Lifectors and Subsystems		POI							
Air defense system	DELL	PUL		ED A					
				FKA		FKA			
Armorad vahicle turret	FNA	REI							
Mortar		DLL	FRΔ	FRΔ					
Self-propelled multiple-rocket laupcher		C7F	IIIA	INA					
Beyond-visual-range air-to-air missile	FRΔ	CZL							
Close-in weapons system							NDI		
Portable surface-to-air missile	FRA	FRA					FRA	FRA	
	1103	POI					1103	SWF	
Surface-to-air missile				UK		FRA	DEU		
· · · · · · · · · · · · · ·							FRA		
Anti-ship missile	FRA	FRA		FRA			UK	SWE	
				ITA					
				UK					

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	IND	IDN	JPN	MYS	PHL S	GP	ROK	THA	VNM
AS torpedo					S	WE			
ASW torpedo	ITA	ITA			I	TA			
					S	WE			
AS/ASW torpedo	ITA			ITA	I	TA	DEU		
Naval gun	ITA	ITA	ITA	ITA	I	TA	ITA	ITA	
		SWE		SWE					
Self-propelled gun								FRA	
Towed gun								ITA	
								UK	
Electro-optical search/fire control				NDL				DNK	
								NDL	
Radar/Sonar									
ASW sonar	FRA	FRA					DEU		
Mine counter measure sonar			UK	FRA			UK		
Air/sea search radar		NDL		DEU			NDL	DNK	
				ITA					
Air search radar	FRA	FRA		FRA	F	RA	NDL	ITA	
	ITA				S	WE		SWE	
	NDL								
Artillery locating radar				SWE	S	WE	SWE		
Fire control radar	ITA	NDL		ITA			NDL	ITA	
				UK			SWE	NDL	
								SWE	
Maritime patrol aircraft radar		FRA	FRA	FRA			UK		
Sea search radar	NDL				D	DNK			
Aircraft electro-optical system			_	FRA					
Propulsion Systems									
Air refuel system			UK	UK					
Air independent propulsion engine			SWE						
Diesel engine	FRA	DEU	FRA	DEU	C	DEU	DEU	DEU	DEU
	DEU	DNK					FRA	UK	
		FRA							
Gas turbine			UK						
Turboshaft (engine)		FRA							
Turbofan			UK		D	DEU		SWE	
Turbojet				UK					

Country codes:BEL Belgium; CZE Czech Republic; DNK Denmark; DEU Germany; ESP Spain; FRA France; IDN Indonesia; IND India; ITA Italy; JPN Japan; MYS Malaysia; NDL Netherlands; PHL Philippines; POL Poland; ROK Republic of Korea; ROM Romania; SGP Singapore; SWE Sweden; THA Thailand; UK United Kingdom; VNM Vietnam

Source : http://armstrade.sipri.org/armstrade/page/trade\_register.php (accessed October 18, 2012).

In addition to these bottom-up ideas for defense industrial clustering, additional top-down ideas are needed to advance smart defense cooperation. These top-down ideas should address the long-term security challenges discussed in the first section of this paper and strike a balance between security and prosperity interests. The key to achieve this goal is joint situational awareness and joint situational understanding.

# Establish global commons-related joint situational awareness and joint situational understanding

The most serious strategic concern for the Asia-Pacific is an A2AD-based arms race that leads to tit-for-tat tactics in various policy fields. This will seriously undermine the freedom of the global commons. Given the overall lack of trust and confidence across the region, this is a probable threat scenario. Activities aimed at furthering joint situational awareness and joint situational understanding can help mitigate the respective risks.

Today's request for comprehensive security and defense solutions translates into the requirement for joint information and knowledge development and sharing between various public and private stakeholders. Progress in the field of common operational pictures (COP) epitomizes this trend. In many ways, the effectiveness of network–enabled forces nowadays depends on their ability to plug and operate on the basis of a joint COP.<sup>52</sup> So far, most COPs focus on single domains. Given the multi–faceted A2AD threat to the freedom of the global commons, there is a need for a next generation COP.

