

EARSC Views on the Procurement of the Copernicus Services

EARSC, the European Association of Remote Sensing Companies represents the Earth Observation geo-information services sector in Europe. Today EARSC has 75 members (64 full members and 11 observers), coming from 22 countries covering the full EO services value chain including commercial operators of EO satellites, resellers of data, value-adding companies, geospatial information suppliers, consultancies and EO system/software providers. The sector plays a key role in providing value-added, geo-spatial information to its customers in Europe and the world. In 2012, the revenue of the sector in Europe is €750m giving work to 5000 highly skilled employees and is growing at around 10% per annum. The sector is dominated by small and medium enterprises with over 90% of the companies having less than 50 and over 60% having less than 10 persons employed.

This paper reflects the views of the full members of EARSC which are commercial companies, coming from Member States in the EU or in ESA, providing services (including consultancy) or supplying equipment in the field of remote sensing or using EO data. EARSC observer members are informed and may have commented on the paper but are not necessarily endorsing its conclusions.

Summary:

The Copernicus programme has the defined goal to generate economic growth and jobs in the European, EO services, downstream sector. This will require efforts to ensure that European industry is well-placed firstly to deliver the Copernicus Services¹, so gathering the appropriate skills and competences, and secondly to exploit these in new markets for commercial and export customers. Only by exploiting and continuously developing the skills and competences in the private sector can the programme targets be met. However, industry is concerned that the procurement approach for the Copernicus Services will not fully enable this to happen and considers that, unless appropriate policies are put into place, the opportunity may be limited or even lost.

The nature and scale of the services to be procured are unlike any other procurement action in Europe. The mix of European scale and national interest will be a challenge to manage as will be the interests of the various stakeholders including industry. The European Commission intends to delegate procurement authority and budget to a number of distinct “Entrusted Entities”, all of which have a different set of skills, technical competences and budgetary situations. Without clear guidance and imposed rules, it seems unlikely that the private sector, and especially SME’s, will become fully engaged and able to grow the downstream business sector.

A first priority is to ensure that the procurement of the Copernicus services can take benefit from all European strengths; in both public and private sectors as well as in academia. Each actor has an appropriate role to play and by doing so can help deliver on the EU objectives. The rules by which Copernicus Services will be procured will have a strong influence over the exploitation potential of the programme. Without specific measures to enable companies to lead and to participate to the maximum extent possible in the supply of Copernicus services, the necessary skills and competences will not be available to allow industry to develop and access new markets.

Hence, we consider that measures still need to be taken to harmonise the procurement of Copernicus Services by the Entrusted Entities which will act under the responsibility of the European Commission. We are strongly concerned to see that the key arrangements, i.e. the delegation agreements and the framework through which they will operate, are appropriately defined to maximise the commercial service provision and fully enable commercial exploitation. We believe that a partnership approach with industry is necessary and we are fully ready to work to achieve this. In this paper, we address the issues and make some specific proposals for measures which should be taken to overcome the barriers.

¹ The term “Copernicus Services” is used in this paper to refer to those services which shall be procured by the EC through the Copernicus programme as defined in the Council regulation (6 “core” services). This is to differentiate from other information services derived from Copernicus data and/or information which shall be referred to as “Downstream Services”.

Introduction:

On 27th April, the Regulation establishing the Copernicus programme, was published in the Official Journal. Copernicus data and information² has the potential to make an important contribution to the “information society” in particular with policy to provide the Sentinel data and Copernicus information free of charge to all players, globally.

Indeed, the Regulation sets out as a goal to develop the European downstream sector³ as a means to create economic growth and employment. This is expressed both as an objective and as a measurement of the results:

Objective 1c: fostering the development of a competitive European space and services industry and maximising opportunities for European enterprises to develop and provide innovative Earth observation systems and services;

Measurement (results indicator) 3d: market penetration, including expansion of the existing markets and creation of new markets and competitiveness of the European downstream operators;

EARSC fully supports the goal to develop the “European space and services industry” but has some concerns on how it will be achieved. This paper is intended to discuss and consider measures to address these concerns.

The EO services market comprises a mix of both private and public organisations⁴, to an extent possibly not seen in any other domain. Competences exist throughout the value chain in both public agencies and in private companies. To maximise the economic benefits will demand that the delivery of the Copernicus Services is organised so as to utilise these competences in an effective and efficient way. The rules of procurement for the Copernicus Services will be the key to ensuring this.

