

EO Service Sector Representation



Report T2: Analysis of Scope for Representation

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Executive Summary

The European Space Agency (ESA) has initiated the eoVox activity to analyse the scope for representation of the Earth Observation (EO) service industry in Europe and Canada. EoVox is an opportunity for all companies to voice their viewpoints on such representation. The results of the study will also serve as input to ESA in planning for the period 2008-13.

This document provides an **unbiased** analysis of the scope for representation and has been prepared by Metria with contributions from the other members of the eoVox consortium. It is based on the T1 report “Analysis of Industry Issues”, the “EOMD Industry Survey” and the views inside the eoVox consortium. The report deals – at a high level – with the Beneficiaries Base and Candidate Missions of an Earth Observation Trade Association (EO TA). The following conclusions are arrived at:

Beneficiaries Base

The only Beneficiaries that **currently** are likely to be interested in being active members in a European/Canadian EO TA can be found amongst the EO VACs. There are others, for example amongst the Pan-European R&D Funding Agencies, the Aerospace Industry and Public Satellite Investors/Mission Operators that might find an existence of an European/Canadian EO TA so important that they are prepared to act as sponsors for such a TA. In a **couple of years** - when the market is more mature – the membership base could be extended to involve other industry sectors such as GI, telecom and navigation, or perhaps the EO TA will become a subgroup in a bigger TA within the GI sector.

Candidate Missions

The basis for identification and prioritisation of Candidate Missions is based on the result of the T1 Analysis of Industry Issues with the VACs, the EOMD Industry Survey and the views of the eoVox consortium regarding the benefits and challenges and the GI/EO trends, and produces the basis for prioritisation. The prioritisation is performed in three steps; 1) is the identified Candidate Mission suitable for an EO TA, 2) interest of the VACs and 3) influence of the GI/EO trends. The end result is two ranking lists of Proposed Candidate Missions, one containing Candidate Missions that produce short term benefits for the VACs, and one containing Candidate Missions that are of long term importance to the VACs.

Combining these two ranking lists, a list containing the “Top 15” Candidate Missions is arrived at, which forms the proposed content in a Missions Statement for the current (immature) market conditions. The list of Candidate Missions that are of long term importance to the VACs forms the proposed content of a Missions Statement for the more mature market conditions that are expected to exist around 2009/2010.

Finally, some Open Issues to be considered in the later parts of the eoVox study are noted.

Proposed Content in a Mission Statement Based on Current (Immature) Market Conditions

Members: VACs only.

Possible sponsors: Pan-European R&D Funding Agencies (ESA, EC...), the Aerospace Industry (possibly through their TAs) and the Public Satellite Investors/Mission Operators (ESA, CNES...)

General benefits to the members: The EO TA can handle common issues that the VACs have problems to handle themselves.

Candidate Missions to be Provided by the EO TA	Example of Possible Effects/Benefits for the Members
Provide a Forum for Networking for the following Groups of Actors:	
Between VACs	Development of new products and services
Between VACs and European Research Institutes	Closer collaboration, resulting in faster and more reliable establishment and market acceptance of new products
Keep Track of and Influence the Programmes of the following Group of Actors:	
Pan-European R&D Funding Agencies	R&D programmes better tailored to the needs of the VACs and their markets
Raise the General Awareness of EO with the following Groups of Actors:	
User Associations	More sales leads for the VACs
Pan-European Operational Bodies	More sales leads for the VACs
Keep Track of and Influencing Programmes of the following Group of Actors:	
Public Satellite Investors/Mission Operators	Operationally usable EO satellites are available in time
Promote European and Canadian EO Capabilities to the following Groups of Actors:	
International Initiatives	More sales leads for the VACs
EC and/or ESA Initiatives	More sales leads for the VACs
User Associations	More sales leads for the VACs
Pan-European Operational Bodies	More sales leads for the VACs
Represent the European & Canadian EO Industry to the following Group of Actors:	
Pan-European R&D Funding Agencies	No surprises and R&D programmes better tailored to the needs of the VACs and their markets, for instance support for development of new products
Promote European and Canadian EO Capabilities to the following Group of Actors:	
Public Satellite Investors/Mission Operators	More sales leads for the VACs
Represent the European & Canadian EO Industry to the following Groups of Actors:	
Public Satellite Investors/Mission Operators	Operationally usable EO satellites are available in time
EC and/or ESA Initiatives	Better alignment of plans between these initiatives and the VACs

Proposed Content in a Mission Statement Based on Longer Term (more mature) Market Conditions:

Members: VACs and possibly members from other industry sectors, probably within the GI, telecom and navigation sectors. Another possibility is that the European/Canadian EO TA could become a subgroup in another, bigger TA, again probably within the GI sector.

Possible sponsors: Pan-European R&D Funding Agencies (ESA, EC...), the Aerospace Industry (possibly through their TAs) and the Public Satellite Investors/Mission Operators (ESA, CNES...)

General benefits to the members: The EO TA can handle common issues that the VACs have problems to handle themselves.

Candidate Missions to be Provided by the EO TA	Example of Possible Effects/Benefits for the Members
Provide a Forum for Networking for the following Groups of Actors:	
Between Members	Development of new products
Between Members and European Research Institutes	Closer collaboration, resulting in faster and more reliable establishment and market acceptance of new products
Keep Track of and Influence Programmes of the following organisations:	
Public Satellite Investors/Mission Operators	Operationally usable EO satellites are available in time
Pan-European R&D Funding Agencies	No surprises and R&D programmes better tailored to the needs of the Members and their markets
Raise the General Awareness of EO with the following Groups of Actors:	
User Associations	More sales leads for the Members
Pan-European Operational Bodies	More sales leads for the Members
Promote European & Canadian EO Capabilities to the following Groups of Actors:	
Public Satellite Investors/Mission Operators	More sales leads for the Members
International initiatives	More sales leads for the Members
EC and/or ESA Initiatives	More sales leads for the Members
Represent the European & Canadian EO Industry to the following Groups of Actors:	
Public Satellite Investors/Mission Operators	Operationally usable EO satellites are available in time
Pan-European R&D Funding Agencies	No surprises and R&D programmes better tailored to the needs of the Members and their markets, for instance support for development of new products
EC and/or ESA Initiatives	Better alignment of plans between these initiatives and the Members
Support certification of products and services as an internal EO TA/Intra-VAC issue	Better meet market requirements

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1 Introduction

The EO Service Sector Representation project aims to improve market awareness and confidence in the EO service industry sector, by defining the combined capabilities and views of the sector, and using these to evaluate mechanisms for representation of the sector, supporting greater growth and prosperity of the overall European EO service industry.

This report is the output of Task 2 of the study (Define Scope of Industry Representation). Figure 1-1 shows a summary of the high level project logic, and the position of this report in relation to other reports and tasks of the study.

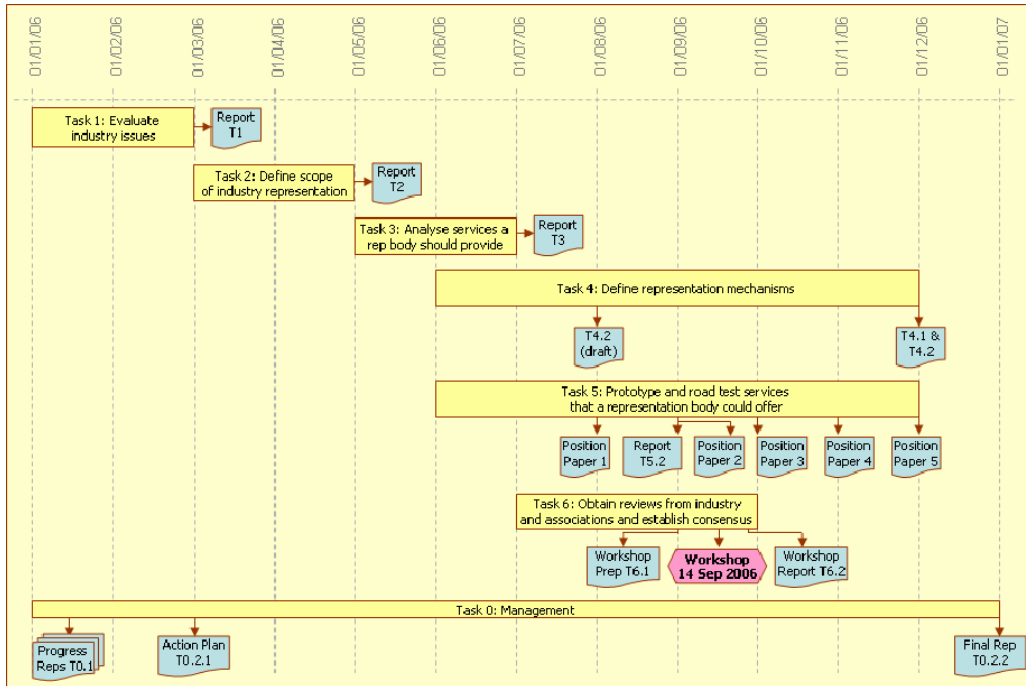


Figure 1-1 eoVox Study Logic and Timing

1.1 Purpose

This document reports the results of the work on definition of the scope of industry representation. The activities of Task 2 resulting in this report were defined as below in the ESA Statement of Work (SoW).

- From the Beneficiaries bases and common issues identified in Task 1, **define candidate missions** of representation according to scope and objectives to be attained, terms of reference, including overall mission statements and high level description of services (e.g. a trade association for VACs only, a lobby association for all players of the EO services sector, etc)
- for the different candidate missions, elaborate what aspects are covered by industry level representation and what aspects remain the responsibility of individual organizations
- for the different candidate missions, **identify and assess the potential benefits to industry**
- for each of the different candidate missions ; **assess what are the challenges associated with the compatibility of interests** between members of the

Beneficiaries base; determine the possible impact of these issues on the ability of the Representation body to meet its objectives and goals and achieve the expected benefits ; consequently prioritise missions

- compare candidate missions based on benefits and challenges and **elaborate a prioritisation of candidate missions for a representation body**

In addition, the SoW identifies four underlying strategic questions that are the basis for all the tasks, namely:

- **What are the main service capabilities of the European & Canadian EO service industry?**
- **What specific EO based services can European & Canadian companies provide?**
- **What are the common development issues of the EO service industry that need solving?**
- **In response, what actions are required and what level of public funding is needed?**

The timescales for these strategic questions are: present; next 2 years; 2-5 years; 5-10 years, and beyond.

Task 2 shouldn't really address these issues, but the timescales are used for the analysis of future possible undertakings of an Earth Observation Trade Association (EO TA).

1.2 Scope

This document covers the following topics:

Section	Description
Section 1	Introduction (this section): Defines the purpose and scope of this document and lists external references and abbreviations used.
Section 2	Method: Describes the method used.
Section 3	Possible Beneficiaries and Possible Candidate Missions: As a starting point possible (i.e. thinkable) beneficiaries are identified. Thereafter the possible candidate missions, i.e. the possible target groups of actors and the grouping of possible services directed to each target group of actors are identified.
Section 4	Candidate Missions and Beneficiaries Analysis: In this section, the Possible Beneficiaries and the Possible Candidate Missions identified in section 3 are further detailed and analysed, resulting in a Proposed Membership Base and Proposed Candidate Missions. The possible Beneficiaries Base is analysed to establish the rationale for an EO TA. The Proposed Candidate Missions are further analysed with regard to benefits and challenges. This section also contains an identification and analysis of the GI/EO trends and their effect on the Proposed Candidate Missions of an EO TA.

Section 5	Criteria for Prioritisation and Assessment: This section contains the establishment of criteria for prioritisation and tables with comparison and matching of the findings to each other, ending up at a basis for prioritisation.
Section 6	Prioritised Lists of Candidate Missions: This section contains a prioritisation of candidate missions for an EO TA with characterisation and high level scope.
Section 7	Discussions and Conclusions: This section contains the conclusions and open issues to be considered in the later parts of the eoVox study.

1.3 Change control

This document is at Issue 1.0 for delivery to ESA. Following incorporation of comments from ESA, it will be reissued for public distribution and publication on the eoVox web site.

