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GNSS and World Trade Law: Playing by the Rules

Level playing field or national 'champions'? This article by two legal scholars examines the legal, economic, and political issues arising from the cross-currents caused by the requirements of international trade agreements and the inclination of nations to favor their own GNSS programs.

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The availability of several GNSSes promises advanced positioning, navigation, and timing services with higher availability and improved accuracy. According to a European GNSS Agency (GSA) market study, nearly 60 percent of receivers, chipsets, and modules already support at least two GNSS constellations, showing that multi-constellation is becoming a standard feature across all market segments. That development brings up questions of law and regulation that require careful handling by GNSS manufacturers, service providers, and policy makers.

To promote the interoperability and compatibility of all of the GNSSes, the United Nations established an intergovernmental forum in 2005: the International Committee on Global Navigation Satellite Systems (ICG). (See the sidebar, "How the ICG Works," for a further description of this group's structure and operation.)

In addition to this informal multilateral collaboration, system providers have concluded a significant number of bilateral agreements, establishing cooperation on aspects such as radio spectrum, scientific research and training, industrial manufacturing, service and market development, trade, standards, certification, regional integrity monitoring, and security. (See the sidebar, "Bilateral GNSS Agreements," for further details on some of these.)

Besides this international framework for cooperation, system providers have adopted several measures to promote the use of their respective systems at the national and international level. While receivers, chipsets, and modules in principle can support all available constellations, it is generally expected that most of these products will only receive signals from two constellations, with GPS remaining the global standard system in use. Galileo (European Union/European Space Agency), GLONASS (Russia), and BeiDou (also known as Compass, China) are therefore all striving to become the second GNSS system of choice.

In addition to strategic and security aspects, the promotion of GNSS has important industrial policy implications, given the size of global GNSS markets, their predicted growth rates for the upcoming years, the numerous interdependencies with other industry sectors, and the overall societal and economic benefits of GNSS.

Legislation is one means to promote the use of a specific GNSS at the national or, in the case of Europe, at regional lev-

els. This may be broadly applied for such public regulated services as toll collect systems, transport of dangerous goods, intelligent transport systems, emergency call systems, location-based services, and numerous other applications.

For example, the European Parliament recently approved the eCall Regulation that requires all receivers in 112-based eCall in-vehicle systems to be compatible with Galileo and the European Geostationary Navigation Overlay Service (EGNOS), a satellite-based augmentation system (SBAS) for GNSS.

In addition to legislation mandating the use of a specific system, national industry may also be supported by technical standards, certification requirements, or by restricting participation in public procurement procedures.

Of course, none of these measures take place in a legal vacuum.

Indeed, the four major GNSS players are members of the World Trade Organization (WTO), which was established in 1994 to reduce tariff and non-tariff trade barriers and to eliminate discriminatory treatment in international trade. The need to uphold existing commitments under the WTO agreements is one of the key features of the historic GPS-Galileo Agreement signed by the United States and European Union (EU) in 2004.

Yet, measures designed to promote a specific GNSS constellation may not be in line with the obligations stemming from WTO agreements.

GNSS and the WTO

The potential conflict of WTO provisions and efforts to promote a specific GNSS system was raised by the United States last November during a meeting of the ICG Providers Forum, currently co-chaired by China and the European Union. At that meeting, the U.S. representative noted that the U.S. National Space Policy encourages open market access, and that bilateral discussions in this regard have been held with Japan and the EU.

System-specific equipage mandates by GNSS providers is an area of concern for the United States and other nations, as they may not be consistent with WTO commitments. The U.S. government would prefer technology-neutral, performance-based standards, which allow manufacturers and users to identify the optimal means for meeting regulatory requirements.

The United States requested that the ICG Providers Forum add GNSS market access to its future agenda for discussion and consider developing a new principle

How the ICG Works

The tasks of the United Nations-backed International Committee on GNSS are organized through four working groups, which focus on compatibility and interoperability (Working Group A); enhancement of the performance of GNSS services (Working Group B); information dissemination and capacity-building (Working Group C); and reference frames, timing and applications (Working Group D).

In addition, the ICG Providers' Forum, established in 2007, provides ways and means of promoting collaboration among system providers on key technical issues and operational concepts, such as protection of the frequency spectrum allocated to GNSS.