Finding the right arrangement between the public sector, the private sector and academia is one of the key challenges addressed in this paper. We shall set out our understanding of the rules contained

² The Copernicus “information” is considered to be that which is generated by the Copernicus Services.

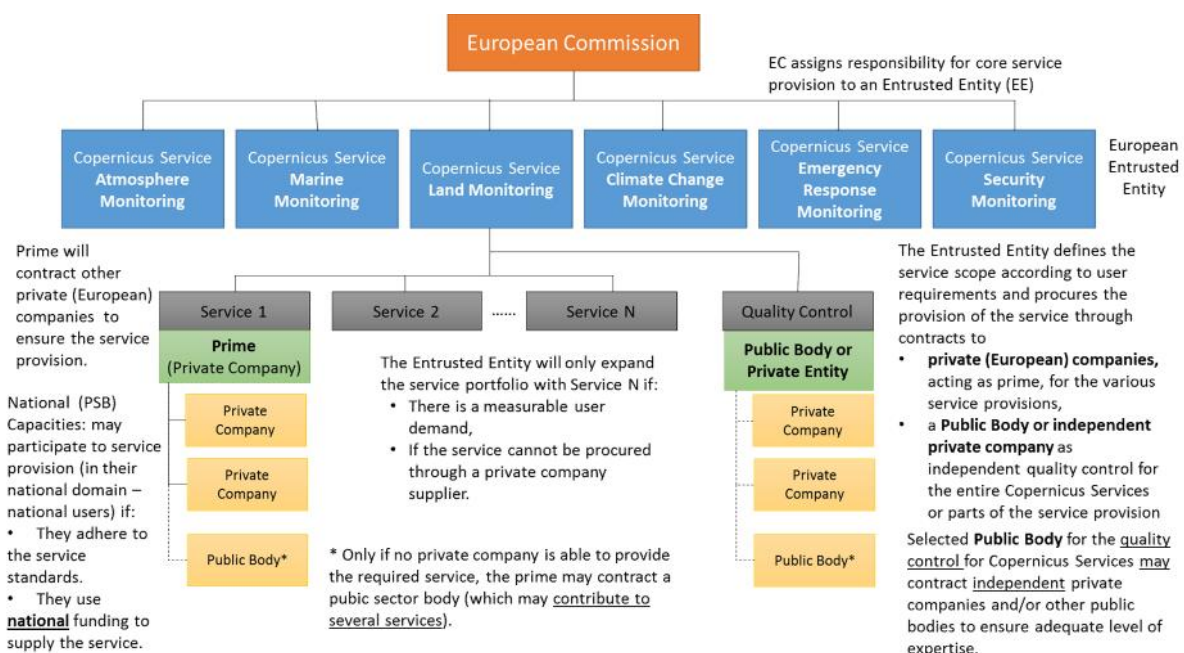
³ By downstream sector we cover all those companies which are delivering services based on EO data ie, satellite operators, data resellers, value-adding industry and geospatial service providers. There are some organisations of the private sector which span their business over multiple parts of this value-chain.

⁴ By public sector we refer to organisations with a medium to long term business plan which depends on sustained funding from government, i.e. the tax payer, and which are responsible for the delivery of key public information needs.

within the Regulation, consider some of the problems which could result and, finally, make some specific recommendations for measures to be taken.

Procurement of Copernicus Services

Our appreciation of the organisation for procuring Copernicus Services is shown in the figure below. Note that this is our understanding and contains some elements which industry should like to see included but which are not necessarily yet part of the baseline.⁵



The European Commission will delegate budget authority for the provision of the 6 Copernicus Services to a number of Entrusted Entities (EE's) through a delegation agreement. There may be more than one EE for each Copernicus Service.

Delegation involves management of public funds; industry does not expect to have this role which will be allocated to European, entrusted, public bodies ie public bodies at European (not national) level.

The EE will be responsible for procuring the defined services through a competitive⁶ tender process. At present, there is no distinction between whether the service should be supplied by a public or a private sector organisation ie to be the prime-contractor for the supply of the service.

⁵ *Public bodies may participate in the specific support of a company / team (ie transfer of technical competences) provided that national funding is not used in a way which distorts (international) competition.

⁶ Procurement should use the “negotiated approach” with prior publication of a contract notice.

