Chapter 9
The Challenges and Opportunities for European-Japanese National Security Space Cooperation

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This paper examines and evaluates the challenges and opportunities for European-Japanese cooperation on national security space and space security issues. The primary theoretical lens that this relationship is examined through is classical geopolitics, and therefore the paper argues that while there may be scope for meaningful cooperation between Japan and some individual European countries, the cooperative relationship will mainly be diplomatic and industrial. The diplomatic relationship will largely concentrate on promoting a norms-based regime in outer space. The industrial relationship will continue to be one of integrated supply chains in European and Japanese satellite manufacturing.

The biggest obstacle to more substantive cooperation between Europe and Japan will be the growing European relationships with a rising China. While European military powers and Japan face similar threats, and engage in similar strategic behavior, in space, their geopolitical contexts and worldviews are diverging rapidly. Japan sees China, and its national security space programs, as a growing and direct threat to its vital interests. Europe – by and large – has a more benign geopolitical view of China, and further may see China as an important defense and space export market in the coming years. This emerging geopolitical context may yet provide more challenges than opportunities for European and Japanese space policy makers in the decades to come.

This said, opportunities for substantive European and Japanese cooperation might emerge should the Russian threat persist. So long as Russia can continue to play the role of Eurasian geopolitical spoiler, and continues to develop its counterspace capabilities, the more European and Japanese space policy makers will have incentive to cooperate on diplomatic countermeasures, threat intelligence sharing, space situational awareness, and other space protection measures.

The onus will likely be on Japanese space policy makers to both initiate and set the pace for any cooperation with Europe. This will require a certain diplomatic agility that will likely see Japan cooperate at a multilateral level with Europe in developing a norms-based regime in space, and in selected bilateral

relationships at varied scopes and levels on more 'hard' security issues in space. Finally, until NATO takes on the national security space mission, there will be little scope if any for NATO-Japanese cooperation.

Introduction

What are the prospects for future Japanese-European cooperation in national security space, and space security in general? What, if any, are the opportunities and limitations for this cooperation?

This paper examines these questions in detail, and finds that while there is the basis for cooperation between Tokyo and European capitals, there are also distinct geopolitical challenges and limitations that shall, over time, mitigate meaningful and substantive cooperation. Using the prism of classical geopolitics, it is suggested here that Japanese and European policy makers work harder together to find ways to cooperate – and proposed examples are provided – while at the same time honestly address the real limitations to long-term cooperation likely to occur due to geopolitical divergence and changes in strategic perceptions.

The Geopolitical Context

A variety of factors contribute the decision to, and scope of, cooperation between countries on national security space and space security. For example, technological capabilities are an obvious factor in cooperation, where each state possesses a complimentary space capability that can used for meaningful cooperation. Further, the mere possession of space capabilities gives a state a political interest in space issues, whereas for states that do not own space systems the interest is more academic. Similarly, a convergence of political and diplomatic aims are also needed as an incentive to cooperate in space, and to work towards greater security in space. A range of political and diplomatic issues, such as industrial policy, alliance obligations, and the general desire to avoid warfare in space are all common reasons that can spur cooperation.

Yet by far the biggest influence on interstate cooperation in national security space is the geopolitical context. While technological capability and common political purpose are necessary for cooperation, they are far from sufficient. An increasing number of countries now possess and operate their own space systems, representing a range of political systems, and nearly every single one of them wishes for a peaceful and secure space domain, though finding a common definition of what constitutes peaceful and secure is

challenging.

The geopolitical context is the ultimate arbiter of which states cooperate in space, how and to what extent they cooperate, and the purpose for which they cooperate. Australian geopolitical thinker, Michael Wesley, articulates well the power of geography over a state's choices:

Geography is to states what DNA is to humans: an inescapable legacy that enables, shapes and limits their potential and pathologies. For humans – the most intensely territorial and competitive of animals – power, wealth, safety, order and creativity are all played out across the medium of geography. Humans have organised into exclusive communities each with its own territory, which provides each society a unique fingerprint of landforms and water domains: coasts, ranges, plains, islands, deserts, volcanos, deltas, forests and valleys. Onto the earth's surface, the human mind has painted panoramas of fear, greed and pride. Each society's territory carries with it a quantum of opportunity and vulnerability, as assessed by the fervid imaginations of its inhabitants and competitors. It is the lucrative or dangerous potential of some landforms to the human mind that draws history so intensely to some parts of the earth's surface while leaving others touched only by the elements.[1]

