

The image is a composite. The upper portion shows a satellite in space, with a large, rectangular, blue-painted structure and a prominent gold-colored parabolic dish antenna. The background is the Earth from space, showing blue oceans and white clouds. The lower portion shows a person in a cleanroom environment, wearing a blue protective suit, a white face mask, and blue gloves. The person is working on a complex, multi-layered circuit board with numerous components and wires. The overall theme is space technology and precision engineering.

# Intellectual Property Rights

– a New Regime in ESA Contracts

*Karl Eisermann & Christian Grafé*  
Procurement Department, Directorate of Resource  
Management, ESA, Paris



hts

**T**he ESA Convention contains the principles according to which the Agency enters into contracts. Article III of the Convention deals with information and data; in Paragraph 3 it states that “when placing contracts ... the Agency shall, with regard to the resulting inventions and technical data, secure such rights as may be appropriate for the protection of its interests, those of the Member States participating in the relevant programme, and those of persons and bodies under their jurisdiction. These rights shall include in particular the rights of access, of disclosure, and of use.” These principles were applied under the previous contract conditions (ESA/C/290, rev. 5) by the Agency agreeing that the contractor could own intellectual property rights in works developed under a contract with the Agency, but that – when required – a licence was to be granted free-of-charge to Member States and persons and bodies under their jurisdiction for their own requirements in the field of space research and technology and their space applications. The free licensing of intellectual property, which is not legally required by Article III.3 of the Convention, was aimed at encouraging the development of European space industry.

*This article discusses the rationale behind the new Part II of the General Clauses and Conditions, which deals specifically with intellectual property rights (ESA/C/290, rev. 6).*

## Background

The Agency's old contract conditions affording free-of-charge access to the intellectual property rights of the contractor to all companies belonging to an ESA Member State proved in practice to have a number of drawbacks. Firstly, they did not encourage the registration of intellectual property rights in contract works, which facilitates protection of the works and so is in both the contractor's and the Agency's best interests. Secondly, the old conditions did not encourage the exploitation of contract works. Experience showed that contractors needed a more privileged position in order to exploit intellectual property rights, given the highly competitive situation in the global marketplace.

The objectives of the new intellectual property clauses and conditions are therefore to encourage:

- (i) registration of intellectual property in contract works and so better protect the contractor's and the Agency's interests;
- (ii) exploitation of intellectual property in contract works and so help generate wealth and improve the competitive position of the Agency's contractors on the worldwide market, which is one of the industrial-policy objectives of the Agency according to Article VII of the Convention.

Based on an ESA Council Resolution entitled '*Rules Concerning Information, Data and Intellectual Property*' adopted on 19 December 2001 (ESA/C/CLV/Res. 4 (Final)), the new Part II of the General Clauses and Conditions for ESA Contracts was approved by the ESA Council on 8 October 2003. The new contractual conditions are the outcome of intensive consultations between Member States, Industry and ESA. Since 1 January 2004, they have been applied to all contracts relating to research and development in the field of space technology and its applications.

Part II of the General Clauses and Conditions now makes a clear distinction between '*fully funded contracts*' and '*partly funded contracts*'. For the first

category of contract, the general regime in Part II A of the General Clauses and Conditions is applicable. A contract is considered 'partly funded' where the Agency typically finances 50 percent of the development costs of the space research and development activity covered by the contract, and the contractor finances the rest. In that case, the special regime in Part II B of the General Clauses and Conditions applies.

### Fully Funded Contracts

#### ***Ownership of intellectual property rights created***

The Agency does not have as one of its primary objectives the ownership and exploitation of intellectual property rights. Therefore, as a general rule – as under the old regime – the contractor will own all intellectual property rights in the contract works and have the right to apply for registered intellectual property rights arising from work performed under the contract (clause 39.1). However, to encourage both the registration of intellectual property and exploitation, if the contractor fails to apply for registration, abandons or does not exploit the intellectual property, then the Agency may acquire the rights. There are some special rules that apply to 'open-source software' and 'operational software'.

#### ***Registration of intellectual property rights created***

The contractor must inform the Agency as soon as possible whether the results of the contract can be protected as registered intellectual property rights, and must state whether it intends to apply for such protection (clause 40.1). At the request of the contractor, to allow for the filing of applications, the Agency must treat these results as confidential for a period of 12 months. Once the application to register the intellectual property has been made, then the contractor must supply certain information, such as the application number, filing date and whether the application is being used as a basis for applications in other countries (clause 40.2).