A Global Commons COP (GC-COP) should bring together information from different domains to provide public and private stakeholders with a holistic view of various activities influencing the freedom of the global commons. In doing so, a GC-COP would enable stakeholders to understand the interplay between the different domains of the global commons. A GC-COP is also essential to evaluate how different decisions affect the relative position of each stakeholder in the global commons. This in turn can improve anticipatory capabilities with regard to these stakeholders' future

<sup>52)</sup> For more on this see: Ralph Thiele, "Smart Defense in the 21st Century," The Korean Journal of Security Affairs, Vol. 17, No. 1 (June 2012), pp.83~99, in particular pp.93~99.

action. In sum, Asia-Pacific countries should see the GC-COP concept as a logical continuation of the exchange of information agreed as part of ASEAN's confidence building measures<sup>53</sup> and as a strategic lever that can be used to cooperate with international partners such as NATO and the EU.

# 2. Advance underwater situational awareness and situational understanding

Section one discussed various underwater activities that bear the potential for serious rifts between countries. Current underwater activities to exploit marine resources such as minerals at the seabed, fossil resources, and fish will continue to grow as resource demand is on the rise. In addition to these activities, several countries are beefing up underwater defense capabilities.<sup>54</sup> Given the lack of trusted information regarding these specific activities, there is a need for projects that advance joint underwater

- 53) "ADMM-Plus: Strategic Cooperation for Peace, Stability, and Development in the Region," Chairman's Statement for the First ASEAN Defence Ministers' Meeting-Plus, Hanoi, October 12, 2010, para. 17, http://www.asean.org/news/ item/chairman-s-statement-of-the-first-asean-defence-ministersmeeting-plus-admm-plus-strategic-cooperation-for-peace-stability-anddevelopment-in-the-region-ha-noi-12-october-2010 (accessed November 23, 2012). Among other things, Expert Working Groups address issues like counter-terrorism, maritime piracy, and peacekeeping. I thank Brigadier Jacques Lemay for bringing this to my attention.
- 54) For example, the United States is exploring the idea of an underwater shield network to protect naval ships. However, this would likely only be the first step in a more sophisticated underwater defense system. See: Michael Fabey, "U.S. Navy Seeks Undersea Aegis-like System," Aviation Week, October 24, 2012, http://www.aviationweek.com/Article.aspx?id=/article-xml/asd\_10\_24\_2012\_p03-02-509975.xml (accessed November 1, 2012).

situational awareness and situational understanding.

It goes without saying that a common operational underwater picture that keeps track of different underwater activities would prove most beneficial in heavily contested areas, such as the Spratly Islands. Although one could consider launching a respective project under international auspices, the idea is unlikely to receive support from key regional actors. Therefore, nations could think about complementing existing common operational maritime pictures with a powerful underwater surveillance module. This would make particular sense in those countries that are home to the world's busiest container terminals, such as China, Hong Kong, Singapore, and South Korea. In addition to navies and coast guards, respective projects could also involve harbor operators, the maritime logistics industry, energy companies, deep—sea mining companies, and others.

From a technical perspective, the creation of wide area common operational underwater picture is tough, as it poses challenging requirements for sensors, above water and underwater communication, bandwidth, data fusion, and anomaly detection, to name just a few areas. Industry and academia should have an interest in such an initiative, as it will enable them to develop valuable dual-use technologies that are much sought after in many different markets. Several Asia-Pacific nations focus on C4ISR technologies and could form the nucleus of respective pooling and sharing projects.