The EE will be responsible for maintaining and expanding the list of services which it offers. Where new products or services are to be considered, the EE shall be responsible for developing a justification to the EC, including any budget implications.

Quality of services will be assured through an independent authority which could be a public or private organisation but is separate from any of the EE's.

Copernicus Services: Some Concerns

Copernicus, the second “flagship project” following Galileo, has already proven to be one of the most complex programmes undertaken by the European Union. The mix of players, policies, national interests and their interaction is a potent combination. Indeed, where Galileo has gone before, some of the lessons from this “first flagship project” can well be taken on-board for Copernicus.

The complexity of the arrangements for delivering Copernicus Services is unlike any previous programme for a number of reasons:

- Unlike most public procurements, the requirements are complex and demand a substantial technical appreciation. The use of agencies, or public bodies, as Entrusted Entities for service procurement will be necessary.
- However, no one agency covers the entire range of policy interests to be served by Copernicus and the use of several such organisations adds another level of complexity with each one potentially following or adapting its own existing rules and practices for procurement. This is especially true where the agencies proposed differ in nature, mandate and legal basis, i.e. European, national and international.
- The European level of services must fit within a framework where for some services, several Member States have already established national sources of information so that the responsible, national Public Sector Bodies (PSB's) should be involved in the service provision (similar to EEA Elonet).
- The distinction of roles between public sector bodies (including the EE's) and private suppliers is a difficult undertaking given the partially overlapping competences available in each. Specific measures will be necessary to clarify and manage this.
- Relationships established during the pre-operational phase of Copernicus will likely lead to similar arrangements during the operational phase. In some cases, teams comprised purely public sector bodies with no industrial involvement. Preserving this status quo will severely undermine the private sector capacity to build new business on the Copernicus programme.
- Services with a pan-European or global dimension require a strong collaboration amongst all players irrespective of national boundaries and interests.

- The mix of European and national competences (in the legal sense) for the policies to be served by the information coming from Copernicus Services will drive different models in the organisation of their supply.

The EEA procurement model is one which industry finds works quite well, addressing many of the above concerns and could be considered as a starting point to develop Copernicus-wide.

Based on this understanding, we consider that several issues should need to be addressed:

- When selecting Entrusted Entities, given the complexity of arranging relationships between partners in different Member States without undue political interference, we consider it a necessity that these should be at a European level of responsibility and governance. We are strongly concerned that national PSB's will favour national partnering policies resulting in market distortion and rendering the service provision as less than optimum.
- The procurement approach should be competitive whilst recognising the complexity of the services being procured. An "Open Competition procedure" which places undue weighting on price and does not adequately consider cost-benefit nor service sustainability, would be completely inappropriate for this type of information supply. It would prevent industry from preparing the team necessary to offer an efficient service and result in less than optimum services for the EU. The quality, capability and even the structure of the team (i.e. the level of participation of both industry widely and SME's) selected to deliver the service should be a primary consideration.⁷
- Maintaining a competitive environment: Services will be tendered through competition with contract durations of 3 to 5 years. The first selected teams⁸ which supply the services will clearly be in a favourable position to win subsequent contracts provided they perform adequately. It will be fundamental to ensuring best value for money that at least a second team will be able to respond to a competitive offer when the time arrives. This will require that measures are taken to maintain or even develop competences in other potential bidders. It will also require measures to ensure that any specific national capabilities are not able to distort competition, for example a single-source supplier could be available on an equally competitive basis to any team.
- Industry should lead the supply of services in order to maximise the possibility for commercial exploitation. PSB's will participate based on their core and unique competences (which may be

⁷ Due to the high cost to prepare adequate tenders, a restricted tender procedure with a foregoing prequalification phase should be considered. This would enable to select the most suitable offers/teams into a shortlist of 3-5 and hence limit the considerable expenses for bidders whilst pre-selecting the most capable teams. Further, a revised weighting of technical/financial criteria is strongly recommended in order to optimise the service quality and achieve better sustainability. As an example, for service contracts The World Bank applies ratios ranging from 90/10 to 70/30 with mostly 80/20.

⁸ In some cases, the same team which has been supplying pre-operational Copernicus Services is already in place and this issue of establishing or maintaining competition is already going to be a problem.

technical or political). It is necessary for the prime-contractor to master the whole value chain, i.e. supply chain, to deliver products and services. Note, this does not mean that the prime does everything or even has the possibility to do so, but they need to be able to understand the various supplier relationships and master these. Each supplier should be put into a position whereby they are able to independently address new existing or markets with Copernicus-derived products. This will include access to and use of any IPR as well as requiring that national organisations are open and ready to form partnerships with any European industrial prime.