1.4 References

No.	Title/Description	File Reference	Version
1	LogicaCMG Management Proposal for EO Service Sector Representation	UK/2004/7852	Issue 1.0 24/10/2005
2	LogicaCMG Technical Proposal for EO Service Sector Representation	UK/2004/7361	Issue 1.0 24/10/2005
3	ESA Statement of Work for EO Service Sector Representation	EOEP-EOMD-EOPS-SW-05-0001	Issue 1.0
4	“The State and Health of the European EO Service Industry” VEGA Group, Booz Allen Hamilton, referenced as “EOMD Industry Survey” in this report.	EOMD.REP.0.18	Issue A 24/09/2004
5	eoVox Report T1 “Analysis of Industry Issues for Representation”.	EC201705:06.04	Issue 1.4 08/05/2006

1.5 Abbreviations Used

Abbr.	Description
EC	European Commission
EEA	European Environment Agency
EO	Earth Observation
EOMD	Earth Observation Market Development
EO TA	Earth Observation Trade Association
GMES	Global Monitoring for Environment and Security
NRT	Near-Real Time
SoW	Statement of Work
TA	Trade Association
VAC	Value Adding Company
VHR	Very High Resolution

2 Method

Within WP 2000, the Beneficiaries Base and Candidate Missions should be analysed at a high level. **A Candidate Mission is defined as a high level description of services that an EO TA can offer its members in relation to a target group of actors.**

The stepwise method used is the following:

1. Define the Possible Beneficiaries and the Possible Candidate Missions by review of the findings during the T1 Analysis of Industry Issues and the relevant parts of the EOMD Industry Survey combined with the views inside the consortium.
2. Based on an overall analysis of the need and role of an EO TA, define a Proposed Membership Base of the EO TA, the Proposed Target Groups of Actors and Proposed Groups of Services, i.e. the Proposed Candidate Missions.
3. Analyse and evaluate the Proposed Candidate Missions with regard to the benefits and challenges of those Candidate Missions and identify and evaluate the EO/GI trends in fields relevant to the members of the EO TA to define the future environment in which an EO TA should work and the effects on the Proposed Candidate Missions.
4. Establish the evaluation criteria and map the results of the above steps to each other to form a basis for – and perform – a prioritisation of Candidate Missions for an EO TA.

3 Possible Beneficiaries and Possible Candidate Missions

3.1 Introduction

The overall mission statement defines a vision of a Trade Association, while the elements constitute the practicalities and the action plan necessary to put into place in order to achieve the vision. These generic elements are summarised in the figure below.

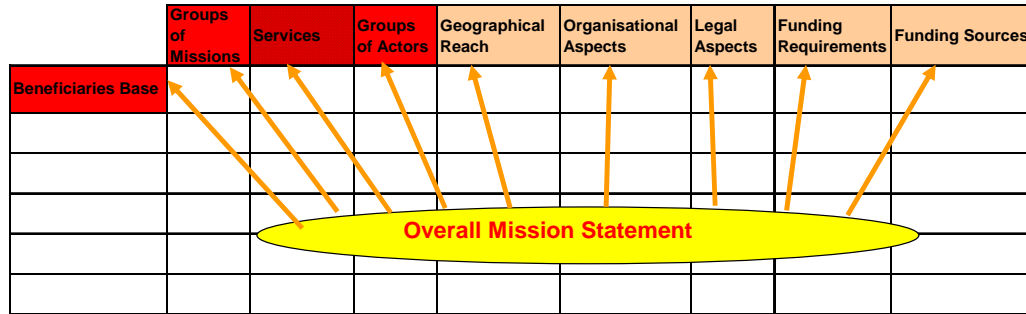


Figure 3-1 Elements of an Overall Mission Statement

Within WP 2000 an analysis of the high level requirements to a Trade Association is carried out. The elements that are analysed in this document are marked with RED in the above figure, with the services described only at a high level.

This section forms the starting point of the study. It identifies theoretical (i.e. thinkable) **possibilities** that are further elaborated, evaluated and prioritised in later sections. First, the **Possible Beneficiaries** of an EO TA are identified. Then, the **Possible Candidate Missions** are identified, i.e. the **Possible Target Groups of Actors** with which the EO TA could interact and the **High Level Possible Groups of Services** that an EO TA could provide.

3.2 High Level Target Groups of Actors and EO Value Chain

Three levels of Target Groups of Actors for the services of an EO TA can be defined, **Upstream**, **Midstream** and **Downstream**. The below figure depicts this division against the EO Value Chain in generic terms.

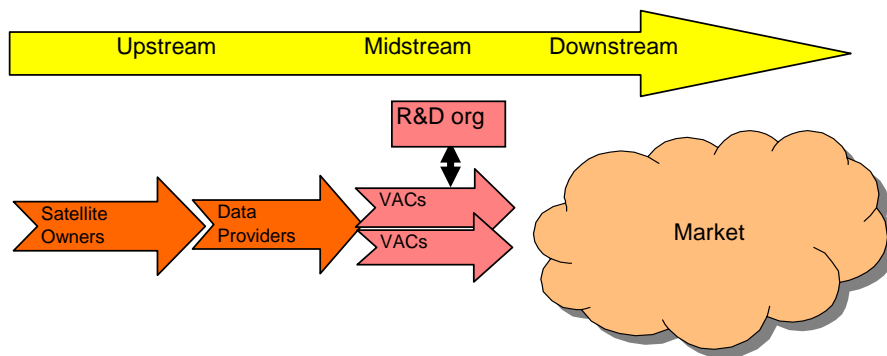
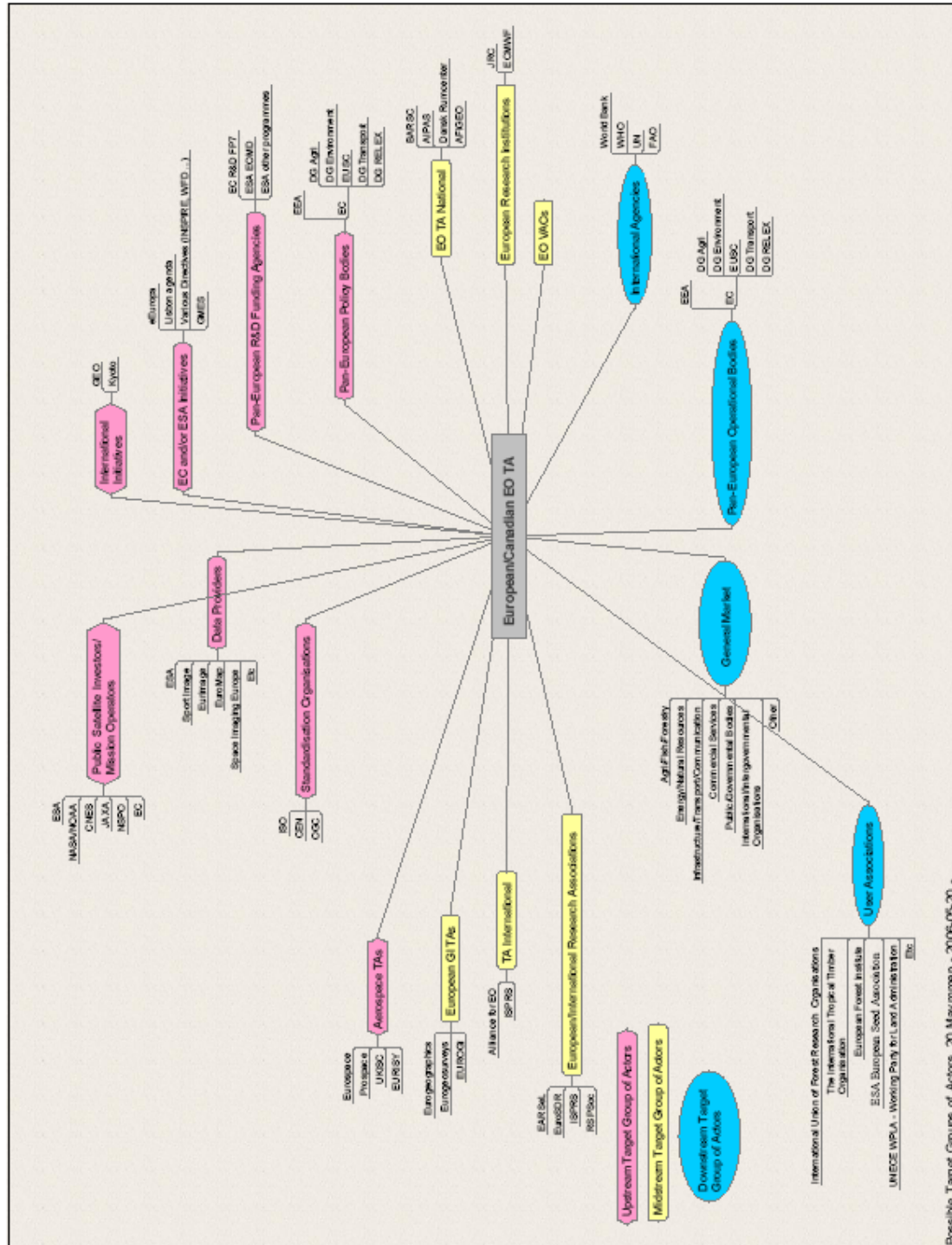


Figure 3-2 Upstream, Midstream and Downstream Levels of Groups of Actors for EO TA Services against the EO Value Chain

- **Upstream Groups of Actors**, i.e. organisations higher up in the EO value chain than the VACs
- **Midstream Groups of Actors**, i.e. organisations on the same “level” in the EO value chain as the VACs and/or organisations with similar positions in other sectors
- **Downstream Groups of Actors**, i.e. representing different market segments.

3.3 Identification of Possible Target Groups of Actors

An European/Canadian EO TA should of course interact with other organisations for the benefit of its members. The below Figure 3-3 identifies such Possible Target Groups of Actors with which the EO TA could interact. The Possible Target Groups of Actors are grouped into the above high level groups (Upstream, Midstream and Downstream) by colour marking. **Examples** of organisations belonging to each Possible Group of Actors are also given to facilitate understanding.



Possible Target Groups of Actors, 20 May/mmap - 2006-05-20

Figure 3-3 Possible Target Groups of Actors with which a European/Canadian EO TA could interact.

3.4 Possible Beneficiaries

There are several groups of organisations that **could** benefit from the activities of an European/Canadian EO TA, either as members or by interaction with one common organisation instead of with several individual organisations. In generic terms, the following groups and benefits are thinkable:

Possible Beneficiaries	Description of Benefits
EO VACs	Handling common issues that the VACs have problems to handle by themselves
Pan-European Policy Bodies	Concerted information regarding the views of the Value-Added EO industry with regard to the possibilities to use EO information
Pan-European R&D Funding Agencies, Pan-European Research Institutions and European/International Research Associations	Concerted information regarding the EO market needs related to the R&D programmes
Public Satellite Investors/Mission Operators	Concerted information regarding the EO market needs
Aerospace TAs	Concerted information regarding the EO market needs
National EO TAs	Stronger influence on the European/Canadian level
European GI TAs	Cooperation in lobbying and networking
Data Providers	Uniform feed-back on market requirements
International TAs	Cooperation in lobbying and networking
EC and/or ESA Initiatives	Better information on user requirements
Market and Market Organisations	Better information on available suppliers and content regarding EO Value-Added products and services
European Telecom & Navigation TAs	Cooperation in networking to find mutual benefits

Table 3-1 Possible Beneficiaries and Description of Benefits

3.5 High Level Descriptions of Possible Services

3.5.1 Observations from the T1 Analysis of Industry Issues

In the interview material, the VACs and the consulted Trade Associations have been asked to give their opinion (agree or disagree) if an EO TA should handle the main common generic issues of the EO industry identified in the EOMD Industry Survey. Those common issues are “Promote Combined Capabilities of VACs”, “Common Voice” and “Synergies” as defined in the T1 Analysis of Industry Issues. The result is as follows with the commented differences marked with **RED**:

Issue	Agree		Disagree		No Answer	
	VACs	TAs	VACs	TAs	VACs	TAs
Representation/Promote Combined EO Capabilities of VACs	55,5%	60%	36,5%	30%	8%	10%
Common Voice	79,5%	90%	9,5%	0%	11%	10%
Synergies	82,5%	70%	6,5%	10%	11%	20%

Table 3-2 VACs and Other TAs Opinions on Generic Issues to be Handled by the EO TA

The interesting difference between the VACs and existing TAs is that the VACs regard Synergies as the most important, while the existing TAs are favouring the Common Voice issues. The reason for this difference is probably that the existing TAs mainly see themselves as lobbying organisations, while the VACs are more in favour of the networking possibilities inside a EO TA.

A more detailed analysis of the material has also shown that there is a difference between VACs regarding the issue Representation/Promote Combined EO Capabilities of VACs, where 55,5% of the small and very small VACs in Southern Europe disagree which is significantly more than the rest of the VAC group. The reason for this difference is not obvious.

3.5.2 Grouping of Possible Services

Combining the relevant parts of the EOMD Industry Survey with the findings during the T1 Analysis of Industry Issues and the views inside the consortium, the below **grouping of possible services** that an EO TA could offer its members has been identified. The content of most of these services is self-explanatory, but to make clear, some services are explained a bit further. The generic issues related to each description are given in parenthesis.