During the 2014 general meeting last November in Prague, participants adopted a vision statement saying the ICG "strives to encourage and facilitate compatibility, interoperability and transparency between all the satellite navigation systems, to promote and protect the use of their open service applications and thereby benefit the global community. Our vision is to ensure the best satellite-based positioning, navigation and timing for peaceful uses for everybody, anywhere, any time."

In a Resolution adopted in December 2014, the UN General Assembly noted with satisfaction the continuous progress made by the ICG towards achieving compatibility and interoperability among global and regional space-based positioning, navigation and timing systems and in the promotion of the use of global navigation satellite systems and their integration into national infrastructure, particularly in developing countries.

ICG-10, the 2015 general meeting, will be hosted by the U.S. State Department and organized by the University Corporation for Atmospheric Research (UCAR). It takes place in Boulder, Colorado, on November 1–6.

ICG web page: http://www.unoosa.org/oosa/en/ourwork/icg/icg.html

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on market access for adoption. That discussion was reported in industry newspapers and magazines such as *Inside GNSS, Space News,* and *GPS World*.

It was not the first time that the United States criticized market access restrictions affecting its own GPS industry, namely concerning measures proposed within the European Union. In a Joint Explanatory Statement accompanying the Omnibus Appropriations Act of 2009 (Public Law 111-008), the U.S. Congress requested the Office of the U.S. Trade Representative (USTR) to report on the status of American industry access to the Galileo program and European markets for related goods and services.

The subsequent USTR report raised concerns regarding a lack of information on how to get licenses for products and how to protect intellectual property rights derived from the Galileo Open Service Interface Control Document (OS ICD), on unequal access to signal test equipment for the Galileo Open Service, and on a lack of information regarding the other planned Galileo services.

On the other hand, the United States itself has recently been criticized for regulations applied by the Federal Communications Commission (FCC) requiring receive-only equipment using signals from non-U.S. GNSS constellations to be licensed.

GNSS and the GATS Services

One of the most relevant agreements concluded under the WTO that has consequences for GNSS is the General Agreement on Trade in Services (GATS), which covers all measures by WTO members that affect trade in services.

For the purpose of the GATS, "services" is broad enough to encompass GNSS. Moreover, since GNSS constitutes an essential part of many services covered by GATS — such as surveying, transport, telecommunications, and finance — it follows that measures concerning satellite navigation technology necessarily affect trade in these other services, thus falling within the scope of the agreement.

Turning to the restraints placed by the GATS on GNSS players, three groups of provisions are particularly relevant. These are the principle of national treatment, the Most Favored Nation (MFN) clause, and the rules on domestic regulation.

The national treatment principle requires WTO members not to discriminate between domestic services and service suppliers and similar foreign services and services suppliers.

The MFN clause implies that WTO members cannot treat services and service suppliers of one WTO member more favorably than those of another member. In practice, MFN treatment may prevent bilateral arrangements based on the principle of reciprocity: if a WTO member grants preferential treatment to the services or service suppliers of one WTO member, it must immediately and unconditionally extend that treatment to other WTO members, including those with which no reciprocal arrangements are in place.

Finally, the rules on domestic regulation prohibit WTO members from enacting regulatory schemes or licensing requirements that are "more burdensome than necessary to ensure the quality of the service."

The GATS, however, leaves WTO members significant leeway to tailor trade disciplines to their individual needs. Indeed, the GATS rules on national treatment and domestic regulation only apply to the service sectors included in a given WTO member's schedule of specific commitments. These may or may not include some of the services that rely on GNSS technology.

Similarly, the MFN clause — Article II of the GATS — does not apply to sectors where members have scheduled an exemption. Moreover, even in sectors where WTO members have undertaken commitments, the GATS does not apply to services provided in the exercise of governmental authority. This derogation of the MFN principle might very well come into play in view of the governance of GNSS operations and related national security concerns. By the same token, the GATS expressly does not prevent WTO members from adopting measures that are necessary to pursue public-interest goals such as national security, public health, safety, and other public interest goals.

Turning to trade in goods incorpo-

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rating GNSS technology, three other WTO agreements come into play: the General Agreement on Tariffs and Trade (GATT), the Agreement on Technical Barriers to Trade (TBT) and the Information Technology Agreement (ITA).

The GATT requires WTO members to extend treatment of customs duties to all other members on a MFN basis (i.e., without distinction). GNSS products falling within the scope of the ITA, moreover, benefit from total exemption from custom duties.