It is this "quantum of opportunity and vulnerability" that exerts such a powerful influence on state decision-making, not least on, and to include, national security space cooperation. As a domain, space does not change the fundamental geopolitical calculations of states, but it does add a dimensional factor to those calculations. For example, the exploitation of space since the late 1950's has not in any way negated the geopolitical assumptions of states that the Eurasian heartland should not be dominated by a single power, *pace* Sir Halford Mackinder and Nicholas Spykman. The space domain, however, does provide states an additional means by which the competition for Eurasian dominance on the one hand, or balancing on the other, might be achieved.

As a result, it is asserted here that national security space cooperation is ultimately about preserving a state's geographical integrity and position, and advancing and protecting geopolitical goals and interests. To illustrate, for Japan the ability to exploit the space domain for national security purposes serves to advance and better enable its significant and traditional maritime power, and so preserve its potential strategic independence that would allow it

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[1] Michael Wesley, *Restless Continent: Wealth, Rivalry and Asia's New Geopolitics* (Collingwood, Australia: Black Inc., 2015), p. 123.

to engage in Eurasian geopolitical power balancing as much or as little as circumstances dictate.

The Rise of China

China's spectacular rise over the past 35 years has seen its rapid economic growth unveil new strategic interests (and in a number of cases, revived long dormant strategic interests as well) that in turn require commensurate military power to assert and protect them.

As part of this military growth and modernization, China has rightly noted the strategic dependency on space systems by the United States and its allies, and more importantly, has identified the use of the space domain as a source of U.S. military and economic dominance. As an aspiring superpower, it is only natural – even appropriate – that China's strategic thinkers and defense planners look to deny the U.S. and its allies their unfettered exploitation of the space domain in order to undermine their military dominance, and ultimately the economic power that underpins military strength.

Further, Chinese military thinking on space power seems to shifting away from mere space denial to actual space control under circumstances where Chinese vital interests are at stake, such as in the South China Sea, East China Sea, and the Western Pacific in general. It is this strategic reasoning that has spurred China to develop the range of counterspace capabilities that are of such deep concern to U.S. and Japanese policy makers. Furthermore, as China develops an increasingly *informationalized* military it too shall become increasingly reliant upon space systems just like the U.S. This means that as China's military transitions from its current state to that of space dependency it shall look to preserve and protect its national security space interests through a mixture of military, diplomatic, and industrial means, to include a balanced mix of non-lethal and lethal counterspace capabilities.

Japan and China

Historically speaking the geopolitical rivalry between Japan and China is not new, but the addition of the space domain to the strategic repertoire of state power poses additional concerns and risks for policy makers in Tokyo and Beijing. This is especially the case given the acute geopolitical tensions between Japan and China over the Senkaku Islands in the East China Sea, China's territorial claims over much of the South China Sea (vital for Japan's maritime trade), and the generally perceived assertiveness in regional foreign

policy emanating from Beijing.

Japan seeks to preserve its geographical integrity and position, as well as its assured access to its existential sea lines of communication, and for policy makers in Tokyo the biggest potential threat to these is China. Given Japan's already existing, and likely increasing, dependency on satellites for telecommunications, commercial and economic power, and self-defense, China's evolving views on space warfare and its development of a suite of counterspace capabilities is of particular concern.

With Japan's constitutional restrictions and its entrenched political culture that emphasizes non-military solutions and restraint wherever and whenever possible, it is important for Japan to seek out international partners to manage and even mitigate the perceived Chinese threat in general, as well as the counterspace threat in particular. Of particular importance is the treaty alliance with the United States that guarantees Jaoan's security against a range of regional and global threats, to include those emanating from the space domain. Yet the United States is not omnipotent, and so Japan rightly seeks out other international partners that can help secure Japan's position as well as advance common security interests in the space domain. Countries such as Australia and India, as well as Vietnam and the Philippines, are important strategic partners for Japan in all respects, even though they will never be as important as the United States in terms of guaranteeing Japan's security.