- **Keep Track of and Influencing Programmes** (Common Voice)
- **Raise General Awareness of EO** (Common Voice, Representation/Promote Combined EO Capabilities of VACs)
- **Promote European/Canadian EO Capabilities** (Representation/Promote Combined EO Capabilities of VACs, Common Voice)
- **Represent the European/Canadian EO Industry**, i.e. in a “formal” role accepted by the outside world (Common Voice)
- **Gather Market Intelligence** (Synergies)
- **Provide a Forum for Networking**, i.e. a **mechanism** for members to meet each other as well as members of other TAs and discuss common issues (Synergies)
- **Support Certification of Products and Services** (Synergies)

- **Provide Internal Services to Members**, i.e. additional services – sometimes on call. (Synergies)

The below table (3-3) shows how the examples of activities depicted in section 7 of the SoW and the “Activities to be shared among VACs” from the interview material relates to the above grouping of possible services. **Please note that this table does not indicate acceptance by the VACs (nor by the eoVox consortium) that these activities are the ones to be performed by the EO TA.**

Grouping of Possible Services	Activities Depicted in Section 7 of the SoW	Activities from the T1 Analysis of Industry Issues Material
Keep Track of and Influencing Programmes	<ul style="list-style-type: none"> • Lobbying: build favourable attitudes to EO services, define industry positions and promote and defend the views of the EO service industry (in front of EC, ESA, national governments, the aerospace industry, satellite operators and EO data providers, etc) with a official and united voice and either – on a reactive basis; on a proactive basis (defining positions and priorities), or – informal; formal (presentations in conferences): pro-active lobbying (e.g. create an event). 	<ul style="list-style-type: none"> • Keeping up to date with new EO Programmes and opportunities • Keeping track of and influencing programmes
Raise General Awareness of EO	<ul style="list-style-type: none"> • Organise working and advisory groups • Provide education and training • Organisation and maintenance of a web site (www.rep.org) 	<ul style="list-style-type: none"> • Promote Combined EO Capabilities of VACs
Promote European/Canadian EO Capabilities	<ul style="list-style-type: none"> • Promotion of the EO service industry (of industry capabilities, or their offerings) • Organisation and maintenance of a web site • Generate and share communication tools to promote capabilities • Marketing services of the members (e.g. what PROSPACE do in France) • Consultation with industry and consolidation of information gathered from industry and elaboration and maintenance of information concerning the EO 	<ul style="list-style-type: none"> • Building a value proposition into government • Trade Show participation • Accessing new types of markets • Finding new customers – marketing

Grouping of Possible Services	Activities Depicted in Section 7 of the SoW	Activities from the T1 Analysis of Industry Issues Material
	service sector (database of the EU VACs, of their offerings)	
Represent the European/Canadian EO Industry	<ul style="list-style-type: none"> • Organisation of working groups/external meetings and for a on key questions (e.g. the common agenda of the VA sector for R&D, etc) • Common purchasing; EO data etc 	<ul style="list-style-type: none"> • Pooled purchasing of data
Gather Market Intelligence	<ul style="list-style-type: none"> • Sell service (e.g. market intelligence, survey of technologies); can be shared with members 	<ul style="list-style-type: none"> • Market intelligence gathering
Provide a Forum for Networking	<ul style="list-style-type: none"> • Promote collaboration and sharing of best practices between members • Organisation and maintenance of a web site for members • Advice (market intelligence, survey of technologies); also respond to individual demands (e.g. the Italian VACs as advice to the association) • Assistance in teaming 	<ul style="list-style-type: none"> • Development of new products and services
Support Certification of Products and Services		<ul style="list-style-type: none"> • Certification of products and services
Provide Internal Services to Members	<ul style="list-style-type: none"> • Organisation of (internal) meetings of the association (board, board and members, general assembly, etc) • Governance and policies of the Association • Organise working and advisory groups • Provide education and training • Organise legal support for liability and customer complaints • Mutualisation of insurance 	<ul style="list-style-type: none"> • Recruitment of new skills into the workforce • Managing risk

Table 3-3 Relations between Activities in SoW, Activities to be Shared Among VACs and Groupings of Possible Services

3.6 Possible Candidate Missions

The below table summarises (without evaluation) the **Possible** Candidate Missions formed by the **Possible** Target Groups of Actors (i.e with which the EO TA could interact) and the **Possible** Grouping of Services. The colour coding of the Possible Target Group of Actors follows that of Figure 3-3, i.e. Upstream, Midstream and Downstream Possible Target Group of Actors.

Possible Candidate Missions								
Possible Target Group of Actors	Possible Groups of Services							
	Keep Track of and Influencing Programmes	Raise General Awareness of EO	Promote European/Canadian EO Capabilities	Represent the European /Canadian EO Industry	Gather Market Intelligence	Provide a Forum for Networking	Support Certification of Products & Services	Provide Internal Services to Members
Public Satellite Investors/Mission Operators								
The Aerospace Industry, mainly through their TAs								
Data Providers								
Pan-European R&D Funding Agencies								
International Initiatives								
EC and/or ESA Initiatives								
Standardisation Organisations								
Pan-European Policy Bodies								
National EO TAs								
European GI TAs								
International TAs								
European Research Institutes								
European/International Research Organisations								
Internal EO TA/Intra-VAC Issues								
User Associations								
International Agencies								
Pan-European Operational Bodies								
General Market								

Table 3-4 Relations between Possible Target Groups of Actors and the Possible Grouping of Services

This table is analysed in detail and populated in section 4.

4 Beneficiaries and Candidate Missions Analysis

4.1 Introduction

In this section, the **Possible** Beneficiaries and the **Possible** Candidate Missions identified in section 3 are further detailed and analysed, resulting in a **Proposed** Membership Base and **Proposed** Candidate Missions. The **Possible** Beneficiaries Base is analysed to establish the rationale for an EO TA. The Proposed Candidate Missions are further analysed with regard to benefits and challenges. This section also contains an identification and analysis of the GI/EO trends and their effect on the **Proposed** Candidate Missions of an EO TA.

In the analysis, the outcome of the interviews under T1 Analysis of Industry Issues with VACs and the EO Associations as well as the findings of the EOMD Industry Survey is used.

4.2 Rationale for an EO TA and Proposed Membership Base

One of the fundamentals of any successful business is to understand “who is my client and what is his situation”. Principally speaking the Possible Beneficiaries Groups defined in Section 3.4 are the potential clients for an EO TA. When analysing the benefits for each of the Possible Beneficiaries Groups, most of them are interested in the existence of an European/Canadian EO TA as a speaking partner or as a source for information. The only Beneficiaries that could have an interest for an active membership are the EO VACs. The Beneficiaries Groups “GI TAs”, “Telecom & Navigation TAs” could, as an option, be interested in having EO VACs as members instead of interacting with an European/Canadian EO TA.

In the T1 Analysis of Industry Issues, three possible scenarios for an EO TA are defined:

Status Quo: There is already a TA in existence, but responses show that people are looking for improvement.

“EO Voice”: Existing TA is upgraded or replaced with a stronger organisation to be able to give more services to its members.

“Reach out”: The existing TA joins another existing TA as a subgroup, for example the European GI Association.

A fourth scenario should also be considered: There is no need for the VACs to formally work together in a TA.

4.2.1 Observations from the interviews with the VACs in T1 Analysis of Industry Issues

Observations from the T1 Analysis of Industry Issues can be summarized as follows:

- A stronger lobbying position to influence future programmes, public development funding and to address some of the real obstacles for market development such as lack of operational data supply constitute the strongest drivers for industry representation
- A stronger industry representation is believed to be of benefit in addressing future market opportunities by establishing links to players outside the traditional EO industry
- A majority (76%) of the VACs want the VACs to form closer collaboration

- Over 60 % of respondents regarded GMES to be an important current market development driver but also for future market development
- A majority of the VACs are currently dependent on public development funding
- The main obstacles to market development are such that individual VACs normally can not influence (lack of operational data supply, data costs, ...)
- More than 60 % of the VACs thought that new types of markets could be better accessed through collaboration between VACs
- Approximately 65% of the European VACs wants a TA to contain EO industry only, at least during the next few years. There is however a geographical difference where the VACs in Northern Europe are more in favour of broaden the member base already now, mainly towards the GI companies. There is no obvious difference depending of the size of the VAC. The views of the Canadian VACs are not presently known.
- A majority of the European VACs want the membership base to broaden later on. There seems to be a preference that this extension is made towards the GI actors.
- A majority of the VACs from Northern Europe and Canada claim that the existing TAs are not strong enough, whereas most of the VACs in Southern Europe have no opinion on that.

Nothing indicates interest to include User Associations as members. The VACs want to handle their customers without interference of a TA.

It can be noted that a lot of the current emphasis on EO TA is directed toward the “upstream” missions – especially towards space agencies – because there is a common interest in securing development funding and continuity of data supply.

4.2.2 Analysis of the rational of an European/Canadian EO TA

When comparing the four scenarios with observations from the T1 Analysis of Industry Issues with the VACs the following conclusions can be drawn:

Scenario 1 (Status Quo) does not satisfy the majority of VACs in Northern Europe and Canada who find the existing TAs not strong enough.

Scenario 2 (“EO Voice”) could satisfy the VACs that find the present TAs not strong enough and are in favour of more and better services from an EO TA.

Scenario 3 (“Reach out”) isn’t what a majority of the VACs want for the moment. However it will be an important task for an European/Canadian EO TA to analyse the possibilities for future merges.

Scenario 4 (“No need for the VACs to formally work together in a TA”) will in all likelihood not give the strength to the EO Value Adding Industry needed to survive and prosper in the long run. Many of the obstacles to market development and the identified future demand drivers require that the companies work closely together.

The eoVox team has selected **Scenario 2** for the purpose of the Task 2 analysis, as it appears to fit the initial responses received from industry during Task 1 most closely. This selection will be reviewed in light of further analysis to be conducted later in the project, but it is felt to be the most constructive option at the present time.

4.2.3 Proposed Membership Base

As concluded above, the only Beneficiaries that **currently** are likely to be interested in being active members in an European/Canadian EO TA can be found amongst the EO VACs. There are others, for example amongst the Pan-European R&D Funding Agencies, the Aerospace Industry and Public Satellite Investors/Mission Operators that might find the existence of an European/Canadian EO TA so important that they are prepared to act as sponsors for such a TA.

In a couple of years, when the market is more mature, it is likely that the EO TA could extend the membership base to involve other industry sectors such as GI, Telecom or Navigation, or perhaps the EO TA will become a subgroup in a bigger TA within the GI sector.

4.3 Identification of Proposed Candidate Missions

4.3.1 Observations from the T1 Analysis of Industry Issues

The VACs “Wish list” for a Trade Association
Professional lobbying to facilitate influence of future EO Programmes to serve the interest of its members in a neutral and fair manner
To facilitate Networking
Marketing intelligence/market studies
Export facilitation/support
Communication on what is going on

Table 4-1 From the T1 Analysis of Industry Issues, the VACs “Wish List” for a TA.

Regarding the generic issues, the VACs obviously favour Synergies and Common Voice over Representation/Promote Combined EO Capabilities of VACs, but this could perhaps be explained with the interpretation that Promote Combined EO Capabilities of VACs conflicts with the direct marketing to customers that almost all of the VACs want to handle themselves.

From the T1 Analysis of Industry Issues, the priorities of activities to be shared between VACs, **inside or outside a TA**, are given in the table below.

Activity	Percentage of VACs that Agree this Activity is Important
Development of new products/services	73%
Accessing new types of markets	62%
Keeping track of and influencing programmes	57%
Market intelligence gathering	56%
Promote combined EO capabilities of VACs	56%
Pooled purchasing of data	51%
Keeping up to date with new EO Programmes and opportunities	49%
Finding new customers – marketing	49%

Activity	Percentage of VACs that Agree this Activity is Important
Certification of products and services	48%
Trade show participation	46%
Recruitment of new skills into the workforce	27%

Table 4-2 From the T1 Analysis of Industry Issues, the VACs Priorities of Activities to be Shared Between VACs, Inside or Outside a TA

There are some differences in opinion depending of the size of the VAC and the geographical location of it. Generally speaking, it seems that small and very small VACs in Southern Europe are more negative to common activities than other VACs.

In comments, many VACs express their view that they need support to get access to export markets and also to generate commercial spin offs of GMES products and services.

4.3.2 Proposed Candidate Missions

This section contains an identification of Proposed Candidate Missions for an European/Canadian EO TA. It is based on the observations from the T1 Analysis of Industry Issues, the EOMD Industry Survey and the views of the eoVox consortium.

For each group of Proposed Candidate Missions (Upstream, Midstream and Downstream) an overview is provided. In the overview, each Proposed Candidate Mission is marked, linking a Group of Services to a Target Group of Actors.

This is followed by **examples** of the activities that an EO TA could perform in relation to each Target Group of Actors. These are to be further studied and detailed in the next phase of the eoVox project, i.e. under WP 3100. The colour coding follows that of Figure 3-3.