- A clear and transparent definition must be published of the products which are included in each service. This will be necessary to ensure that procurement offers good value for money and that all suppliers will understand exactly what is covered. This will allow suppliers to understand exactly their commitments and other players to be innovative to develop new products and services without the fear that their efforts will be negated within the service supply chain. The EC should ensure an early consultation as well as regular “industry days” devoted to an open exchange on the services to be procured. Naturally, the existing players in the supply chain will quite possibly be in the best position to recognise the new opportunities.
- As services develop, new products will become available and/or required by public users / decision makers. Some of these may be available from or under development by a private sector supplier. The inclusion of any new product into a Copernicus Services should be considered based on a number of factors which include its commercial status. The EC must ensure that the (delegation) contracts with the Entrusted Entities require an evaluation of each new product and service which is considered and that this includes an analysis of the commercial perspective.
- The products and services delivered should be subject to an overall quality control. Whether on a service-by-service basis or at an overall core service level, overall responsibility for the quality of Copernicus services must be held within an Entrusted Entity which is not necessarily one of those charged with procuring any core Copernicus Service. Implementation of the control process in the hands of a suitable, private player, necessarily independent of any team responsible for the direct delivery of any of the services, would also enable this service to be commercialised. Sharing of knowledge and experience between the Entrusted Entities should also be a clear goal.

A new public-private partnership: all actors working together

The appropriate mix of public and private organisations in the supply chains for Copernicus Services can be a very strong factor for unlocking the economic value which we believe exists. The key will be to ensure that all parties play their appropriate role to the maximum extent possible.

- Academia and public bodies should continue R&D into new techniques and technologies and enable the knowledge transfer into both public and private players.

- Public bodies should fulfil their mission to supply core public information needs (in line with their thematic and geographic mandates).
- Private sector (industry) should take responsibility and risk in delivering Copernicus Services and accessing and developing new markets for geospatial information

The role of public bodies will be central to the procurement of services both as EE's and through participation in a supply chain. In both cases, their role will need to be defined as complementary to that of the industrial players coming together into the team or consortium.

Most of the Entrusted Entities will have some technical resources offering the capability to participate in the supply chain as well as being the procurement body. Industry recognises the difficulty which managing this potentially dual-role presents and it will be important to have clear boundaries between the two roles and to outsource the maximum amount possible. The European Commission shall need to ensure that the EE does not use its role to further develop its own competences at the expense of those in the private sector. Maybe targets can be set as a percentage of the budget for the EE to fulfil its core, budget-management and service-procurement role?

As a partner in a supply chain, the participation of some PSB's will be desirable and/or necessary for 2 reasons:

1. They have exclusive technical capabilities or access to specific data sets which are not available from any other commercial supplier.
2. They have a role within a Member State with a legislative mission which obliges services to be supplied through that body.

In our view, the services should be procured from an industrial team, with any public-body as a sub-contractor to the industrial prime. In particular, the participation of the PSB backed by national funding should not be permitted to distort the competitive environment. To avoid competitive restrictions, PSB's with the characteristics described above, must be open to partner with any team being formed and to do so in a non-preferential fashion irrespective of national boundaries. The EC will need to take some steps to ensure that this is the case.

Some public bodies are already charged with raising funds, in complement to national grants, which often leads to unfair competition and distorts the development of any commercial market. The principles of the EC PSI directive should be enforced to ensure data is openly available and existing measures used to ensure that national funds are not used to distort international competition.

Nevertheless it is clear that the mix of skills, knowledge, data and competences available in PSB's will be an essential contribution to deliver first class services for Copernicus. A partnership between public and private sectors is necessary and, through an appropriate procurement policy for Copernicus Services, we would hope that an effective and profitable collaboration can be achieved.

