The Intellectual Property Rights Regime for the Development Phase of Galileo

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Abstract

The European Union is increasingly aware of the strategic, political and economic importance of space activities. Despite the early absence of an explicit competence in such domain, the European Commission started at the end of the 1990s to carry on two space-related flagship programmes: Galileo, the upcoming European global navigation satellite system, and GMES/Copernicus, a complex set of structures aimed at achieving autonomous, multi-level operational Earth observation capacity.
The great complexity of these programmes requests the involvement of a high number of entities – such as the European Space Agency, the National Space Agencies and companies from the European space industry – and the implementation of a clear and comprehensive legal framework.
Being the owner of the programmes, the European Union is the entity principally responsible for the deployment of such legal framework, both for the development and the exploitation phase of the programmes.
One of the most relevant legal issues in the current development phase is the management of the intellectual property rights (IPR) regime among the involved entities. According to the main principle, provided for Galileo by Art. 6 of Regulation (EU) No. 1285/2013 and for Copernicus by Art. 28 of Regulation (EU) No. 377/2014, the Union is the owner of all tangible and intangible assets created or developed under the programmes. Given the complexity of the contractual relations and of the economic interests involved, the aim of the paper is to point out the legal issues that might arise from this construction, such as the potential conflict with the ESA procurement rules specific to IPR and the consequences of such conflict on the contractual relations with third parties.

I. Introduction

After having been dependant on the United-States and their GPS-constellation, Europe started developing a global navigation satellites system (GNSS) providing a highly accurate, guaranteed global positioning service

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under civilian control,[1] called Galileo. The already existing European Geostationary Navigation Overlay System (EGNOS)[2] monitors and corrects signals of existing GNSS, but is thus per definition extremely bound by the availability of these signals; whereas the Galileo constellation's aim is to provide its own signals in five different types,[3] on top of ensuring interoperability with the American GPS and the Russian GLONASS.[4]

The Galileo programme was initiated by the European Union (EU) and the European Space Agency (ESA) with an official common agreement dated 26th May 2003 and is divided in different phases: definition, development, validation (IOV), deployment (FOC) and exploitation. Galileo constitutes of a constellation of 30 satellites in Medium Earth Orbit (MEO) at an altitude of 23 222 kilometres.[5]

Throughout the several phases of the programme, different procurement rules apply. The three first steps (definition, development and validation) being considered together as the development phase in its broad definition have been co-financed by the EU and ESA. The Agency received a mandate from the EU to place the contracts of this phase with industry, but using special procurement rules of ESA. Starting from the FOC phase, the activity is exclusively financed by the EU. For this last phase it has been decided that the EU procurement rules apply,[6] i.e. the EU Regulation on public procurement.[7]

To keep the article short and understandable, we made the choice to focus on the IPR issues in the Galileo programme, pointing out the several potential issues at stake with this unique IPR scheme.

II. The Opposite Rationale of the EU Procurement and the ESA Procurement for IPRs

As ESA is an independent intergovernmental organisation, despite the potential confusion brought by its denomination (ESA is not an EU body), it has its

1 www.esa.int/Our_Activities/Navigation/The_future_-_Galileo/What_is_Galileo.
2 www.esa.int/Our_Activities/Navigation/The_present_-_EGNOS/What_is_EGNOS.
3 Article 1 and Annex of the Regulation (EC) 683/2008 of the European Parliament and of the Council of the 9th July 2008 on the further implementation of the European satellite navigation programmes (EGNOS and Galileo), OJ L 196 of 24th July 2008, p. 1.
4 www.esa.int/Our_Activities/Navigation/The_future_-_Galileo/What_is_Galileo.
5 www.esa.int/Our_Activities/Navigation/The_future__Galileo/Galileo_a_constellation_of_30_navigation_satellites.
6 Article 6 of the Regulation (EU) No 1285/2013 of the European Parliament and of the Council of the 11th December 2013 on the implementation and the exploitation of the European satellite navigation systems.
7 Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC.

own Procurement Regulations[8] defining ESA's procurement processes and principles and reflecting the principles established by the ESA Convention. Moreover, ESA settled a booklet of clauses applicable to all contracts ESA places with industry or other public partners. These General Clauses and Conditions for ESA Contracts[9] have one dedicated Chapter on intellectual property rights (IPR).[10] This Part II is organised in two sub-parties, one applying to the R&D Contracts (option A) representing the general applicable regime to IPR for ESA Contracts, and the other sub-party (option B) ruling partly ESA funded contracts.