If the contractor does not wish to apply for, or wishes to abandon registered intellectual property rights, it must again inform the Agency. There will be a consultation process and then the Agency may seek a third party interested in protecting and exploiting the rights. If the Agency finds a suitable third party, it can require the contractor to assign the rights necessary to apply for registered intellectual property rights or grant the third party a licence on the abandoned intellectual property rights on favourable terms (clause 40.4). If a third party cannot be found, ESA may require the contractor to assign the rights to the Agency free of charge (clause 40.5).

Software is a special case. In most countries, it is currently protected in the form of copyright (which does not require registration). In addition, the European Patent Office now grants patent protection for software. It accepts patent applications for the computer programs themselves, or as recorded on a 'carrier', provided the claim for the computer so programmed would not be rejected (i.e. the computer produces a new, inventive technical effect). Although patent protection is currently available, it may not be the most commercial method of protecting and exploiting the software. If the contractor considers that it is not appropriate and demonstrates to ESA why this is the case, then the Agency may have no need to enquire whether a third party would be interested in registering patent rights to protect the software. The legal situation may soon evolve as a result of an EC Council Directive on the patentability of computer-implemented inventions, which is currently under discussion. A changed legal environment may also lead in the future to adaptation of ESA's policy in respect to the patentability of software on the basis of clause 40.

#### ***Use of intellectual property created***

The contractor must make all intellectual property rights arising from work performed under the contract available under certain circumstances. The old system introduced an open licensing policy. It gave the Agency, Participating

States and persons and bodies under their jurisdiction, a free-of-charge licence to use intellectual property rights developed under a contract with the Agency for all space applications. Under the new rules, intellectual property rights arising from fully funded contracts are available:

*Rule 1*

- to the Agency, Participating States and any person or body under their jurisdiction on a free worldwide licence (with the right to grant sublicences) for the Agency's programmes (this rule is identical to the licence conditions under the old set of rules);

*Rule 2*

- to Participating States and any person or body under their jurisdiction to use, under favourable conditions, for a public programme in the field of space research and technology and their space applications (this rule is new);

*Rule 3*

- to academic and research institutions to use under a free licence without the right to grant sublicences for their own scientific purposes, providing the licence is not contrary to the contractor's legitimate commercial interests (this rule is new);

*Rule 4*

- to any third party at market conditions for purposes other than an Agency programme or a Participating State's space programme, providing the contractor agrees that the use is not contrary to its legitimate commercial interests (this rule is new).

The new licensing regime balances the interests of the Agency, Participating States, research organisations, the contractor and third parties seeking access to intellectual property rights. A key element of the licensing conditions is that the contractor can charge fees except for the use of its intellectual property rights in ESA programmes or for purely scientific purposes. The level of fees is tailored to the intended use of the rights. In addition, the

licensing regime protects the contractor by enabling it to invoke its legitimate commercial interests in the case of rights licensed for purposes other than those of an Agency programme or a Participating State's space programme. This 'legitimate commercial interest' right enables the contractor to block access by a third party to its intellectual property rights and allows an exclusive exploitation position in a particular market. This rule is intended to give effective support to the competitive position of the Agency's contractors.

***Encouragement to exploit***

The contractor must use its reasonable endeavours to exploit all intellectual property rights arising from work performed under the contract so as to promote space research and technology (clause 44.1). This requirement responds to a major shortcoming in the old system.

If the contractor does not intend to exploit or does not effectively exploit the intellectual property rights, it must notify the Agency within a period stipulated in the contract (clause 44.2). After such notification, the Agency will consult the contractor and investigate the reasons for the failure to exploit. Following this consultation, if the Agency is convinced that effective exploitation can be made and also finds a suitable third party, it can require the contractor to grant the third party a licence, on favourable terms, to the rights not effectively exploited. If it does not find a suitable third party to exploit such rights, it can require the contractor to assign such rights to ESA (clause 44.2). The ability of the Agency to require the contractor to assign rights should encourage exploitation.

Following the Agency's acceptance of work performed under a contract, the contractor must provide written reports (and updates if required) on the exploitation of intellectual property. The timing of these reports may be specified in the contract. The most appropriate timing will depend on the technology and the commercial environment. For instance, software often quickly becomes outdated, and so the time available to demonstrate that reasonable efforts have been made to

exploit it may be shorter than for other technologies. If no specific provision is made in the contract, a report has to be delivered to the Agency within 3 years and a second within 10 years of acceptance.