4.3.2.1 Proposed Candidate Missions in relation to Upstream Group of Actors

Proposed Candidate Missions, Upstream Group of Actors								
Target Group of Actors	Group of Services							
	Keep Track of and Influencing Programmes	Raise General Awareness of EO	Promote European/ Canadian EO Capabilities	Represent the European/Canadian EO Industry	Gather Market Intelligence	Provide a Forum for Networking	Support Certification of Products and Services	Provide Internal Services to Members
Public Satellite Investors/Mission Operators	●		●	●				
The Aerospace Industry, mainly through their TAs	●			●				
Data Providers, both European and International	●			●				
Pan-European R&D Funding Agencies	●			●				
International Initiatives	●		●					
EC and/or ESA Initiatives	●		●	●				
Standardisation Organisations	●	●		●				
Pan-European Policy Bodies	●	●						

Table 4-3 Overview of Proposed Candidate Missions in relation to Upstream Group of Actors

Organisations for Interaction	Examples of Activities
Public Satellite Investors/Mission Operators Example of organisations: <ul style="list-style-type: none"> • ESA • NASA/NOAA • CNES • JAXA • NSPO • EC 	<ul style="list-style-type: none"> • Acting as a common voice of VAC requirements towards definition and priorities of future satellite missions. • Promote European & Canadian EO capabilities • Counterbalance strong voices in the EO research community and within the aerospace industry which tends to favour developing new missions rather than building systems that guarantees long-term steady supply of data to enable building operational services. • Raise operational issues, common to the VACs
The Aerospace Industry, mainly through their TAs. Example of organisations: <ul style="list-style-type: none"> • Eurospace • Prospace • UKISC • EURISY 	<ul style="list-style-type: none"> • Keep track of and influence satellite programmes by informing the VACs, stimulate debate and provide feedback • Open up for concrete joint activities vis-à-vis (for instance) the Public Satellite Investors/Mission Operators

Organisations for Interaction	Examples of Activities
<ul style="list-style-type: none"> • AIPAS 	
<p>Data Providers, both European and international. Example of organisations:</p> <ul style="list-style-type: none"> • ESA • Spot Image • Eurimage • EuroMap • Space Imaging Europe • MDA Geospatial Services • JAXA • NSPO 	<ul style="list-style-type: none"> • Negotiate pooled purchasing of data or favourable data purchasing conditions for the TAs members • Influence data policy by informing the VACs, stimulate debate and provide feedback • Ensure that these organisations are aware of European/Canadian EO capabilities
<p>Pan-European R&D Funding Agencies. Example of organisations:</p> <ul style="list-style-type: none"> • ESA • EC 	<ul style="list-style-type: none"> • Keep track of and influence Pan-European R&D funding programmes by informing the VACs, stimulate debate and provide feedback • Create links to institutional networks • Ensure that these organisations are aware of European & Canadian EO capabilities
<p>International Initiatives Example of organisations:</p> <ul style="list-style-type: none"> • GEO (GEOSS) • UN & EC (Kyoto protocol) 	<ul style="list-style-type: none"> • Ensure that these organisations are aware of European/Canadian EO capabilities • Influence the R&D plans by informing industry, stimulate debate and provide feedback • Create links to institutional networks
<p>EC and/or ESA Initiatives</p> <ul style="list-style-type: none"> • GMES • INSPIRE • EC (Lisbon agenda & eEurope) 	<ul style="list-style-type: none"> • Keep track of and influence the GMES and INSPIRE initiatives • Promote European & Canadian EO capabilities • Create links to institutional networks
<p>Standardisation Organisations Example of organisations:</p> <ul style="list-style-type: none"> • ISO • CEN • OGC 	<ul style="list-style-type: none"> • Ensure that they are aware of the needs of the EO industry and the development that takes place inside the industry • Keep track of and influence the development plans
<p>Pan-European Policy Bodies Example of organisations:</p> <ul style="list-style-type: none"> • The various DGs of the EU, in particular DG Agri, DG Environment, EUSC, DG Transport, DG RELEX • EEA 	<ul style="list-style-type: none"> • Ensure that they are aware of the needs of the EO industry and the development that takes place inside the industry • Influence the development plans • Influence regulations/legislation

Table 4-4 Proposed Candidate Missions in relation to Upstream Group of Actors, Examples of Activities

4.3.2.2 Proposed Candidate Missions in relation to Midstream Group of Actors

Proposed Candidate Missions, Midstream Group of Actors								
Target Group of Actors	Group of Services							
	Keep Track of and Influencing Programmes	Raise General Awareness of EO	Promote European/ Canadian EO Capabilities	Represent the European/Canadian EO Industry	Gather Market Intelligence	Provide a Forum for Networking	Support Certification of Products and Services	Provide Internal Services to Members
National EO TAs						●		
European GI TAs						●		
International TAs						●		
European Research Institutes	●					●		
European/International Research Organisations	●					●		
Internal EO TA/Intra-VAC Issues					●	●	●	●

Table 4-5 Overview of Proposed Candidate Missions in relation to Midstream Group of Actors

Organisations for Interaction	Examples of Activities
National EO TAs Example of organisations: <ul style="list-style-type: none"> • BARSC • AIPAS • Dansk Rumsenter 	<ul style="list-style-type: none"> • Keep a close contact to ensure that the activities vis-à-vis upstream and downstream players are co-ordinated, for instance: <ul style="list-style-type: none"> ○ Lobbying ○ Joint training courses • Be active in dialogues to ensure that industry representation is structured such that VACs benefit to a maximum extent
European GI TAs Example of organisations: <ul style="list-style-type: none"> • Eurogeographics • Eurogeosurveys 	<ul style="list-style-type: none"> • Act as a forum for networking between the VACs and – for instance – the GI companies • Ensure that these organisations are aware of European/Canadian EO capabilities
International TAs Example of organisations: <ul style="list-style-type: none"> • EUROGI • Alliance for EO 	<ul style="list-style-type: none"> • Ensure that the activities are co-ordinated • Be active in dialogues to ensure that industry representation is structured such that VACs benefit to a maximum extent

Organisations for Interaction	Examples of Activities
European Research Institutes Example of organisations: <ul style="list-style-type: none"> • JRC • ECMWE 	<ul style="list-style-type: none"> • Act as a forum for networking between the VACs and the research institutes • Keep track of and influence the R&D programmes
European/International Research Organisations Example of organisations: <ul style="list-style-type: none"> • EuroSDR • RSPSoc • EARSeL • ISPRS 	<ul style="list-style-type: none"> • Act as a forum for networking between the VACs and the research institutes • Keep track of and influence the R&D programmes
Internal EO TA/Intra-VAC Issues	<ul style="list-style-type: none"> • Market studies and analysis • Create an “Organisation of users” • Present the current products and services in a manner that can easily be accessed and understood by institutional and private customers • Build value propositions into governments • Provide a forum allowing best practice to be captured and consistently presented • Organise certification of products and services • Development of new products and services through networking • Managing risks • Recruitment of new skills into workforce (common database of CVs and job vacancies, ...) • Provide a forum where VACs can meet and discuss possible changes to the industrial structure (mergers, purchases of companies etc)

Table 4-6 Proposed Candidate Missions in relation to Midstream Group of Actors, Examples of Activities

4.3.2.3 Proposed Candidate Missions in relation to Downstream Group of Actors

Proposed Candidate Missions, Downstream Group of Actors								
Target Group of Actors	Group of Services							
	Keep Track of and Influencing Programmes	Raise General Awareness of EO	Promote European/ Canadian EO Capabilities	Represent the European/Canadian EO Industry	Gather Market Intelligence	Provide a Forum for Networking	Support Certification of Products and Services	Provide Internal Services to Members
User Associations		●	●		●	●		
International Agencies			●		●			
Pan-European Operational Bodies		●	●		●			
General Market		●						

Table 4-7 Overview of Proposed Candidate Missions in relation to Downstream Group of Actors

Organisations for Interaction	Examples of Activities
<p>User Associations Example of organisations:</p> <ul style="list-style-type: none"> International Union of Forest Research Organisations UNECE WPLA – Working Party for Land Administration European Forest Institute The International Tropical Timber Organisation ESA European Seed Association 	<ul style="list-style-type: none"> Ensure that these organisations (and through them: their members) are aware of the EO technologies as such and of European/Canadian EO capabilities in particular. Capture market segment requirements on an aggregated level Identify relevant export market segments either for joint or separate marketing activities
<p>International Agencies Example of organisations:</p> <ul style="list-style-type: none"> World Bank WHO UN FAO 	<ul style="list-style-type: none"> Ensure that these organisations are aware of European/Canadian EO capabilities Capture market segment requirements on an aggregated level Identify relevant export market segments
<p>Pan-European Operational Bodies Example of organisations:</p> <ul style="list-style-type: none"> EEA The various DGs of the EU, in particular DG Agri, DG Environment, EUSC, DG 	<ul style="list-style-type: none"> Ensure that these organisations are aware of European/Canadian EO capabilities Capture market segment requirements on an aggregated level Identify relevant export market segments

Organisations for Interaction	Examples of Activities
Transport, DG RELEX	
<p>General Market Example of market segments as per the definitions used in the EOMD Industry Survey:</p> <ul style="list-style-type: none"> • Agri/Fish/Forestry • Ennnergy/Natural Resources • Infrastructure/Transport/Communication • Commercial Services • Public/Governmental Bodies • International/Intergovernmental Organisations • Other 	<ul style="list-style-type: none"> • Raise the general awareness of EO

Table 4-8 Proposed Candidate Missions in relation to Downstream Group of Actors, Examples of Activities

4.4 Identification of Benefits and Challenges of Proposed Candidate Missions for an EO TA

The EO TA will - to the extent possible - have to meet the requirements of its members to be successful. Also, it is obvious that not all requirements are possible to meet and that in some cases it is more productive if the VACs carry out these activities themselves or together with other VACs/other organisations outside an EO TA. There are also scenarios where there could be a possible conflict between the members of the EO TA. For instance, it is not sure that the medium sized VACs in all instances share the interests of the very small VACs.

This section assesses the benefits and challenges for each Proposed Candidate Mission with respect to the above.

4.4.1 Observations from the T1 Analysis of Industry Issues

There are very few direct links between the interview results and the benefits and challenges. However there are some indications, for example a majority of the VACs think that the existing European/Canadian TAs are not strong enough. In comments, many of the VACs also have the opinion that an EO TA should not only represent the bigger VACs and also should stay away from competing with its members.

4.4.2 Identification of Benefits and Challenges of the Proposed Candidate Missions in relation to the Upstream/Midstream/Downstream Target Groups of Actors respectively

Based on the outcome of the T1 Analysis of Industry Issues, the EOMD Industry Survey and the views of the eoVox consortium, the below tables present a summarized overview of the benefits and challenges for each Proposed Candidate Mission in relation to the Upstream, Midstream and Downstream Target Groups of Actors, i.e. **the potential for the VACs via the EO TA.**

These overview tables are based on a more detailed analysis in Appendix A regarding: (i) the possible benefits/effects to the VACs, (ii) the potential for the VACs, (iii) at what level the

candidate mission is best handled – the EO TA or the individual VACs, and (iv) possible conflicts of interest between members and/or consequences for the EO TA.

The colour coding used is the following:

High Potential
Medium Potential
Low Potential

Proposed Candidate Missions, Upstream Group of Actors								
Target Group of Actors	Groups of Services							
	Keep Track of and Influencing Programmes	Raise General Awareness of EO	Promote European/ Canadian EO Capabilities	Represent the European/Canadian EO Industry	Gather Market Intelligence	Provide a Forum for Networking	Support Certification of Products and Services	Provide Internal Services to Members
Public Satellite Investors/Mission Operators	●		●	●				
The Aerospace Industry, mainly through their TAs	●			●				
Data Providers, both European and International	●			●				
Pan-European R&D Funding Agencies	●			●				
International Initiatives	●		●					
EC and/or ESA Initiatives	●		●	●				
Standardisation Organisations	●	●						
Pan-European Policy Bodies	●	●						

Table 4-9 Summary of Benefits and Challenges of the Proposed Candidate Missions in relation to the Upstream Target Group of Actors

Proposed Candidate Missions, Midstream Group of Actors								
Target Group of Actors	Groups of Services							
	Keep Track of and Influencing Programmes	Raise General Awareness of EO	Promote European/ Canadian EO Capabilities	Represent the European/Canadian EO Industry	Gather Market Intelligence	Provide a Forum for Networking	Support Certification of Products and Services	Provide Internal Services to Members
National EO TAs								
European GI TAs								
International TAs								
European Research Institutes								
European/international research organisations								
Internal EO TA/Intra-VAC issues								

Table 4-10 Summary of Benefits and Challenges of the Proposed Candidate Missions in relation to the Midstream target Group of Actors

Proposed Candidate Missions, Downstream Group of Actors								
Target Group of Actors	Groups of Services							
	Keep Track of and Influencing Programmes	Raise General Awareness of EO	Promote European/ Canadian EO Capabilities	Represent the European/Canadian EO Industry	Gather Market Intelligence	Provide a Forum for Networking	Support Certification of Products and Services	Provide Internal Services to Members
User Associations								
International Agencies								
Pan-European Operational Bodies								
General Market								

Table 4-11 Summary of Benefits and Challenges of the Proposed Candidate Missions in relation to the Downstream Target Group of Actors

4.5 EO/GI Trends and their Likely Effect on the Proposed Candidate Missions of an EO TA

4.5.1 Observations from the T1 Analysis of Industry Issues

Since most of the questions regarding the future have been put as open questions in the T1 Analysis of Industry Issues, the only things that can be statistically proven are that a large majority (76%) of VACs believe that VACs should form closer collaboration and a majority (57%) believe that the EO industry structure will change during the next 10 years. The answers to the open questions can be summarised with the following important expected trends:

- Consolidation of the EO industry
- The big VACs will grow bigger
- New small or very small VACs will appear
- The market will mature
- GMES will create opportunities
- Collaboration with other sectors, for example the GI, telecom and navigation will be more common

4.5.2 Trend Analysis

The environment in which the EO TA will work will be subject to quite some changes over time. In order to enable a positioning that is as effective as possible, it is therefore important to have an understanding of the trends within the EO/GI field affecting the Proposed Candidate Missions of an EO TA.