Turning to potential technical barriers, the TBT requires WTO members to ensure that such regulations are drafted in non-discriminatory terms. Furthermore, under the TBT, if non-discriminatory technical regulations do not reflect an international standard, they must not impose "unnecessary obstacles to international trade."

As with the GATS, the GATT and the TBT also contain exceptions. The former sets out security exceptions as well as general exceptions for measures pursuing public interest goals. The TBT, by the same token, allows non-discriminatory technical regulations that pursue "legitimate objectives." These include national security, prevention of deceptive practices, and the protection of human health or safety, animal or plant life or health or the environment.

When it comes to procurement of GNSS systems and technology, another WTO agreement comes into play. The revised Agreement on Government Procurement (GPA) mandates that, with respect to all laws, regulations, procedures and practices regarding government procurement, its parties must

Bilateral GNSS Agreements

The European Union has signed bilateral agreements on GNSS with Morocco, South Korea, Ukraine, Israel and China, among others.

The United States has concluded similar types of agreements with Australia, China, India, Japan, Russia, and others.

Probably the most extensive of these is the cooperative relationship established between the United States and the European Union under the terms of the 2004 Agreement on the Promotion, Provision and Use of Galileo and GPS Satellite-Based Navigation Systems and Related Applications (the "GPS-Galileo Agreement").

Under Article 5 of this agreement, the two parties agreed "to consult with each other before establishing (1), directly or indirectly (such as through a regional organization), design or performance standards, certification requirements, licensing requirements, technical regulations or similar requirements applicable to civil satellite-based navigation and timing signals or services, augmentations, value-added services, global navigation and timing equipment, civil satellite-based navigation and timing signals or service providers, or value-added service providers; or (2) measures that have the effect, directly or indirectly, of mandating the use of any civil satellite-based navigation and timing signals or services, value-added service, augmentation, or global navigation and timing equipment within its respective territory (unless the mandating of such use is expressly authorized by ICAO [the International Civil Aviation Organization] or IMO [the International Maritime Organization])."

The GPS-Galileo Agreement includes provisions for a "non-discriminatory approach" with respect to trade in civil satellite navigation and timing-related goods and services.

The agreement establishes several working groups, including a working group on trade and civil applications (Working Group B) to consider non-discrimination and other trade-related issues concerning civil satellite-based navigation and timing signals or services, augmentations, value-added services, and global navigation and timing goods.

not discriminate against and between foreign goods, services, and suppliers.

Furthermore, the GPA stipulates that technical specifications laying down the characteristics of the products or services to be procured must not create "unnecessary obstacles to international trade." In particular, the specifications must be drafted in terms of performance rather than design or descriptive characteristics, must be based on international (or national) technical standards, and must not refer to a particular trade name, patent, design or type.

However, GPA obligations have broad carve-outs.

First, they do not apply to Russia, which has not yet ratified the GPA. Second, the GPA only applies to procurement by the public entities specified by each party. In the case of the EU, for instance, purchases by the European Commission are covered, but other European agencies — including the GSA — are not.

Second, the act applies only to procurement of products and services listed in each party's schedule. The EU goods schedule, in particular, expressly excludes "telecommunication equipment" and "transmission apparatus" from the reach of the GPA.

Third, as with other WTO agreements, the GPA contains an exception clause allowing its parties to adopt measures necessary to protect public morals, order or safety; human, animal, or plant life or health; and intellectual property.

GNSS and the law

The WTO law clearly places constraints on GNSS players in the regulation and procurement of GNSS. At the same time, WTO agreements just as clearly contain a number of exceptions and carve-outs, enabling GNSS players to adopt regulatory schemes pursuing national security and other public interest goals. Accordingly, measures designed to promote a specific GNSS constellation may fall within the mischief of WTO law, but may just as well be compatible with WTO agreements if framed to fit in one of their carve-outs.

It follows that GNSS players should carefully assess compliance of their existing and prospective regulatory measures with WTO law. Otherwise, other WTO members could file a complaint with the WTO Dispute Resolution Body. WTO proceedings arising from such complaints could result in economic sanctions, such as the revocation of trade concessions by other members (retaliation) or the duty to further open up the relevant markets to foreign competition (compensation).

GNSS players should also look at competitors' GNSS regulations and procurement practices to see if they comply with WTO law. If not, they can request those players to open up their markets by repealing or amending regulations and practices at variance with WTO law.

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