Of course, ESA had to adapt its rules to the very particular market in the space sector. Therefore ESA can choose to make a restrictive call for Tenderer rather than going for an open competition, which in other words means that ESA can restrict from the very beginning of the issuing of the call some Tenderers, but has still the duty to ensure fair competition.

Moreover, procurement activities at ESA are ruled by the geographical return, meaning in simple words that the percentage of contracts placed in a Member State participating in the programme shall reflect the financial contribution to the specific programme of that State. This results sometimes in restrictive competition due to national consideration. It is, for ESA, not unusual practices to state in the call for tenderer that only companies from determined States can response.

In summer 2012, ESA placed a contract with the company Orolia, a group created in 2006 issued of a spin-off of the group Temex, to procure for an approximately amount of 20 Million Euros an atomic clock needed on each satellite of the Galileo constellation.

> "Galileo's highly-accurate clocks are at the heart of the system. Each satellite emits a signal containing the time it was transmitted and the satellite's orbital position. Because the speed of light is known, the time it takes for the signal to reach a ground-based receiver can be used to calculate the distance from the satellite."[11]

The IPR issue arising of the development of the atomic clock recalls the highly sensitive technology which is behind. IPRs are a possibility for companies to protect their knowledge and prevent the concurrent company to steel, develop and sell the other's invention. But IPR in fact represent for the company a real

8 ESA Procurement Regulations and related Implementing Instructions, ESA/REG/001, rev. 3, Paris, 20th December 2012.

9 General Clauses and Conditions for ESA Contracts, ESA/REG/002, rev.2.

10 Part II Conditions concerning Intellectual Property Rights for ESA study, Research and Development Contracts, General Clauses and Conditions for ESA Contracts, ESA/REG/002, rev.2.

11 www.esa.int/Our_Activities/Navigation/The_future_-_Galileo/Galileo_s_clocks.

business tool. The registration of an IPR is only considered if it can bring in return revenues through the licencing.[12]

ESA's general rule is to make the Contractor the owner of the IPR it has produced as part of the work performed under a Contract,[13] as ESA is not a company and has no intend to make profit of IPR. This means that the Contractor can chose to register them or not.[14] In the case the Contractor would chose not to do so, the company still needs to inform the Agency as in this case ESA could decide to register this IPR. The Contractor should however grant a free licence with the right to sub-licence on the use to the Agency for any IPR developed under an ESA Contract,[15] as ESA is paying for the procurement.

The EU regulation on public procurement is an integral part of the common market (meaning principle of free movement of goods, of establishment, the freedom to provide services and the principle of mutual recognition[16]) and is aimed to eliminate non-tariff barriers. This main objective of the EU is justified by the economic reasons of liberalization, integration and competition of markets from the Member States.[17] Regarding specifically the procurement processes and the related IPR regime, the EU is the owner of the IPR developed under EU-contracts.[18] This means practically speaking for Orolia that its registered technology developed under the Galileo contract on the atomic clock can be transferred to competitors in case the EU chooses a competitor for the resupply and not Orolia.

Even though ESA is only partly and indirectly bound by the EU procurement and financial rules, these rules become of high importance for co-funded (EU – ESA) programmes, as it is the case for Galileo.

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12 www.wipo.int/edocs/mdocs/arab/en/wipo_ip_mct_apr_04/wipo_ip_mct_apr_04_5.pdf.

13 Clause 39 General Clauses and Conditions for ESA Contracts, ESA/REG/002, rev.2.

14 Clause 39.1 General Clauses and Conditions for ESA Contracts, ESA/REG/002, rev.2.

15 Clause 40.3 General Clauses and Conditions for ESA Contracts, ESA/REG/002, rev.2.

16 Hobe S., Hofmannova M., Wouters J., A coherent European Procurement Law and Policy for the Space Sector, Towards a Third Way, Cologne Studies in International and European Law, vol. 22, Berlin 2011, p. 108-112.