Appendix B depicts the most important trends, deducted from various independent studies, the observations from the T1 Analysis of Industry Issues and the views of the eoVox consortium. In Appendix B, the trends are analysed both from a timescale perspective, i.e. Low/Medium/High impact for the VACs during the time period in question and the influence on the Proposed Candidate Missions. The timescales used for the analysis are the ones requested in the SoW for the strategic questions, i.e. present; next 2 years; 2-5 years; 5-10 years, and beyond. Appendix B also contains a summary, showing the trends matched to the above timescales.

The below tables present a summarized overview where the EO/GI trends identified in Appendix B are mapped to the Proposed Candidate Missions in section 4.3.2 to enable an assessment of the impact on VACs in the various timescales. For simplicity reasons, the timescales requested in the SoW for the strategic questions have been merged such that the timescales “present” and “next 2 years” form the below group “<2 years”, and the timescales “5-10 years” and “beyond” form the below group “> 5 years”.

Legend:

- = Low impact for the VACs within the time period
- = Medium impact for the VACs within the time period
- = High impact for the VACs within the time period

Proposed Group of Candidate Missions, Upstream Group of Actors												
Target Group of Actors	Groups of Services											
	Keep Track of and Influencing Programmes			Raise General Awareness of EO			Promote European and Canadian EO Capabilities			Represent the European and Canadian EO Industry		
	< 2 yrs	2-5 yrs	>5 yrs	< 2 yrs	2-5 yrs	>5 yrs	< 2 yrs	2-5 yrs	>5 yrs	< 2 yrs	2-5 yrs	>5 yrs
Public Satellite Investors/Mission Operators	●	●	●				●	●	●	●	●	●
The Aerospace Industry, mainly through their TAs.	●	●	●				●	●	●	●	●	●
Data Providers, both European and International.	●	●	●							●	●	●
Pan-European R&D Funding Agencies.	●	●	●							●	●	●
International Initiatives	●	●	●				●	●	●			
EC and/or ESA Initiatives	●	●	●				●	●	●	●	●	●
Standardisation Organisations	●	●	●	●	●	●						
Pan-European Policy Bodies	●	●	●	●	●	●						

Table 4-12 EO/GI Trends and their effects on the Proposed Candidate Missions in relation to the Upstream Target Group of Actors

Proposed Group of Candidate Missions, Midstream Group of Actors															
Target Group of Actors	Groups of Services														
	Keep Track of and Influencing Programmes			Gather Market Intelligence			Provide a Forum for Networking			Support Certification of Services & Products			Provide Internal Services to Members		
	< 2 yrs	2-5 yrs	>5 yrs	< 2 yrs	2-5 yrs	>5 yrs	< 2 yrs	2-5 yrs	>5 yrs	< 2 yrs	2-5 yrs	>5 yrs	< 2 yrs	2-5 yrs	>5 yrs
National EO TAs							●	●	●						
European GI TAs							●	●	●						
International TAs							●	●	●						
European Research Institutes	●	●	●				●	●	●						
European/International Research Organisations	●	●	●				●	●	●						
Internal EO TA/Intra-VAC Issues				●	●	●	●	●	●	●	●	●	●	●	●

Table 4-13 EO/GI Trends and their effects on the Proposed Candidate Missions in relation to the Midstream target Group of Actors

Proposed Group of Candidate Missions, Downstream Group of Actors												
Target Group of Actors	Groups of Services											
	Raise General Awareness of EO			Promote European and Canadian EO Capabilities			Gather Market Intelligence			Provide a Forum for Networking		
	< 2 yrs	2-5 yrs	>5 yrs	< 2 yrs	2-5 yrs	>5 yrs	< 2 yrs	2-5 yrs	>5 yrs	< 2 yrs	2-5 yrs	>5 yrs
User Organisations	●	●	●	●	●	●	●	●	●	●	●	●
International Agencies				●	●	●	●	●	●			
Pan-European Operational Bodies	●	●	●	●	●	●	●	●	●			
General Market	●	●	●									

Table 4-14 EO/GI Trends and their effects on the Proposed Candidate Missions in relation to the Downstream Target Group of Actors

5 Criteria for Prioritisation and Assessment of Candidate Missions

5.1 Introduction

Based on the analyses in section 4, this section contains the establishment of criteria for prioritisation and a comparison and matching of the findings in section 4 to each other, resulting in a basis for prioritisation.

5.2 Observations from the T1 Analysis of Industry Issues and Relations to the Proposed Grouping of Services

The table in section 4.3.1 depicts the percentage of VACs that agree that a certain activity is important. However, it must be noted that the questions were not asked in relation to activities for an EO TA, but rather “what can VACs do together”. Therefore, it is an **interpretation** that the figures represent the wish of the VACs with regard to the Proposed Groups of Services. The relationship between these activities and the grouping of possible services for an EO TA is shown in section 3.5.2 and depicted below together with percentages for each activity as shown in the T1 Analysis of Industry Issues.

Groups of Services	Activities from the T1 Analysis of Industry Issues	Percentage of VACs that agree that this activity is important
Keeping Track of and Influencing Programmes	Keeping up to date with new EO Programmes and opportunities	49 %
	Keeping track of and influencing programmes	57 %
Raise General Awareness of EO	Promote Combined EO Capabilities of VACs	56 %
Promote European & Canadian EO Capabilities	Building a value proposition into governments	60 %
	Trade show participation	46 %
	Accessing new types of markets	62 %
	Finding new customers - marketing	49 %
Represent the European & Canadian EO Industry	Pooled purchasing of data	51 %
Gather Market Intelligence	Market intelligence gathering	56 %
Provide a Forum for Networking	Development of new products and services	73 %
Support Certification of	Certification of products and	48 %

Groups of Services	Activities from the T1 Analysis of Industry Issues	Percentage of VACs that agree that this activity is important
Products and Services	services	
Provide Internal Services to Members	Recruitment of new skills to workforce	27 %
	Managing risks	20 %

Table 5-1 Observations from the T1 Analysis of Industry Issues and Relations to the Groups of Services

Also, it is not obvious that the answers from the VACs took the very rapid changes in the EO environment as shown in the EO/GI trends in section 4.5 into consideration when replying. Accordingly, one must be a bit cautious in the interpretation.

It could also be worth while to note that – for instance – the top priority given to “Provide a forum for networking - Development of new products” (73 %) doesn’t necessarily need to be handled inside an EO TA, but could as well be handled in direct contact between some of the VACs and/or in direct contact between some VACs and for instance the European Research Institutes.

Further, from comments during the T1 Analysis of Industry Issues, the VACs would like to have a TA that:

- Isn’t just a “group of friends” but produces tangible results
- Doesn’t compete with the activities of the VACs themselves such as direct contact with the clients
- Produces benefits to all members, not only to the bigger companies

5.3 Proposed Criteria for Prioritisation

The main beneficiaries of the EO TA are identified to be the VACs. Therefore, it is obvious that the interests of the VACs must be in focus, such that the EO TA is able to attract VACs!

The prioritisation is performed stepwise so that the result of the first step forms the first level of prioritisation used in the next step and so on.

The suitability for the Proposed Candidate Mission to be handled by an EO TA is used as the prioritisation criteria in step 1. The reason for this is that some of the Proposed Candidate Missions are better suited to be handled by the VACs themselves, in a co-operation between individual VACs or between individual VACs and other actors outside an EO TA.

The table in section 5.2 showing the interest of the VACs is grouped in three groups, low (<40%), medium (40%-60%), high (>60%) and these groups are used as prioritisation criteria in step 2.

The EOMD Industry Survey concludes that most VACs are small and do not have the financial means to support long-term undertakings. Therefore, it is important that the EO TA generates “early wins”, i.e. VAC advantages in the near future. At the same time it is obviously important for all VACs that an EO TA is handling issues that provides for the

future, thus taking the GI/EO trends into account. These two aspects are handled separately with the relevant prioritisation criteria in step 3 and grouped accordingly.

5.4 Assessment of the Proposed Candidate Missions

In this section, the results from section 4.4 (Identification of Benefits and Challenges of the Proposed Candidate Missions in relation to the Upstream/Midstream/Downstream Groups of Actors) and section 4.5 (EO/GI Trends and Their Likely Effect on the Proposed Candidate Missions of an EO TA) are evaluated against the proposed Criteria for Prioritisation in section 5.3.

The below tables contain such assessment for each Proposed Candidate Mission, but without prioritisation.

Assessment of Proposed Candidate Missions					
Grouping of Services	Target Group of Actors	VAC Priorities	Potential for the VACs via EO TA	Possible early wins for the VACs?	Long term importance to VACs
Keep Track of and Influencing Programmes	Public Satellite Investors/Mission Operators	Medium	High	No	High
	The Aerospace Industry		High	No	Low
	Data Providers		High	Yes	Low
	Pan-European R&D Funding Agencies		High	Yes	High
	International Initiatives		Medium	No	High
	EC and/or ESA Initiatives		High	Yes	Medium
	Standardisation Organisations		Medium	No	Low
	Pan-European Policy Bodies		Medium	No	High
	European Research Institutes		Medium	Yes	High
	European & International Research Organisations		Medium	No	High
Raise General Awareness of EO	Standardisation Organisations	Medium	Medium	No	Low
	Pan-European Policy Bodies		Medium	No	High
	User Associations		High	Yes	High

Assessment of Proposed Candidate Missions					
Grouping of Services	Target Group of Actors	VAC Priorities	Potential for the VACs via EO TA	Possible early wins for the VACs?	Long term importance to VACs
	Pan-European Operational Bodies		High	Yes	High
	General Market		High	No	Low
Promote European & Canadian EO Capabilities	Public Satellite Investors/Mission Operators	Medium	High	No	High
	International Onitiatives		High	Yes	High
	EC and/or ESA Initiatives		High	Yes	High
	User Associations		High	Yes	High
	International Agencies		High	Yes	Low
	Pan-European Operational Bodies		High	Yes	High
Represent the European & Canadian EO Industry	Public Satellite Investors/Mission Operators	Medium	High	No	High
	The Aerospace Industry		High	No	Low
	Data Providers		High	Yes	Medium
	Pan-European R&D Funding Agencies		High	Yes	High
	EC and/or ESA Initiatives		High	No	High
Gather Market Intelligence	User Associations	Medium	High	Yes	Low
	International Agencies		High	Yes	Low
	Pan-European Operational Bodies		High	Yes	Low
	Internal EO TA/Intra-VAC Issues		Medium	Yes	High
Provide a Forum for Networking	National EO TAs	High	Low	No	Medium
	European GI TAs		Low	No	Low
	International TAs		Low	No	Low
	European Research Institutes		High	Yes	Medium

Assessment of Proposed Candidate Missions					
Grouping of Services	Target Group of Actors	VAC Priorities	Potential for the VACs via EO TA	Possible early wins for the VACs?	Long term importance to VACs
	European & International Research Organisations		Medium	No	Medium
	Internal EO TA/Intra-VAC Issues:				
	<i>"Best practice"</i>		Low	No	High
	<i>Development of new products</i>		High	Yes	High
	<i>Changes to the industrial structure</i>		Low	No	High
	<i>Present current capabilities</i>		Medium	Yes	High
	<i>Value prop into governm</i>		Medium	Yes	High
	User Associations		Medium	Yes	Medium
Support Certification of Products and Services	Internal EO TA/Intra-VAC Issues: Certification	Medium	High	No	High
Provide Internal Services to Members	Internal EO TA/Intra-VAC Issues	Low			
	Managing Risks		Low	No	Low
	Recruitment		Low	No	Low

Table 5-2 Assessment of Proposed Candidate Missions for an EO TA

6 Prioritised Lists of Candidate Missions

6.1 Introduction

Based on the assessment of Candidate Missions in section 5.4, this section contains a prioritisation of the Proposed Candidate Missions using the proposed Criteria for Prioritisation depicted in section 5.3.