***Software***

Software may be supplied in 'object code' or 'source code' form and so requires special provisions. Software is initially created by writing a set of general functions to be carried out in a particular order. These are then expressed in a more precise format, which is a human-intelligible computer language. This human-intelligible form of the software is known as the 'source code', which is commonly used to maintain and modify the software. Source code may then be compiled or translated by special software into a machine-readable version called 'object code'. The object code gives the user little intelligible information, and so is usually a secure form for distribution to end-users.

*(i) Object code*

Software in object code form is available under the same conditions as any other technology. Intellectual property rights in the object code are owned by the contractor and made available as set out above in the section on 'Use of intellectual property created' (i.e. under Rule 1, 2, 3 or 4 - clause 42.1).

*(ii) Source code*

Source code enables the user to maintain and modify the software and is therefore a very sensitive issue. Industry therefore requested the Agency to establish a system that prevents its uncontrolled dissemination. On completion of the contract, the contractor has to deliver the source code to an 'escrow agent'. The latter keeps it confidential and secure and releases it to the Agency in the event that the contractor becomes insolvent, commits a breach of contract, or assigns the intellectual property rights protecting the software (clause 42.3). The last point is of particular relevance for the Agency since the contractor – as holder of the rights – may freely assign any intellectual property rights arising from work under the contract (clause 39.3).

If the Agency requires the source code to operate, integrate or validate software, or to maintain, update or modify software for use in an ESA programme, it may approach the contractor directly. The contractor may then choose to release the source code or require the escrow agent to release it to the Agency (clause 42.4).

*(iii) Special cases: operational and open-source software*

There are two special cases in which the Agency may own the intellectual property rights for software developed under a contract: these are for 'operational software' and 'open-source-code software'. In both cases, this will be clearly indicated in the Invitation to Tender.

The definition of operational software has been enlarged to take account of current practice at the Agency. It therefore covers software required for use on the ground to validate and control a space mission or to calibrate data from a space mission, and also software used in support of the general activities of the Agency, such as the ESTEC design and validation facilities or the Agency's financial-management software. It is essential for the Agency to be able to use such software in any way that it requires. This type of software will always be procured under a fully funded contract and, to ensure that it has the full freedom to use the software in the most effective way, the Agency will normally own all intellectual property rights (clause 42.8).

Open-source software according to clause 42.10 is software that the Agency wants to make freely available to members of the public even beyond the Member States. Since it is made available in the public interest and not for financial gain, it makes sense for the Agency to own all intellectual property rights. Such software will therefore be procured under a fully funded contract.

Article III.3 of the ESA Convention (read in conjunction with the other paragraphs of that article) lays down the rule that Agency-owned intellectual property rights derived from space-research activities must be freely accessible to Member States or their

industry. Since free access is confined to Agency-owned intellectual property rights resulting from a space-related activity, the software tools for the Agency's management or financial services (e.g. its financial-management software) are not freely available to Member States or European firms.

**Background intellectual property rights**

The use of a product, application or result of a contract may rely on the use of a product or intellectual property that the contractor has created for some other purpose. Any intellectual property the contractor has created under another contract with the Agency is always made available in accordance with that other contract (i.e. it will probably be made available under Rule 1, 2, 3 or 4 as described above). However, if the contractor owns intellectual property that was not developed under a contract with the Agency and is required to complete or use any product, application or result of the contract, then it is referred to as 'background intellectual property' (this may be contrasted with intellectual property created under the contract itself, often called 'foreground intellectual property').

There is a need to ensure access to background intellectual property for use in Agency programmes. Without it, the Agency may not be able to use some of the products or applications of ESA contracts. Therefore, the Agency is granted free access to background intellectual property for the project specified in the contract, but not for any other purpose (clause 43.4). In contrast, if any third party requires background intellectual property to use or modify a product of the contract for some other ESA project, the contractor has to grant a licence on market terms. However, the contractor can restrict licensing of its background intellectual property at market rates, by relying on its legitimate commercial interest (clause 43.4). Thus, the contractor's ability to exploit its intellectual property for certain markets is protected.

**Fees**

In some contracts, the contractor may have to pay the Agency a fee if the results of the contract are exploited. Fees are not payable in respect of exploitation within Participating States in the field of space applications. However, fees may be due for exploitation outside Participating States, or for non-space applications (clause 46.3).

The contract states if and when fees are payable. They may only be payable on exploitation within 10 years of the date of acceptance of work arising from the contract (clause 46.1). The upper limit for fees payable cannot exceed the total sum paid by the Agency for the rights exploited.