### 3. Protect key underwater infrastructures

Pooling capabilities to improve the protection of key underwater infrastructures follows logically from a growing international interest in underwater assets. Direct attacks against critical underwater infrastructures

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should be taken into account as a future threat scenario. These attacks would serve several purposes such as causing environmental damage, creating public outrage, and creating financial and reputational damages. One can speculate about the motives, resources, and expertise of possible perpetrators, but it seems quite obvious that protection against a comprehensive set of risks (e.g., natural hazards, technical vulnerabilities, use of weapons) should be taken seriously. As many underwater infrastructures would most likely affect the interests of several coastal parties, the need to manage the respective risks could create opportunities for cooperation.

A look at the current map of deep-sea communication cables, to single out a very specific underwater infrastructure (Figure 1), makes it amply clear that global communication traffic between East Asia, Southeast Asia, and the U.S. West coast depends on cables landing at a few hot spots.<sup>55</sup> There might be alternatives to these landing points, redundancy is certainly also available, but the fact remains that cables are vulnerable to harmful action against these landing points. As this issue is vital to the whole region, countries could consider pooling resources in tandem with cable operators to provide adequate protection measures for these critical assets.

<sup>55)</sup> For more on this, see: Ronald J. Rapp et. al., "India's Critical Role in the Resilience of the Global Undersea Communications Cable Infrastructure," *Strategic Analysis*, Vol. 36, No. 3 (May-June 2012), pp.375~383.

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Figure 1: Selected Landing Points of Deep-Sea Communication Cables Source: http://www.submarinecablemap.com (accessed October 18, 2012)

# 4. Improve the security of maritime trade

Maritime trade is key to the prosperity of the Asia-Pacific region. Risks posed by pirates and robberies have already prompted several countries to join forces and pool resources to address the respective consequences. Pooling and sharing between public and private stakeholders could also help address two issues of growing concern:

• Maritime cyber risks: Like many other critical infrastructures, maritimetransport depends on information and communicational technology (ICT). Without ICT harbors, automatic identification systems, navigation, logistics systems, and vessels do not operate. With the exception of dedicated naval communication systems,<sup>56</sup> maritime cyber

<sup>56) &</sup>quot;China hackers enter Navy computers, plant bug to extract sensitive data," The Indian Express, July 1, 2012, http://www.indianexpress.com/news/chinahackers-enter-navy-computers-plant-bug-to-extract-sensitivedata/968897/0 (accessed October 18, 2012).

infrastructures have so far not been at the center of cyber villains' interest. This could rapidly change, however. In addition to the world's busiest container terminals, the Asia-Pacific is also home of PSA International, Hutchinson Port Holding, and Cosco, three of the world's biggest container port operators. Coordinated cyber attacks against these infrastructure operators would have rippling effects far beyond the region. The main challenge in address maritime cyber risks stems from the fact that the International Shipping and Port Security Code (ISPS Code) is focusing on physical rather than digital security risks. By taking up this concern, nations in the region could help advance global security for critical maritime infrastructures. They could use the global response center of the International Multilateral Partnership Against Cyber Threats (IMPACT)<sup>57</sup> located in Malaysia to set up global information exchanges for maritime cyber security-related incidents.

• Stand-off cargo screening: Breaches of international sanctions and the transfer of illicit goods are some of the most pressing security challenges directly affecting maritime trade. Given high maritime transport volumes, cargo screening at points of embarkation and disembarkation runs into practical problems. For this reason, detection should be pushed from harbors to the open sea while ships are approaching harbors. Investing in stand-off technologies for cargo screening at sea would render harbor operations more efficient and could help identify illicit goods early enough to intervene in an environment that is less fragile than busy harbors. As we have seen, several Asia-Pacific countries are investing in C4SIR as well as air-and space-based detection technologies. Together these countries could form the nucleus of a stand-off cargo screening cluster. The resulting

<sup>57)</sup> http://impact-alliance.org/home/index.html (accessed October 18, 2012).

capability would depend not only on sensors and platforms, which help field the respective sensors. Advanced analytics for change detection and pattern recognition would be required as well. Finally, seamless exchange of information between cargo operators and public authorities is needed to accomplish this task, thus prompting a need for concepts and technologies to support public-private information exchanges.