As shown in section 5.4, the VACs have two requirements on an EO TA that cannot easily be combined, namely that the EO TA:

- acts such that the VACs gain benefits in the near future, and
- is handling issues that provides for the more long term future relevant to the VACs.

Accordingly, this section contains two tables, “Early Wins” and “Long Term” each depicting the result of a sorting of the candidate missions in these categories.

6.2 Ranking of Proposed Candidate Missions giving “Early Wins” for the VACs

The below table shows the ranking of the Proposed Candidate Missions when the criteria “Early Wins” for the VACs” is implemented.

Priority Ranking	Grouping of Services	Target Group of Actors	Scope and Objectives to be Attained
1	Provide a Forum for Networking	European Research Institutes	<ul style="list-style-type: none"> • Provide a forum for networking between the VACs and the research institutes
		Internal EO TA/Intra-VAC Issues: <i>Development of new products</i>	<ul style="list-style-type: none"> • Development of new products and services through networking
2	Keep Track of and Influencing Programmes	Data Providers	<ul style="list-style-type: none"> • Negotiate pooled purchasing of data of favourable data purchasing conditions for the TAs members. • Influence data policy by informing the VA-industry, stimulate debate and provide feedback.
		Pan-European R&D Funding Agencies	<ul style="list-style-type: none"> • Keep track of and influence Pan-European R&D programmes by informing the VA-industry, stimulate debate and provide feedback. • Create links to institutional networks
		EC and/or ESA Initiatives	<ul style="list-style-type: none"> • Keep track of and influence these initiatives, in particular GMES
	Raise General Awareness of EO	User Associations	<ul style="list-style-type: none"> • Ensure that these organisations (and through them: their members) are aware of the EO technologies as such
		Pan-European Operational Bodies	<ul style="list-style-type: none"> • Ensure that these organisations are aware of the EO technologies as such

Priority Ranking	Grouping of Services	Target Group of Actors	Scope and Objectives to be Attained
	Promote European & Canadian EO Capabilities	International Initiatives	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities
		EC and/or ESA Initiatives	<ul style="list-style-type: none"> Keep track of and influence these initiatives, in particular GMES
		User Associations	<ul style="list-style-type: none"> Ensure that these organisations (and through them: their members) are aware of European & Canadian EO capabilities. Identify relevant export market segments either for joint or separate marketing activities
		International Agencies	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities. Identify relevant export market segments.
		Pan-European Operational Bodies	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities. Capture market segment requirements on an aggregated level. Identify relevant export market segments.
	Represent the European & Canadian EO Industry	Data Providers	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities and the needs of the market
		Pan-European R&D Funding Agencies	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities
	Gather Market Intelligence	User Associations	<ul style="list-style-type: none"> Capture market segment requirements on an aggregated level
		International Agencies	<ul style="list-style-type: none"> Capture market segment requirements on an aggregated level
		Pan-European Operational Bodies	<ul style="list-style-type: none"> Capture market segment requirements on an aggregated level
3	Keep Track of and Influencing Programmes	Public Satellite Investors/ Mission Operators	<ul style="list-style-type: none"> Present industry requirements towards definition and priorities of future satellite missions
	Keep Track of and Influencing Programmes	The Aerospace Industry	<ul style="list-style-type: none"> Present industry requirements towards definition and priorities of future satellite missions. Open up for concrete joint activities vis-à-vis (for instance) the Public Satellite Investors.
	Raise General Awareness of EO	General Market	<ul style="list-style-type: none"> Ensure that as many as possible are aware of the EO technologies as such
	Promote European & Canadian EO Capabilities	Public Satellite Investors/ Mission Operators	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities and the needs of the market

Priority Ranking	Grouping of Services	Target Group of Actors	Scope and Objectives to be Attained
	Represent the European & Canadian EO Industry	Public Satellite Investors/ Mission Operators	<ul style="list-style-type: none"> Counterbalance strong voices in the EO research community and within the aerospace industry which tends to favour developing new missions rather than building systems that guarantees long-term steady supply of data to enable building operational services
	Represent the European & Canadian EO Industry	The Aerospace Industry	<ul style="list-style-type: none"> Raise the awareness of European & Canadian capabilities within the EO field and the needs of the market
		EC and/or ESA Initiatives	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities and the needs of the market
	Support Certification of Products and Services	Internal EO TA/Intra-VAC Issues: <i>Certification</i>	<ul style="list-style-type: none"> Organise certification of products and services, probably performed by external partner
4	Provide a Forum for Networking	Internal EO TA/Intra-VAC Issues: <i>Present current capabilities</i>	<ul style="list-style-type: none"> Present the current product and service capabilities in a manner that can easily be accessed and understood by institutional and private customers
		Internal EO TA/Intra-VAC Issues: <i>Value prop into governm</i>	<ul style="list-style-type: none"> Build value propositions into governments
		User Associations	<ul style="list-style-type: none"> Organise joint marketing activities
5	Provide a Forum for Networking	European & International Research Organisations	<ul style="list-style-type: none"> Provide a forum for networking between the VACs and the research institutes
6	Keep Track of and Influencing Programmes	European Research Institutes	<ul style="list-style-type: none"> Keep track of and influence the R&D programmes.
	Gather Market Intelligence	Internal EO TA/Intra-VAC Issues: <i>Market intelligence</i>	<ul style="list-style-type: none"> Perform market studies and analyses. Create an "Organisation of Users"
7	Keep Track of and Influencing Programmes	International Initiatives	<ul style="list-style-type: none"> Keep track of and influence the R&D programmes by informing the VA-industry, stimulate debate and provide feedback. Create links to institutional networks.
	Keep Track of and Influencing Programmes	Standardisation Organisations	<ul style="list-style-type: none"> Keep track of and influence their development plans
	Keep Track of and Influencing Programmes	Pan-European Policy Bodies	<ul style="list-style-type: none"> Keep track of and influence the development plans

Priority Ranking	Grouping of Services	Target Group of Actors	Scope and Objectives to be Attained
	Raise General Awareness of EO	European & International Research Organisations	<ul style="list-style-type: none"> Keep track of and influence the R&D programmes
		Standardisation Organisations	<ul style="list-style-type: none"> Ensure that they are aware of the needs of the EO industry and the development that takes place inside the industry
		Pan-European Policy Bodies	<ul style="list-style-type: none"> Ensure that they are aware of the needs of the EO industry and the development that takes place inside the industry
8	Provide a Forum for Networking	National EO TAs	<ul style="list-style-type: none"> Keep a close contact to ensure that the activities vis-à-vis upstream and downstream players are co-ordinated, for instance: <ul style="list-style-type: none"> Lobbying Joint training courses Be active in dialogues to ensure that industry representation is structured such that VACs benefit to a maximum extent
		European GI TAs	<ul style="list-style-type: none"> Provide a forum for networking between the VACs and – for instance – the GI companies. Investigate possible future mergers
		International TAs	<ul style="list-style-type: none"> Provide a forum for networking between the VACs and – for instance – the GI companies
		Internal EO TA/Intra-VAC Issues: <i>"Best practice"</i>	<ul style="list-style-type: none"> Provide a forum allowing best practice to be captured and consistently presented
		Internal EO TA/Intra-VAC Issues: <i>Changes to the industrial structure</i>	<ul style="list-style-type: none"> Provide a forum where VACs can meet and discuss possible changes to the industrial structure (mergers, purchases of companies etc)
9	Provide Internal Services to Members	Internal EO TA/Intra-VAC Issues: <i>Managing risks</i>	<ul style="list-style-type: none"> Managing risks through joint activities vis-à-vis insurance companies etc
		Internal EO TA/Intra-VAC Issues: <i>Recruitment</i>	<ul style="list-style-type: none"> Recruitment of new skills into workforce (common database of CVs and job vacancies ...)

Table 6-1 Prioritisation of Groups of Candidate Missions – Early Wins

6.3 Ranking of Proposed Candidate Missions of Long Term Importance to the VACs

The below table shows the ranking of Proposed Candidate Missions when the criteria “Long Term Importance to the VACs” is implemented.

Priority Ranking	Grouping of Services	Target Group of Actors	Scope and Objectives to be Attained
1	Provide a Forum for Networking	Internal EO TA/Intra-VAC Issues: <i>Development of new products</i>	<ul style="list-style-type: none"> Development of new products and services through networking
2	Provide a Forum for Networking	European Research Institutes	<ul style="list-style-type: none"> Provide a forum for networking between the VACs and the research institutes
3	Keep Track of and Influencing Programmes	Public Satellite Investors/ Mission Operators	<ul style="list-style-type: none"> Present industry requirements towards definition and priorities of future satellite missions
		Pan-European R&D Funding Agencies	<ul style="list-style-type: none"> Keep track of and influence Pan-European R&D programmes by informing the VA-industry, stimulate debate and provide feedback. Create links to institutional networks
4	Raise General Awareness of EO	User Associations	<ul style="list-style-type: none"> Ensure that these organisations (and through them: their members) are aware of the EO technologies as such
		Pan-European Operational Bodies	<ul style="list-style-type: none"> Ensure that these organisations (and through them: their members) are aware of the EO technologies as such
5	Promote European & Canadian EO Capabilities	Public Satellite Investors/ Mission Operators	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities and the needs of the market
		International Initiatives	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities
		EC and/or ESA Initiatives	<ul style="list-style-type: none"> Keep track of and influence these initiatives, in particular GMES
		User Associations	<ul style="list-style-type: none"> Ensure that these organisations (and through them: their members) are aware of European & Canadian EO capabilities. Identify relevant export market segments either for joint or separate marketing activities.
		Pan-European Operational Bodies	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities. Capture market segment requirements on an aggregated level. Identify relevant export market segments

Priority Ranking	Grouping of Services	Target Group of Actors	Scope and Objectives to be Attained
6	Represent the European & Canadian EO Industry	Public Satellite Investors/ Mission Operators	<ul style="list-style-type: none"> Counterbalance strong voices in the EO research community and within the aerospace industry which tends to favour developing new missions rather than building systems that guarantees long-term steady supply of data to enable building operational services
		Pan-European R&D Funding Agencies	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities
		EC and/or ESA Initiatives	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities and the needs of the market
7	Support Certification of Products and Services	Internal EO TA/Intra-VAC Issues: <i>Certification</i>	<ul style="list-style-type: none"> Organise certification of products and services, probably performed by external partner
8	Keep Track of and Influencing Programmes	EC and/or ESA Initiatives	<ul style="list-style-type: none"> Keep track of and influence these initiatives, in particular GMES
9	Represent the European & Canadian EO Industry	Data Providers	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities and the needs of the market
10	Keep Track of and Influencing Programmes	The Aerospace Industry	<ul style="list-style-type: none"> Present industry requirements towards definition and priorities of future satellite missions. Open up for concrete joint activities vis-à-vis (for instance) the Public Satellite Investors
		Data Providers	<ul style="list-style-type: none"> Negotiate pooled purchasing of data of favourable data purchasing conditions for the TAs members. Influence data policy by informing the VA-industry, stimulate debate and provide feedback
11	Raise General Awareness of EO	General Market	<ul style="list-style-type: none"> Ensure that as many as possible are aware of the EO technologies as such
12	Promote European & Canadian EO Capabilities	International Agencies	<ul style="list-style-type: none"> Ensure that these organisations are aware of European & Canadian EO capabilities. Identify relevant export market segments.
13	Represent the European & Canadian EO Industry	The Aerospace Industry	<ul style="list-style-type: none"> Raise the awareness of European & Canadian capabilities within the EO field and the needs of the market
14	Gather Market Intelligence	User Associations	<ul style="list-style-type: none"> Capture market segment requirements on an aggregated level
		International Agencies	<ul style="list-style-type: none"> Capture market segment requirements on an aggregated level
		Pan-European Operational Bodies	<ul style="list-style-type: none"> Capture market segment requirements on an aggregated level