17 Hoffmann H., Turk A., Legal challenges in EU Administrative Law: Towards an integrated administration, Edward Elgar Publishing, January 2009, p. 288; Trionfetti F., Public Procurement, Market Integration and Income Inequalities, Review of International Economics, 9 (1), 29-41, 2001, p. 1.

18 I.e. Article 6 Regulation (EU) No 1285/2013 of the European Parliament and of the Council of 11 December 2013 on the implementation and exploitation of European satellite navigation systems.

III. The Galileo IPR System and Issues at Stake

Thirty satellites will constitute de Galileo constellation. OHB, a German company, has been awarded the contract for at least 22 satellites[19] – Thales Alenia Space procured the four satellites of the in-orbit validation (IOV).[20] On each of the satellites, one atomic clock must be part of the payload.

Once the full-operational capability achieved, even the satellites built by Thales Alenia Space will be the property of the EU. For good operational reasons it could be assumed that the EU will need elements, at least an overview on the work performed during the development phase procured through ESA contracts.

The prevailing rule is that the EU is the owner of all IPR registered on work performed under Galileo Contracts (development phase and exploitation phase). Thus the development contracts foresee a transfer of all IPR to the EU at, in general, the end of the contract or on the date of the launch, for flying items. This scheme has been put in place to ensure the interests of the future Galileo Service Provider(s). In fact, the Providers should have an unlimited access to the IPRs produced under the Galileo contracts. With the actual scheme this could be guaranteed as the EU is the owner of the IPRs. Moreover, the EU wanted to avoid the technology developed and registered through IPRs to be uncontrolled exportable out of the EU which can only been avoided by having an exclusive control over them.

This IPR scheme between the actors involved in the Galileo programme is as of today unique and raises some fundamental issues.

EU rules related to IPR are motivated by EU willingness to guarantee and ensure re-supply of all or parts of a satellite through competition (e.g. for completion of the constellation or for the management of obsolescence). Implementing competition implies to be able to transmit the related IPR to all potential re-suppliers, regardless of the initial supplier, as it would be the case in the ESA system. It is true that once the last of the thirty satellites of the Galileo constellation launched, the first one will already have to be replaced as they have an approximately lifetime of 6 years – the resupply is this a very current issue.

Nevertheless, as said previously, IPRs are a business tool with which companies ensure investments. They have *per se* a commercial aim for the company. This goal is however therefore at stake with the situation in Galileo programme, as companies won't be able to make use of the IPR and therefore to generate revenues out of those IPR. Therefore, here, the IPR principles are biased and the ESA scheme would have been better suitable. This is even truer considering that nothing prevents the EU to address open competition for the re-supply of

19 https://www.ohb-system.de/galileo.html.

20 https://www.thalesgroup.com/fr/node/25851.

the satellites and leave it to the bidding companies to organise among them the IPRs through licences.
Moreover, no future exploitation of the protected items can really been expected for the EU, as only very limited IPR has been registered (i.e. the signal in space shapes). This results also from what has been said before: the IPR regime chosen for the Galileo Programme does not encourage companies to register their IPR developed through the work performed under the Galileo Contracts as at the end of the day EU is the owner and could licence their developed technologies to competitors on the market.
Also, one rationale of the EU by choosing this IPR scheme was to ensure that the high sensitive technology would not be uncontrolled exported outside the EU. In fact, the protected items could potentially be bought by non EU Member States and could then been copied; or transferred to a non-EU Member State should an EU company be merged with a non-EU company. The EU absolutely wanted to avoid being blocked by ITAR restrictions, should an EU company be merged with an American one. This reflection is however abusing and biasing the initial aim of IPR to implement export control for which dedicated rules exist. In any case, mergers or acquisition do not impact IPRs as the IPRs are excluded from the scope and continue to be protected as they used to be.

IV. Conclusion

This having been said, as a concluding remark it could been pointed out that with such a scheme companies are not benefiting from the revenues associated to invention they are generating and may be incited to use already existing technologies rather to be supported in innovating.
For sure, the intellectual property rights issue is one of the most crucial for this programme, due to the involvement of many actors, and due to the high complexity of the project where the responsibilities and roles seem sometimes confusing.