# 5. Prepare for the opening of Arctic sea routes

The opening up of the North Sea Passage comes with risks and opportunities for the Asia-Pacific region. Already today, several nations are preparing to seize the opportunity and claim their interest in the High North. Despite the obvious rivalry this might cause, two issues could drive countries towards smart solutions:

- Icebreakers: Even the most optimistic scenarios do not expect the Northern Sea route to be open all year round. There continues to be a need for assets to keep routes open. Today, Russia maintains the biggest fleet of nuclear icebreakers.<sup>58</sup> Given average construction time of eight to 10 years and investments costs of more than \$1 billion for the most powerful nuclear icebreakers, these platforms seem perfect for pooling initiatives.<sup>59</sup> South Korea, Japan, and China are the world's
- 58) Baltic Icebreaker Management, *The World Icebreaker and Icebreaking Supply Vessel Fleet* (Helsinki: Baltic Icebreaking Management, 2008).

59) Charles K. Ebinger and Evie Zambetakis, "The geopolitics of Arctic melt," International Affairs, Vol. 85, No. 6 (November 2009), p.1220; Natalya Kovalenko, "Russia to build new nuclear icebreaker," The Voice of Russia, July 4, 2012, http://english.ruvr.ru/2012\_07\_04/Russia-to-build-new-nuclear-icebreaker/ (accessed October 18, 2012). leading shipbuilders.<sup>60</sup> Unfortunately, the current political climate is likely to prevent cooperation. But together with partners from the EU27 and/or the United States, each of them could be interested in exploring the possibility of a joint investment pool to build nuclear icebreakers. Building on the idea of NATO's C-17 Strategic Airlift pool, a nuclear icebreaker flotilla would offer services to all partners investing in the pool and could even serve clients outside the pool on a "power by the hour" model, for example.

- Electronics in the Arctic: The Arctic is a harsh environment. Any asset operated there must meet very challenging requirements. This is particularly true for electronics, which are at the heart of modern defense equipment. Some of the most sophisticated sensors, electronics, and communication systems might thus not properly work in this environment. In addition, energy management under Arctic conditions causes extrachallenges. Together, these aspects could create incentives for tailored product developments to satisfy the needs of this operating environment. Asia-Pacific countries with leading defense electronic capabilities such as Japan, Singapore, and South
- 60) In June 2009, the Republic of Korea launched the first icebreaking research vessel, which was built by Hanjin Heavy Industries. See: http://www.hanjinsc.com/ eng/pr/notice/notice\_view.aspx?noticeID=128&SearchField=&SearchWord= (accessed December 2, 2012). Japan's Maritime Self-Defense Forces also operate icebreakers, mostly for research purposes. These platforms are built by United Shipping Corporation. See: http://www.u-zosen.co.jp/en\_uzosen/gaiyou.html (accessed December 2, 2012). The Chinese icebreaker Snow Dragon passed the Arctic Ocean from Asia along the coast of Russia to Iceland, where it arrived in mid-August 2012. See: Jon Viglundson and Alister Doyle, "Chinese icebreaker crosses Arctic Ocean. Thaw could open region to oil exploration, shipping," *Reuters*, August 18, 2012, http://www.vancouversun.com/ technology/Chinese+icebreaker+crosses+Arctic+Ocean/7110681/story.html (accessed October 18, 2012).

Korea might have an interest in exploring this opportunity. They could pool research and development activities in cooperation with U.S., European, or Russian partners.