Priority Ranking	Grouping of Services	Target Group of Actors	Scope and Objectives to be Attained
15	Provide a Forum for Networking	Internal EO TA/Intra-VAC Issues: <i>Present current capabilities</i>	<ul style="list-style-type: none"> Present the current product and service capabilities in a manner that can easily be accessed and understood by institutional and private customers
		Internal EO TA/Intra-VAC Issues: <i>Value prop into governm</i>	<ul style="list-style-type: none"> Build value propositions into governments
16	Provide a Forum for Networking	European & International Research Organisations	<ul style="list-style-type: none"> Provide a forum for networking between the VACs and the research institutes
		User Associations	<ul style="list-style-type: none"> Organise joint marketing activities
17	Keep Track of and Influencing Programmes	International Initiatives	<ul style="list-style-type: none"> Keep track of and influence the R&D programmes by informing the VA-industry, stimulate debate and provide feedback. Create links to institutional networks
		Pan-European Policy Bodies	<ul style="list-style-type: none"> Keep track of and influence the development plans
		European Research Institutes	<ul style="list-style-type: none"> Keep track of and influence the R&D programmes
		European & International Research Organisations	<ul style="list-style-type: none"> Keep track of and influence the R&D programmes
18	Raise General Awareness of EO	Pan-European Policy Bodies	<ul style="list-style-type: none"> Ensure that they are aware of the needs of the EO industry and the development that takes place inside the industry
19	Gather Market Intelligence	Internal EO TA/Intra-VAC Issues: <i>Market intelligence</i>	<ul style="list-style-type: none"> Perform market studies and analyses. Create an "Organisation of Users".
20	Keep Track of and Influencing Programmes	Standardisation Organisations	<ul style="list-style-type: none"> Keep track of and influence their development plans
21	Raise General Awareness of EO	Standardisation Organisations	<ul style="list-style-type: none"> Ensure that they are aware of the needs of the EO industry and the development that takes place inside the industry
22	Provide a Forum for Networking	Internal EO TA/Intra-VAC Issues: <i>"Best practice"</i>	<ul style="list-style-type: none"> Provide a forum allowing best practice to be captured and consistently presented

Priority Ranking	Grouping of Services	Target Group of Actors	Scope and Objectives to be Attained
		Internal EO TA/Intra-VAC Issues: <i>Changes to the industrial structure</i>	<ul style="list-style-type: none"> Provide a forum where VACs can meet and discuss possible changes to the industrial structure (mergers, purchases of companies etc)
23	Provide a Forum for Networking	National EO TAs	<ul style="list-style-type: none"> Keep a close contact to ensure that the activities vis-à-vis upstream and downstream players are co-ordinated, for instance: <ul style="list-style-type: none"> Lobbying Joint training courses Be active in dialogues to ensure that industry representation is structured such that VACs benefit to a maximum extent
24	Provide a Forum for Networking	European GI TAs	<ul style="list-style-type: none"> Provide a forum for networking between the VACs and – for instance – the GI companies. Investigate possible future mergers
		International TAs	<ul style="list-style-type: none"> Provide a forum for networking between the VACs and – for instance – the GI companies
25	Provide Internal Services To Members	Internal EO TA/Intra-VAC Issues: <i>Managing risks</i>	<ul style="list-style-type: none"> Managing risks through joint activities vis-à-vis insurance companies etc
		Internal EO TA/Intra-VAC Issues: <i>Recruitment</i>	<ul style="list-style-type: none"> Recruitment of new skills into workforce (common database of CVs and job vacancies ...).

Table 6-2 Prioritisation of Groups of Candidate Missions – Long Term Benefits

7 Discussion and Conclusions

7.1 Membership Base

As concluded above, the only Beneficiaries that **currently** are likely to be interested in being active members in an European/Canadian EO TA can be found amongst the EO VACs. There are others, for example amongst the Pan-European R&D Funding Agencies, the Aerospace Industry and Public Satellite Investors that might find an existence of an European/Canadian EO TA so important that they are prepared to act as sponsors for such a TA.

In a couple of years, when the market is more mature, it is likely that the EO TA could extend the membership base to involve other industry sectors such as GI, telecom and navigation, or perhaps the EO TA will become a subgroup in a bigger TA within the GI sector.

7.2 Prioritised Candidate Missions

The analysis of the Proposed Candidate Mission taking into account the result of the T1 Analysis of Industry Issues with the VACs, the views of the eoVox Consortium, the benefits and challenges and the trends gave the basis for prioritisation.

The prioritisation was performed in three steps, the first step based on the analysis if the Proposed Candidate Mission was suitable to be handled by an EO TA, the second step based on the analysis of the interest of the interviewed VAC has shown for the Proposed Candidate Mission and the third step taking into account the result of the trend analysis. In the third step two different aspects were handled and ended up in two different Ranking Lists - short term effects for the VACs of the Proposed Candidate Mission, “Early Wins”, respectively “Long Terms Importance” for the VACs of the Proposed Candidate Mission.

An analysis of the two Ranking Lists gives that some Proposed Candidate Missions have high ranking both taking into account “Early Wins” and “Long Term Importance”, while others are highly ranked in one of the lists and low ranked in the other. The below tables show the fifteen most obvious examples of all of these three situations, using the same colour coding as in the earlier sections.

Examples of relevant services are provided for clarification.

“Top 15” of Candidate Missions Combining “Early Wins” and “Long Term”				
Proposed Candidate Mission		Examples for clarification	Early Win Priority Ranking	Long Term Priority Ranking
Grouping of Services	Target Group of Actors			
Provide a Forum for Networking	Internal EO TA/Intra-VAC Issues: <i>Development of new products</i>	Provide a tool enabling the VACs to share information on ideas for new products and services. On request from the VACs, facilitate contacts with actors outside the VAC community.	1	1

“Top 15” of Candidate Missions Combining “Early Wins” and “Long Term”				
Proposed Candidate Mission		Examples for clarification	Early Win Priority Ranking	Long Term Priority Ranking
Grouping of Services	Target Group of Actors			
	European Research Institutes	Organise workshops between the EO TA (and its members) and the research institutes	1	2
Keep Track of and Influencing Programmes	Pan-European R&D Funding Agencies	<p>Actively stimulate debate amongst the VACs and provide feedback to the R&D funding agencies on their plans.</p> <p>Pro-actively stimulate debate amongst the VACs of topics that should be covered by the funding agencies and present and lobby for such ideas vis-à-vis the funding agencies.</p>	2	3
Raise General Awareness of EO	User Associations	Provide information on the general capabilities of EO technologies as such but structured from a user perspective on the EO TA web and in printed material to be used both by the EO TA and its members in relation to these organisations.	2	4
Raise General Awareness of EO	Pan-European Operational Bodies	Pro-actively provide information on the general capabilities of EO technologies as such structured from the perspective of their application areas.	2	4

"Top 15" of Candidate Missions Combining "Early Wins" and "Long Term"				
Proposed Candidate Mission		Examples for clarification	Early Win Priority Ranking	Long Term Priority Ranking
Grouping of Services	Target Group of Actors			
Keep Track of and Influencing Programmes	Public Satellite Investors/Mission Operators	Pro-actively stimulate debate amongst the VACs of <ul style="list-style-type: none"> • what kind of satellite data • the timely availability • and the operational aspects identified by the EO TA members necessary to meet the requirements of the market and present and lobby for such ideas vis-à-vis the public satellite investors.	3	3
		Present and lobby for the findings of the VACs by - for instance – organisations of workshops, individual meetings with representatives for these organisations and provide individual VACs with information tailored to be used in individual meetings with national representatives in the governing bodies of these organisations etc		
Promote European & Canadian EO Capabilities	International Initiatives	Provide general information on the capabilities of European and Canadian value adding capabilities based on the needs related to these initiatives to be used both by the EO TA and its members.	2	5
	EC and/or ESA Initiatives	See above		

“Top 15” of Candidate Missions Combining “Early Wins” and “Long Term”				
Proposed Candidate Mission		Examples for clarification	Early Win Priority Ranking	Long Term Priority Ranking
Grouping of Services	Target Group of Actors			
	User Associations	Provide general information on the capabilities of European & Canadian EO value adding industry structured from a user perspective on the EO TA web and in printed material to be used both by the EO TA and its members in relation to these organisations.	2	5
	Pan-European Operational Bodies	See above	2	5
Represent the European & Canadian EO Industry	Pan-European R&D Funding Agencies	Obtain a “formal” role in relation to these organisations as representative of the EO value added industry.	2	6
Promote European & Canadian EO Capabilities	Public Satellite Investors/Mission Operators	Present the general capabilities of the VACs in meeting and conferences held by these actors, e.g. GOSS.	3	5
Represent the European & Canadian EO Industry	Public Satellite Investors/Mission Operators	Obtain a “formal” role in relation to these organisations as representative of the EO value added industry	6	3
	EC and/or ESA Initiatives	See above	6	3

Table 7-1 “Top 15” of Candidate Missions Combining “Early Wins” and “Long Term”

“Top 15” of Candidate Missions focussing on “Early Wins” with indications of Priority Ranking of “Long Term”				
Proposed Candidate Mission		Examples for clarification	Early Win Priority Ranking	Long Term Priority Ranking
Grouping of Services	Target Group of Actors			
Provide a Forum for Networking	Internal EO TA/Intra-VAC Issues: <i>Development of new products</i>	See Table 7.1 above	1	1
	European Research Institutes	See Table 7.1 above	1	2

"Top 15" of Candidate Missions focussing on "Early Wins" with indications of Priority Ranking of "Long Term"				
Proposed Candidate Mission		Examples for clarification	Early Win Priority Ranking	Long Term Priority Ranking
Grouping of Services	Target Group of Actors			
Keep Track of and Influencing Programmes	Data Providers	Pro-actively stimulate debate amongst the VACs of <ul style="list-style-type: none"> what kind of satellite data the timely availability and the operational aspects identified by the EO TA members necessary to meet the requirements of the market and present and lobby for such ideas vis-à-vis the Data Providers	2	10
	Pan-European R&D Funding Agencies	See Table 7.1 above	2	3
	EC and/or ESA Initiatives	Actively stimulate debate amongst the VACs and provide feedback and lobbying to EC and/or ESA	2	8
Raise General Awareness of EO	User Associations	See Table 7.1 above	2	4
	Pan-European Operational Bodies	See Table 7.1 above	2	4
Promote European & Canadian EO Capabilities	International Initiatives	See Table 7.1 above	2	5
	EC and/or ESA Initiatives	See Table 7.1 above	2	5
	User Associations	See Table 7.1 above	2	5
	International Agencies	Provide general information on the capabilities of European & Canadian EO value adding industry structured from a user perspective to be used both by the EO TA and its members in relation to these organisations	2	12
	Pan-European Operational Bodies	See Table 7.1 above	2	5
Represent the European & Canadian EO Industry	Data Providers	Obtain a "formal" role in relation to these organisations as representative of the EO value added industry.	2	9
	Pan-European R&D Funding Agencies	See Table 7.1 above	2	6

“Top 15” of Candidate Missions focussing on “Early Wins” with indications of Priority Ranking of “Long Term”				
Proposed Candidate Mission		Examples for clarification	Early Win Priority Ranking	Long Term Priority Ranking
Grouping of Services	Target Group of Actors			
Gather Market Intelligence	User Associations	Capture market segment requirements on an aggregated level	2	14
	International Agencies	See above	2	14
	Pan-European Operational Bodies	See above	2	14

Table 7-2 “Top 15” of Candidate Missions focussing on “Early Wins” with indications of Priority Ranking of “Long Term”

“Top 15” of Candidate Missions focussing on “Long Term” with indications of Priority Ranking of “Early Wins”				
Proposed Candidate Mission		Examples for clarification	Long Term Priority Ranking	Early Win Priority Ranking
Grouping of Services	Target Group of Actors			
Provide a Forum for Networking	Internal EO TA/Intra-VAC Issues: <i>Development of new products</i>	See Table 7.1 above	1	1
	European research institutes	See Table 7.1 above	2	1
Keep Track of and Influencing Programmes	Public Satellite Investors/Mission Operators	See Table 7.1 above	3	3
	Pan-European R&D Funding Agencies	See Table 7.1 above	3	2
Raise General Awareness of EO	User Associations	See Table 7.1 above	4	2
	Pan-European Operational Bodies	See Table 7.1 above	4	2
Promote European & Canadian EO Capabilities	Public Satellite Investors/Mission Operators	See Table 7.1 above	5	3
	International Initiatives	See Table 7.2 above	5	2
	EC and/or ESA Initiatives	See Table 7.1 above	5	2
	User Associations	See Table 7.1 above	5	2
Represent the European & Canadian EO Industry	Pan-European Operational Bodies	See Table 7.1 above	5	2
	Public Satellite Investors/Mission Operators	See Table 7.1 above	6	3
	Pan-European R&D Funding Agencies	See Table 7.1 above	6	2
Support Certification of Products and Services	EC and/or ESA Initiatives	See Table 7.1 above	6	3
	Internal EO TA/Intra-VAC Issues: <i>Certification</i>	Organise certification of products and services.	7	3

Table 7-3 “Top 15” of Candidate Missions focussing on “Long Term” with indications of Priority Ranking of “Early Wins”

When studying the tables, it’s important to keep in mind that they are based on the analysis carried out in the earlier sections and if the assumptions in these sections are

changed, the priority will naturally change. However, the above tables depict accurately the result of the analysis. To ensure that there are no major mistakes in the assumptions in the earlier sections, it is important to have the views of the Focus Group, once established.