When Japan looks for partners in national security space, however, it has few options beyond the United States. Among its existing partners India is still grappling conceptually with national security space and has yet to mature as a potential partner. Australia, while possessing tremendous real estate for space situational awareness (SSA) and satellite tracking as well as some national security space capability such as access to a Worldwide Global System (WGS) military communications satellite, is even more dependent on the United States for space access than Japan. Vietnam is a nascent space power that has an existing relationship with Japan in space centered around the LotusSat earth observation satellites to be supplied to Hanoi in the next few years, yet, again, comes nowhere near the partnership value of the United States. Lastly, the Philippines, with its troubled economy and small defense budget, is only beginning to examine what space power means, if anything, to its strategic interests.

It should not be surprising, therefore, that Japanese policy makers should look to European countries such as France, Germany, Italy, and the United

Kingdom, as well as to the European Union (EU) and the North Atlantic Treaty Organization (NATO), as potential sources for meaningful national security space cooperation.

Europe and China

The challenge for Japanese policy makers looking to European countries as a potential hedge and fellow-balancer of rising Chinese power is that the geopolitical view of China from western Eurasia over the coming decades will likely not be the same as the view from Tokyo. Even today, when some European capitals acknowledge that growing Chinese power is potentially problematic, the issue is not viewed with the same urgency and acuteness as it is in Tokyo and Washington, DC.

A common European geopolitical view of China is slowly emerging that is likely to see it diverge – and perhaps dramatically so – from that of Japanese and U.S. views. The reasons for this transformation in strategic perspective are geopolitical in nature (though certainly perceived opportunities for trade and economic development are also in play) as the U.S. role in European security continues to relatively decline and China's rise is viewed by as potentially beneficial to countering a revanchist Russia.

As a result of this, more and more European capitals are starting to ramp up economic relations with China, especially since Beijing's announcement of its One Belt One Road initiative that seeks to recreate the ancient Silk Roads that traversed the Eurasian heartland between China and Europe, as well as the maritime routes that connect the South China Sea, Indian Ocean, and the Mediterranean. Europe's generally sclerotic economy, demographic challenges, relative U.S. decline and shift of focus to the Asia-Pacific, and perceived vulnerability to a diminished yet dangerously unpredictable Russia all combine to make China a potentially attractive geopolitical partner for Europe, and most likely at the overall expense of Japan.

It is for these reasons that we are seeing increasing European ties to China's space program, to include the actual sale of European-built satellites and satellite subcomponents to China. Further, the EU arms embargo against China is under increasing pressure to be at least partially lifted, and once this happens it will likely be a slippery slope towards a complete repeal of the policy put in place after the crackdown against protesting students in

Beijing's Tiananmen Square in 1989. In such an event, it should be expected that European satellite and component manufacturers will view China as a lucrative market for their products, and a resultant transfer of high-technology will ensue. Lastly, in the civil space sector, Europeans are very interested in cooperating with China in human spaceflight, space sciences, and exploration, potentially isolating Japan and the United States as the only major global space powers that do not cooperate with China.

Japan and Europe

Since the rapid economic rise of Japan in the decades after the Second World War extensive economic, diplomatic, and trade ties have been established and deeply woven between Japan and Europe. Throughout the Cold War Japan became a bulwark of Western security in the Asia-Pacific in countering the influence and military power of the then-Soviet Union, and as a result security links have also been forged between European capitals and Tokyo.

These extensive and established links have endured for many decades despite economic woes in Japan and Europe, numerous trade disputes, and lingering questions about the roles of Europe and Japan respectively in the post-Cold War security order. The large economic and security powers in Europe – United Kingdom, France, Germany, and Italy – share with Japan membership of the G-7, G-20, the Organization for Economic Cooperation and Development (OECD), as well as the World Bank and International Monetary Fund (IMF), and therefore are able to powerfully influence the shape and direction of the global economy. It is often the case that Japanese and European economic institutions, such as central banks, finance ministries, and stock exchanges, closely and regularly cooperate with each other.