Recommendations:

In order to address the concerns, a number of specific measures are proposed:

- Many of the measures can be dealt with through the delegation agreement with the Entrusted Entity responsible to the EC for the procurement and delivery of the services. The delegation agreements should be fully transparent.
- Whilst the EE's will hold competitions to select their service providers, the competitive process including the evaluation should be overseen by the EC or an independent body. Experience gained through the process should be shared such that lessons learned during early procurement can be addressed in future tender rounds.
- The rules for procurement and the processes followed by all the EE's should be harmonised as far as possible so as to avoid lengthy and expensive, learning for each one. A complex and varied approach will act as a strong disincentive to SME's to participate to tenders and services supply.
- Procurement should appropriately consider cost-benefit and service sustainability requirements through dedicated emphasis on service quality rather than on pure cost. The technical quality of the offer including the composition of the team should be the primary consideration.
- Procurement should not necessarily demand 100% compliance with the specified requirements. The complexity and newness of the services will require discussion and tender negotiations on technical, service provision, commercial and legal aspects to arrive at the best solutions.
- The list of products and services to be procured by each EE will be agreed with the EC as part of the delegation agreement. As new products or services are developed and requested by public authorities, this list will need to be updated. An analysis will be provided by the EE to the EC for each new product which should mandatorily contain an assessment of the industrial capability to deliver such new products, the market impact of including it within a Copernicus Service and the proposed procurement approach. Once a new product or service is accepted to be included within the boundary of a Copernicus Service, then it should of course be put out to tender according to the agreed procurement rules.
- To help maintain a competitive environment, services should be broken down into several smaller blocks of products where it is technically and economically feasible (maybe through a cost-benefit assessment?) with limits on the number of blocks any one company is able to win.

- To maintain the possibility of full and fair competition, where a public body with critical or unique capabilities will participate within a supply chain, their bids should be lodged separately with the EE as well as with the teams in which they participate. It is recognised that their roles may differ between teams.
- As part of the performance measurement of the EE's, the level of industrial participation in all the service's provision should be measured. Figures could be published each year or after each tender takes place. The goal should be to maximise the industrial share especially amongst SME's and to have an industrial prime at the head of each service provision team.
- A specific body should be appointed to ensure consistent quality level of products supplied across all services. Their guidelines can be applied by the EE's. The evaluation and monitoring of individual services should be contracted out to an industry-led team with the appropriate knowledge and expertise and which should not be engaged in any service provision.
- To prepare future services, new and enhanced products should be regularly anticipated. A co-ordinated R&D effort should be envisaged bringing together the various resources of the EC and ESA as well as national efforts – possibly through an overall research road-map.
- In order that the EC can receive the best service quality for the budget available, industry will need long-term visibility of the procurement plans across all the EE's. Prime contractors will need to be given time to assemble an effective and competent team. An overall procurement plan should be maintained by the EC and regular briefings should be envisaged whereby industry (and indeed all actors) can understand the up-coming tenders.
- Guidelines should be put in place to ensure that the EE's do not try to internalise activities when there are evidently equivalent or better skills and capabilities in industry. Some specific areas to be considered are:
 - Service co-ordination – there is a risk that the different elements of a core service (e.g. in the Climate Change CS there are 4) get developed independently without overall architectural considerations. EEs should draw upon the significant experience in industry regarding architectural design and operational system implementation.
 - Building, integrating and deploying the necessary infrastructure (including IT platforms, baseline software, etc.)
 - Market development planning and activities with the private/downstream sector to develop associated markets (e.g. engaging with renewables, water sector, etc.) including exports.

A regular evaluation of the impact of Copernicus on the development of the European EO Services sector should be published.

We also consider that one or more expert groups need to be established to advise on the strategy and implementation of the Copernicus Services. Each must include adequate industrial representation to address the concerns considered in this paper as well as further issues that become apparent as the programme proceeds.

Conclusions

The European EO services industry is expecting to play a full role both in delivering the Copernicus services to the European public stakeholders as well as exploiting these on a wider stage in both commercial and export markets. To achieve this will require a co-ordinated effort amongst all the stakeholders not least those in the private and public sectors with the capability to deliver EO geo-information products. Through this paper, the industry is providing a number of recommendations which we believe can help achieve these goals.

On a wider basis, further steps will need to be taken to ensure that the EO sector in Europe can develop and continue to compete on a global basis. This will require a faster, more flexible and effective programme with a strong dialogue between policy makers and the industry. EARSC provides the industry platform which can bring the EO services sector perspective to the dialogue. We are ready to work together with the EC and other stakeholders to develop the optimum procurement strategy for the Copernicus Services with the goal to maximise both public and private benefits and exploitation of the Copernicus programme.