**Resupply**

The Agency may require a contractor to resupply identical products, applications or results of a contract for ESA programmes. A product, application or result that deviates from the original design or technical solution provided under the contract will be treated as a normal procurement for the purposes of resupply.

The original contractor will have the know-how and technology to resupply the identical product and so should be in the most commercially competitive position to resupply. The Agency will therefore initially enter into negotiations with the contractor, and the contractor may be requested to make an offer for resupply. If the Agency does not consider the contractor's proposed price fair and reasonable, or delivery cannot be made as required, then resupply may be put out to open (or restricted) tender. If another party is selected to resupply, the original contractor may be required to give assistance and will be remunerated for the assistance provided.

**Subcontractors**

Where the contractor requires the services of a subcontractor, it may enter into subcontracts with approved subcontractors (unless otherwise specified in the contract - clause 36.5).

One policy objective of the new conditions is to support not only prime contractors, but also subcontractors that undertake research and development for an

ESA contract. Therefore, each subcontract must give the subcontractor the same rights and obligations in relation to the work it produces as those the contractor has agreed to under the contract. Thus, the subcontractor alone will own the intellectual property rights in the work it produces, but will make those rights available to the Agency, Participating States and any person or body under their jurisdiction on the same basis as the prime contractor.

On some occasions, the contractor and a subcontractor may jointly produce work. In such cases both parties will agree to vest the intellectual property rights in the principal contributor to the development if that party is able and willing to exploit the rights (clause 36.5 (b)). The principal contributor will then license back the rights to the other party having contributed to the development. The scope of that licence is open to negotiation. Alternatively, the principal contributor may agree with the other party on appropriate financial compensation for the exclusive right to exploit the results of their joint work.

## Partly Funded Contracts

### General

The objectives that underpin fully funded contracts also largely apply to partly funded contracts, so that the majority of clauses applicable to fully funded contracts are retained for partly funded contracts. To avoid repetition, only the significant variations from fully funded contracts are outlined below.

### Ownership

As with fully funded contracts, the contractor will own all intellectual property rights, and has the right to apply for registered intellectual property rights arising from work performed under the contract (clause 53.1). However, since the contractor has contributed to the funding of the contract, it was not considered appropriate to give the Agency the ability to require the assignment of intellectual property if the contractor fails to register or abandons rights (cf. clause 39.2 for fully funded contracts).

Where the Agency requires operational software or open-source-code software, it will be procured through fully funded contracts, so that ownership of intellectual property rights in these products for partly funded contracts is not an issue.

### Use of intellectual property

To take account of a contractor's financial contribution to the creation of intellectual property rights arising from work performed under a partly funded contract, the conditions of access and use are substantially different from those applicable under fully funded contracts. Intellectual property arising from a partly funded contract is available:

#### Rule 5

– to the Agency on a free, worldwide licence for Agency programmes; this is considerably narrower in scope than the licence for the Agency's own requirements in fully funded contracts, which extends to Participating States, any person or body under their jurisdiction, and includes the right to grant sublicences;

#### Rule 6

– to Participating States and any person or body under their jurisdiction for Agency programmes on financial conditions that should compensate the parties that paid for development of the rights being licensed according to the levels of contribution made;

#### Rule 7

– to any third party on market conditions to use for purposes other than for Agency programmes, providing the use is not contrary to the contractor's legitimate commercial interests.

### Background intellectual property rights

The approach to accessing background intellectual property rights owned by the contractor is different from that for fully funded contracts. If the Agency requires background intellectual property rights owned by the contractor for the project specified in the contract, the contractor must grant the Agency an irrevocable

licence for the project on favourable conditions (clause 57.4). This contrasts with fully funded contracts where the licence is free.

### Fees

The contractor is not required to pay a fee to the Agency if it sells or licenses results of the contract. This may be contrasted with fully funded contracts, where a fee may be payable on exploitation outside Participating States and for non-space applications for 10 years from the date of acceptance.

## Conclusion

The new clauses and conditions dealing with intellectual property rights for ESA research and development contracts reflect a new policy concept. By replacing the open licensing policy and restricting third-party access to intellectual property rights developed under an Agency contract, they support the competitive position of the Agency's contractors on the world market. They further encourage the protection and exploitation of results generated by Agency-financed research and development activities. Exploitation by the contractor is highly desirable to ESA, because it can generate wealth and not only improve the contractor's competitive position, but also facilitate other companies' access to new technology on appropriate financial terms. 