In terms of security, both Europe and Japan are dependent upon the leadership and capabilities of the United States, especially in terms of coordination of security affairs on both ends of the Eurasian landmass. More recently, Japan has entered into a Defence Equipment Cooperation Framework and an Information Security Agreement in 2013 with the United Kingdom; and in 2015 Japan and France signed a deal to co-develop military equipment and a technology transfer agreement, as well as an acquisition and cross-servicing agreement. Further, Japan has entered into regular security discussions with Italy and Poland; a maritime security dialogue with Portugal; a Memorandum of Understanding (MoU) with Spain on defense cooperation and peacekeeping;

and finally, Japan is a partner of the North Atlantic Treaty Organization (NATO). For all these emerging security relations between Japan and Europe, however, it is unlikely that they will rise to anything more than niche technology development deals in areas such as missile defense, logistical arrangements, and commitments to freedom of navigation in the maritime and, possibly, space domains.

European security interests, and therefore the prospects for meaningful defense cooperation with Japan, will unlikely extend beyond the western Indian Ocean and Arabian Gulf. Certainly, these geostrategic interests open up the possibility for cooperation between European navies and the Japanese Maritime Self-Defense Forces (JMSDF) on counter-piracy missions off the Horn of Africa, as well as space-based Maritime Domain Awareness (MDA) data exchanges and sharing. The core defense considerations, however, of the JMSDF in the Western Pacific, South East Asia, and the eastern Indian Ocean are not likely to be shared by European defense establishments beyond diplomatic support for the principles of freedom of navigation.

The rise of China, and to a lesser extent the emergence of a revanchist Russia, are beginning to recast the pattern of economic relations between the great powers as well as reshaping the strategic perspectives of geopolitical worldviews. This is especially the case for Europe and Japan, with the former seeing China as a potential balancer of revanchist Russia, and the latter seeing Russia as a potential balancer of China. These diverging, albeit slow-moving, geopolitical worldviews will likely complicate and change relations between Japan and Europe in the coming decades. Some aspects of the set of relationships will likely remain constant, especially in the economic sphere. Others, such as trade in defense systems, and national security will likely diverge or change in character as the relationships change.

For national security space cooperation, Japanese and European satellite and component manufacturers have created integrated and interdependent supply chains. On any given European or Japanese manufactured satellite critical components from both space industrial bases will be on-board. Further, both Japan and Europe share identical views on the creation of a norms-based regime in space that would mitigate unsafe and belligerent behavior in space. For hard security issues, however, and barring a fundamental reversal of current geopolitical trends, it is hard to envision any meaningful cooperation on national security space beyond general dialogues, threat intelligence sharing, or a U.S.-led initiative that can square the circle on differences in Japanese and

European security contexts.

It should be noted, however, that despite these differences and limitations in potential cooperation between Japan and Europe, there is a great deal that Japanese and European policy makers can do to further cooperation as well as prevent the worst potential fallout as worldviews inevitably diverge. To that end, I now turn to potential areas of cooperation in detail.

Diplomatic Cooperation

Japanese and European policy makers share common interests in establishing norms-based regime in outer space to create a secure and sustainable space domain for broad exploitation. There is also common interest in promoting the principles of freedom of navigation in the maritime, international airspace, and space domains.

The proposed International Code of Conduct for Outer Space Activities, proposed by the European Union (EU), is an impressive example of how Japanese and European policy makers have worked together to achieve a common interest through diplomatic means. A diplomatic process and contact group has operated seamlessly over the past several years involving officials not just from Tokyo and selected European capitals, but also from the United States, Australia, and beyond. Unfortunately, the Code of Conduct's prospects have not looked promising lately due to criticism of the EU's promotion and handling of the diplomatic process among states that have yet to be convinced of it efficacy. In particular, it appears that the United States is losing faith in the EU's ability to deliver a politically and strategically acceptable version of the Code of Conduct.

The alternative to the Code of Conduct for the United States could be to engage directly with China and Russia in order to establish the space equivalent of Incidents at Sea (INCSEA) agreements. Given the current geopolitical difficulties between Washington, DC, and Moscow in particular, whether such an approach would be anymore successful than the EU-sponsored Code of Conduct is a debate worth having. This said, such an approach by the United States does open the question about the role of its Japanese and European partners. Certainly Tokyo, London, and Paris might act as intermediaries between the U.S. and its Russian and Chinese counterparts to some extent or another, but this would not address the larger issue of what possible interest would Japan and Europe have in promoting a diplomatic process in which they have no direct say and from which they would be indirect beneficiaries at best.