## V Conclusion

This paper has argued that pooling and sharing defense capabilities is about tying nations into joint collaborative endeavors. Financial pressure is a motive for pooling and sharing in order to share the burden of providing adequate capabilities. More importantly, pooling and sharing can help making sure that nations that play a critical role for the stability of a region become and remain engaged to help stabilize it. This should be the primary rationale for considering pooling and sharing in the Asia-Pacific region. By following this line of argumentation, Asia-Pacific nations could succeed to lock in the United States as the region's ultimate balancer. This, in turn, could serve as a useful wake up call for Europe. If Europe wants to remain relevant as a transatlantic partner, the U.S. pivot to Asia must prompt the EU27 to reconsider their defense and security posture in the Asia-Pacific region. Pooling and sharing with Asia–Pacific partners might be the only way for Europe to engage in the region. As a consequence, pooling and sharing could turn out most beneficial from an Asia-Pacific perspective, as it helps bring in new partners that have an interest in the long-term stability and prosperity of the region.

Implementing this bold vision will require each of the three partners to think beyond current levels and frameworks of cooperation: Asian-Pacific countries struggle with regional antagonisms and thus have a long way to go to nurture mutual trust and confidence. Bilateral cooperation with the U.S. and European partners could help overcome some of today's problems. As was suggested above, there are real opportunities for smart defense initiatives. Mutual trade relations have built strong bonds among them. Pooling and sharing in defense and security should not be allowed to distort these relations, as they serve as the foundation of regional progress. However, this is anything but easy, as most Asian-Pacific countries depend on U.S. and/or European partners for defense supplies. By considering pooling and sharing, Asia-Pacific countries will therefore require strategic caution.

The EU27 will face the biggest challenge. So far, the EU's strategic thinking has focused on Europe and its near abroad. Deducting strategic implications from the fact that the Asia–Pacific region is vital for the EU's long-term economic well-being is not easy. In addition, EU member states are cash strapped. However, if EU members were serious about pooling and sharing with Asia-Pacific partners, they could make a virtue out of the current situation: EU/NATO experience in terms of the necessary defense institutional framework as well as certain assets could be shared in return for political and financial support by Asia-Pacific partners for joint initiatives. In addition, the EU could also tap into existing science and technology funds to co-finance respective projects. Overall, EU member states will need to come to terms with competing export visions for national defense suppliers. Without agreeing on at least some strategic guidelines to jointly access Asia-Pacific markets, companies might end up in fierce competition and thus render the value of pooling and sharing nil and void. In addition, EU members will also have to examine whether the U.S. pivot to Asia is concurrent with Europe's strategic interests there and consider appropriate action in case of diverging ambitions.

Although Washington might seem to enjoy the most comfortable position

in this "smart triangle," the United States will also have to solve tricky questions. Pooling and sharing might close ranks with existing allies in the region and form new collaboration patterns. But the United States will always want to assess the impact of specific cooperation projects on the overall power distribution with China,<sup>61</sup> India, and also Russia. In so doing, Washington should avoid the impression that closer cooperation via pooling and sharing is directed against single countries in the region. As a consequence, the United States will have to think about an overall framework that could accommodate the interests of all stakeholders in the Asia–Pacific.

61) For a critical assessment of the current U.S. strategy vis-à-vis the Asia-Pacific region, see for example: Lanxin Xiang, "China and the 'Pivot," Survival, Vol. 54, No. 5 (October-November 2012), pp.113~128; Robert S. Ross, "The Problem With the Pivot," Foreign Affairs, Vol. 91, No. 6 (November-December 2012), pp. 58~69. Among others, Xiang argues that "from Beijing's perspective, Washington's strategy towards Asia has most of the key features of a coldwar strategy" (p.117). Similarly, Ross believes that "the new U.S. policy unnecessarily compounds Beijing's insecurities and will only feed China's aggressiveness" (p.72).

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Appendix A: Defense Imports 2005~2011 by Selected Countries and EU Member States

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Source : SIPRI Arms Transfer Database, Importer/Exporter TIV Tables, http://armstrade.sipri.org/armstrade/page/values.php 2012). (accessed October 16,

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Appendix B: Defense Imports 2005~2011 by Selected Countries in the Asia-Pacific Region (Australia and New Zealand excluded)