A partial alternative to this would be for Japanese and European official to let the U.S., Russia, and China negotiate, if possible, incidences in space agreements among themselves, but to then appropriate the Code of Conduct concept for themselves and take ownership for promoting it among so far neutral spacefaring states. Given the well-established process and contact group in place between Tokyo, European capitals, and Canberra, the opportunity exists for Japan, European states, and Australia to adopt the Code, as well as undertake a more coherent promotion of the Code of Conduct. Taking this approach has several advantages, not least given Japan's increasing soft power and economic influence among South East Asian states as well as with India. Using this influence, Tokyo could take a greater lead in persuading India and South East Asian states of the merits of the Code of Conduct.

For promoting the concept of Freedom of Navigation (FON), Japanese and European officials again share common interests, though there might be reasons to question the European commitment in the breach. Both European and Japanese trade is reliant upon unfettered access to the maritime domain, as well as on international air traffic management. Similarly, assured access to space and the ability to conduct safe and reliable space operations are important for Japanese and European security and economies. The threat to the principles of FON by Chinese activities in the South China Sea is testing this the European commitment to what until recently had been regarded as an academic concern. Tokyo has been consistent in its promotion and peaceful enforcement of FON in its immediate neighborhood, and has stood up to Chinese insistence that the South China Sea, as well as the Senkaku's in the East China Sea, constitute Chinese sovereign territorial waters and territory respectively. European capitals have been more than ready to make public their commitment to FON principles, especially when pressed by their Japanese counterparts, but seem less keen to raise the issue publicly when dealing with China. This is unfortunate, and it is hoped that Japanese officials privately and gently chide their European colleagues whenever possible on this issue.

Unless European officials start matching their public support for FON principles with diplomatic clout when it matters, Japan should have little confidence that Europe will similarly condemn threats against FON if China were to purposefully interfere with a Japanese satellite. So long as China's economic influence rises in importance for European capitals, commitment to FON principles whether they be in the maritime or space domains – and especially as the apply to relations between Japan and China – will likely be

symbolic rather than substantive.

Japanese officials can and should press their European colleagues to match their rhetoric with substance on these issues, and should certainly be willing to substantively respond should a European partner experience challenges to FON from, say, Russian interference. But so long as China's economic allure continues in the Europe, Japan should not expect anything beyond rhetorical support.

Industrial Cooperation

It has already been explained that the supply chains of the Japanese and European space industrial bases are highly integrated. This technical and commercial interdependence will act as a brake on any sudden geopolitical divergence between Japan and Europe, preventing the geographical dimension of the relationship from becoming a determining factor in the relationship. This said, however, supply chain interdependence is likely to become a reality for most, if not all, national space industrial bases.

Despite this, however, both Japan and Europe could do much together to further assure the security of their interdependent supply chains. This cooperation might involve joint audits and inspections of each other's and shared supply chains; agreed upon metrics and standards for supply chain security; and regular meetings between Japanese and European satellite industry experts to address these and other issues of concern.

Similarly, cooperation can also be developed to create common and best practices for the exchange of Maritime Domain Awareness and Space Situational Awareness (SSA) data; interoperability and capacity sharing of military satellite communications (MILSATCOM) capability; and even the exchange of satellite reconnaissance capability.

There is also the possibility of jointly developing and building a satellite (or satellites) that can meet common security goals such as for MDA, space-based SSA, or even MILSATCOM. The prospects for this, however, are slim due to the industrial policies of Japan and many European countries that make this kind of project more difficult than is perhaps necessary, as well as the real limitations on geographical extent of the security interests in both European capitals and in Tokyo.

Lastly, both Japan and Europe may benefit from being able to use each other's burgeoning commercial space sectors for technology, satellite data, and other applications in order to supplement existing national security space

capabilities, and generally enhance transparency of the space domain for greater overall security. For example, a number of companies now offer MDA, and even SSA, services that could be used by Japanese and European governments.

Hard Security Cooperation

It is very hard to envision substantive hard security cooperation in space between Japan and Europe, primarily because at present European hard security interests do not extend to North East Asia (and *vice versa*), but also because in the coming decades the common security principles that currently provide the basis for shared diplomatic-security goals are likely to diverge.

This said, there are areas where Japanese and European officials might engage in limited cooperation with each other, and these fall along the following areas: strategic dialogue; threat assessment intelligence, and defensive best practices.

First, Japan and European national security officials and experts should engage in regular strategic dialogues and exchanges of views about national security space, and space security in general, in order to keep each side apprised of worldviews, concerns, and possibilities for mutual interest. These dialogues should be held in privacy in order to encourage a greater frankness in the discussions so as not to create unnecessary controversy with third parties or among domestic constituencies.

Second, and as the strategic dialogues on space progress over time, both Japanese and European national security establishments should regularly meet to share views, data, and releasable intelligence on threat assessments in space. This proposal should be seen as serving two purposes, to include the immediate protection of space assets, but chiefly, sharing threat assessments can be used to further support and promote a revised Code of Conduct. It should be noted, though, that sharing threat assessments does not equate in shared approaches to dealing with such threats. For example, a growing number of European officials are beginning to concur with their U.S. counterparts that the space domain is becoming more challenging to operate in because of Chinese and Russian counterspace activities. While this is a welcome development for U.S. policymakers, it should not be expected that European institutions and governments will join U.S. efforts to overcome the counterspace threat. This is largely due to differences in budgets, organization, and the sense of urgency according to the strategic context each side perceives themselves to be in. Japanese and European cooperation will face these limitations as well.

Third, there is also the potential for cooperation between Japan and Europe on developing best practices and standards for passive space protection measures such as hardening satellites, encryption of up-down links, and anti-jamming technologies. This type of cooperation will be dependent upon the success of the proposed cooperative measures outlined above.

Lastly, a word on the potential for cooperation on national security space between Japan and NATO. The challenge here is that NATO does not deal with space issues as an institution beyond its operational use of the MILSATCOM capability provided by France, Italy, and the United Kingdom, and the use of commercial satellite imagery and SATCOM procured as necessary. Otherwise, there is no common NATO space policy, strategy, and doctrine, and at present there is little desire at the highest political levels of NATO to take on space. This is largely due to the perception among a majority of NATO member states that military space capabilities are either so sensitive that they are only shared on a case-by-case basis, or that it is something for the United States to worry about. A growing number of NATO member-states, however, are developing their own space capabilities and are increasingly concerned about the Russian counterspace threat. Further, since conducting combined operations in Afghanistan NATO has evolved an operational working relationship on space among its member states, and a few NATO agencies, such as the Joint Air Power Competency Centre (JAPCC) in Kalkar, Germany, are promoting the concept of a common NATO space policy, strategy, and doctrine. Until such a time that this transpires, Japan will continue to have to deal with its European counterparts on a bilateral basis.

Conclusion

Extrapolating from current geopolitical trends suggests, pessimistically, that Japanese and European cooperation on national security space and space security issues may bump against serious limitations in the coming decades. This author should be delighted to be proven wrong in this regard, and it is certainly the case that geopolitical trends, while certainly compelling, are not inevitable and can take strange and unexpected turns. It may turn out that Japanese-European cooperation might prove more durable than suggested here due to unforeseen perturbations. Similarly, the history of geopolitics suggests that matters might unravel far worse than even pessimists could predict. It should be remembered that throughout much of the 19th century Great Britain and the German states, followed by Imperial Germany, had established a close

strategic, economic, and cultural relationship that bares little resemblance to the acrimonious and tragic relationship that endured between the two countries throughout the first half of the twentieth century. This unraveling from special relationship to all-out war took a mere few decades to happen. While I certainly do not suggest that there is the possibility of war between Japan and Europe in the 21st century, I do suggest that there is nothing preordained about the relationship either and that policy makers on both sides of the Eurasian landmass should work consciously and diligently to maintain what has been without doubt a force for peace and prosperity over the past 70 years.

Given the range of diplomatic and technical common interests in national security space and space security, working together in the space domain seems like an ideal place to ramp up cooperation, while at the same time recognizing the real parameters of that cooperation.