Also, it could be worth while to note that – for instance – the top priority given to “Provide a platform for networking - Development of new products” doesn’t necessarily need to be handled inside an EO TA, but could as well be handled in direct contact between some of the VACs and/or in direct contact between some VACs and for instance the European research institutes.

In the T1 Analysis of Industry Issues with the VACs, the Synergies and Common Voice generic issues were highly ranked.

The comparable existing Canadian/European EO TA – EARSC – has answered in the interview that the member benefits are:

- Information
- Lobbying
- Focus on small companies
- Position papers to influence decision makers

The top 5 successful activities of EARSC in the T1 Analysis of Industry Issues are noted to be:

- 1 Website
- 2 Newsletter
- 3 Workshops (2 per year)
- 4 Position papers for lobbying (1-2 per year)
- 5 Board members as points of contacts (not so invisible as it is now)

One essential part of the further work in the eoVox study will be to compare the results of the prioritised ranking of the Proposed Candidate Missions with the EARSC ranking of successful activities and the views given by the VACs and existing EO TAs in the T1 Analysis of Industry Issues.

7.3 Resulting Proposed Background Information for Mission Statements

Based on the above findings, it is possible to compile the background information to two separate Mission Statements, one for the current market conditions (i.e. an immature market) and one for the longer term market conditions, i.e. beyond 2009/2010.

7.3.1 Background Information for a Mission Statement Based on Current (immature) Market Conditions

Members: VACs only.

Possible sponsors: Pan-European R&D Funding Agencies (ESA, EC...), the Aerospace Industry (possibly through their TAs) and the Public Satellite Investors (ESA, CNES...)

General benefits to the members: The EO TA can handle common issues that the VACs have problems to handle themselves.

Candidate Missions to be Provided by the EO TA	Example of Possible Effects/Benefits for the Members
Provide a Forum for Networking for the following Groups of Actors:	
Between VACs	Development of new products and services
Between VACs and European Research Institutes	Closer collaboration, resulting in faster and more reliable establishment and market acceptance of new products
Keep Track of and Influence the Programmes of the following Group of Actors:	
Pan-European R&D Funding Agencies	R&D programmes better tailored to the needs of the VACs and their markets
Raise the General Awareness of EO with the following Groups of Actors:	
User Associations	More sales leads for the VACs
Pan-European Operational Bodies	More sales leads for the VACs
Keep Track of and Influencing Programmes of the following Group of Actors:	
Public Satellite Investors/Mission Operators	Operationally usable EO satellites are available in time
Promote European and Canadian EO Capabilities to the following Groups of Actors:	
International Initiatives	More sales leads for the VACs
EC and/or ESA Initiatives	More sales leads for the VACs
User Associations	More sales leads for the VACs
Pan-European Operational Bodies	More sales leads for the VACs
Represent the European & Canadian EO Industry to the following Group of Actors:	
Pan-European R&D Funding Agencies	No surprises and R&D programmes better tailored to the needs of the VACs and their markets, for instance support for development of new products
Promote European and Canadian EO Capabilities to the following Group of Actors:	
Public Satellite Investors/Mission Operators	More sales leads for the VACs
Represent the European & Canadian EO Industry to the following Groups of Actors:	
Public Satellite Investors/Mission Operators	Operationally usable EO satellites are available in time
EC and/or ESA Initiatives	Better alignment of plans between these initiatives and the VACs

Table 7-4 Proposed Mission Statement for the Current (Immature) Market Conditions

7.3.2 Background Information for a Mission Statement Based on Longer Term (more mature) Market Conditions

Members: VACs and possibly members from other industry sectors, probably within the GI, telecom and navigation sectors. Another possibility is that the E/C EO TA will become a subgroup in a bigger TA, again probably within the GI sector.

Possible sponsors: Pan-European R&D Funding Agencies (ESA, EC...), the Aerospace Industry (possibly through their TAs) and the Public Satellite Investors (ESA, CNES...)

General benefits to the members: The EO TA can handle common issues that the VACs have problems to handle themselves.

Candidate Missions to be Provided by the EO TA	Example of Possible Effects/Benefits for the Members
Provide a Forum for Networking for the following Groups of Actors:	
Between Members	Development of new products
Between Members and European Research Institutes	Closer collaboration, resulting in faster and more reliable establishment and market acceptance of new products
Keep Track of and Influencing Programmes of the following organisations:	
Public Satellite Investors/Mission Operators	Operationally usable EO satellites are available in time
Pan-European R&D Funding Agencies	No surprises and R&D programmes better tailored to the needs of the Members and their markets
Raise the General Awareness of EO with the following Groups of Actors:	
User Associations	More sales leads for the Members
Pan-European Operational Bodies	More sales leads for the Members
Promote European & Canadian EO Capabilities to the following Groups of Actors:	
Public Satellite Investors/Mission Operators	More sales leads for the Members
International initiatives	More sales leads for the Members
EC and/or ESA Initiatives	More sales leads for the Members
Represent the European & Canadian EO Industry to the following Groups of Actors:	
Public Satellite Investors/Mission Operators	Operationally usable EO satellites are available in time
Pan-European R&D Funding Agencies	No surprises and R&D programmes better tailored to the needs of the Members and their markets, for instance support for development of new products
EC and/or ESA Initiatives	Better alignment of plans between these initiatives and the Members
Support certification of products and services as an internal EO TA/Intra-VAC issue	Better meet market requirements

Table 7-5 Proposed Mission Statement for the Long Term (More Mature) Market Conditions

7.4 Open Issues

Some of the issues that should be further analysed in the later parts of the eoVox study and/or discussed in the Workshop are the following:

- Is a Trade Association the best answer to the declared interest of the VACs to work more closely together?
- Do the prioritised Candidate Missions prevent the EO TA from being “a talking club only” and do they benefit VACs of all sizes?
- Is the proposed solution for the Membership Base the best one i.e. starting with VACs only and later, when the market is more mature, be open to other constellations?
- Surprisingly, the top priority Candidate Mission arrived at is “development of new products and services”. In this report this has been interpreted in the broadest sense and that the EO TA should only provide a forum for such activities. Is this interpretation correct?
- How can the EO TA best assist the VACs on the export markets?
- When is the EO market likely to mature, such that the dependence of public funding will be less important?
- Is the combination of EO technologies and other technologies (e.g. Location Based Services, Navigation and Telecom) a likely scenario in the near future?
- Is the conclusion that the EO TA needs to generate “early wins”, i.e. VAC advantages in the near future, important for the decision of a VACs to become a member in the EO TA or is it more important for such decision that the EO TA focuses on the long term issues?

Appendix A - Identification of Benefits and Challenges of the Proposed Candidate Missions

Based on the outcome of the T1 Analysis of Industry Issues, the EOMD Industry Survey and the views of the eoVox consortium, the below tables identifies the benefits and challenges for each Proposed Candidate Mission regarding: (i) the possible benefits/effects to the VACs, (ii) the potential for the VACs, (iii) at what level the candidate mission is best handled – the EO TA or the individual VACs, and (iv) possible conflicts of interest between members and/or consequences for the EO TA. In this section, “VS” stands for Very Small, “S” for Small and “M” for Medium sized VACs as per the definition used in the T1 Analysis of Industry Issues.

A.1 Benefits and Challenges of the Proposed Candidate Missions in relation to the Upstream Target Group of Actors

Group of Services: Keep Track of and Influencing Programmes					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
Public Satellite Investors/Mission Operators	Present industry requirements towards definition and priorities of future satellite missions	Operationally usable EO satellites are available in time	Big to the entire VA industry	EO TA. No conflicts.	No conflicts within the EO industry. Probably conflicts with scientific groups who want “R&D” satellites and – possibly – also with aerospace industry who are interested in developing new technology. Also, there could be a conflict with – for instance – ESAs Charta being – mainly – an R&D organisation.
The Aerospace Industry	Present industry requirements towards definition and priorities of future satellite missions. Open up for concrete joint activities vis-	Operationally usable EO satellites are available in time.	Big to the entire VA industry.	Activities lead by EO TA in close cooperation with the VACs that have good connections.	See above.

Group of Services: Keep Track of and Influencing Programmes					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
	à-vis (for instance) the Public Satellite Investors				
Data Providers	Negotiate pooled purchasing of data of favourable data purchasing conditions for the TAs members. Influence data policy by informing the VA-industry, stimulate debate and provide feedback.	Lower data costs	Big, in particular to VS/S VACs. M VACs have better opportunities to negotiate themselves.	Activities lead by EO TA.	Possible conflicts between VS/S VACs and M VACs.
Pan-European R&D Funding Agencies	Keep track of and influence Pan-European R&D programmes by informing the VA-industry, stimulate debate and provide feedback.	No surprises + R&D programmes better tailored to the needs of the VACs and their markets.	Big to the entire VA industry.	Activities lead by EO TA	No conflicts other than with the interests of other "lobbying groups".
International Initiatives	Keep track of and influence the R&D programmes by informing the VA-industry, stimulate debate and provide feedback. Create links to	No surprises + R&D programmes better tailored to the needs of the VACs and their markets.	Medium, in particular to VS/S VACs. M VACs are more often participating in the definition phases of these initiatives.	Activities lead by EO TA	Possible conflicts between VS/S VACs and M VACs.

Group of Services: Keep Track of and Influencing Programmes					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
	institutional networks.				
EC and/or ESA Initiatives	Keep track of and influence these initiatives, in particular GMES	More sales.	Very big to the entire VA industry.	Activities lead by EO TA	Possible conflicts between the VACs that already participates in these initiatives and the VACs that don't.
Standardisation Organisations	Keep track of and influence their development plans.	No surprises + Development plans better tailored to the needs of the VACs and their markets.	Medium to the entire VA industry.	Activities lead by EO TA.	No conflict.
Pan-European Policy Bodies	Keep track of and influence the development plans.	No surprises + Development plans better tailored to the needs of the VACs and their markets.	Medium to the entire VA industry	Activities lead by EO TA.	No conflict
	Keep track of and influence regulations & legislation	No surprises + regulations & legislation take EO industry issues into consideration.			

Group of Services: Raise General Awareness of EO					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
Standardisation Organisations	Ensure that they are aware of the needs of the EO industry and the development that takes place inside the industry	Development plans better tailored to the needs of the VACs and their markets.	Medium to the entire VA industry.	Activities lead by EO TA.	No conflict.
Pan-European Policy Bodies	Ensure that they are	Development plans better	Medium to the entire	Activities lead by EO TA.	No conflict.

	aware of the needs of the EO industry and the development that takes place inside the industry	tailored to the needs of the VACs and their markets.	VA industry.		
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Group of Services: Promote European/Canadian EO Capabilities

Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
Public Satellite Investors/Mission Operators	Ensure that these organisations are aware of European & Canadian EO capabilities and the needs of the market	More sales (through optimised satellite operations and bigger possibilities to obtain role as data distributor)	Big for the entire VA industry	Activities lead by EO TA	No conflicts.
International Initiatives	Ensure that these organisations are aware of European & Canadian EO capabilities	More sales	Big for the entire VA industry, possibly bigger for the VS/S VACs since the M VACs in most cases already have these connections.	Activities lead by EO TA in close cooperation with the VACs that have good connections.	Possible conflicts between VS/S VACs and M VACs.
EC and/or ESA Initiatives	Ensure that these organisations are aware of European & Canadian EO capabilities	More sales.	Very big to the entire VA industry.	Activities lead by EO TA	Possible conflicts between the VACs that already participates in these initiatives and the VACs that don't.

Group of Services: Represent the European/Canadian EO Industry

Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
Public Satellite Investors/Mission Operators	Through formal representation counterbalance strong voices in the EO research community and within the aerospace industry which tends to favour developing new missions rather than building systems that guarantees long-term steady supply of data to enable building operational services.	Operationally usable EO satellites are available in time	Big to the entire VA industry	EO TA. No conflicts.	No conflicts within the EO industry. Probably conflicts with scientific groups who want "R&D" satellites and – possibly – also with aerospace industry who are interested in developing new technology. Also, there could be a conflict with – for instance – ESAs charta being – mainly – an R&D organisation.
The Aerospace Industry	Through formal representation raise the awareness of European & Canadian capabilities within the EO field and the needs of the market.	Operationally usable EO satellites are available in time.	Big to the entire VA industry.	Activities lead by EO TA in close cooperation with the VACs that have good connections.	No conflicts within the EO industry. Probably conflicts with scientific groups who want "R&D" satellites and – possibly – also with aerospace industry who are interested in developing new technology.
Data Providers	Through formal representations ensure that these organisations are aware of European & Canadian EO capabilities and the needs of the market.	Better alignment of plans between data providers and the VACs. Create opportunities for fruitful co-operation.	Big, in particular to VS/S VACs. M VACs have – in most cases already these contacts.	Activities lead by EO TA.	Possible conflicts between VS/S VACs and M VACs.
Pan-European R&D Funding Agencies	Through formal representation ensure that	No surprises + R&D programmes	Big to the entire VA industry.	Activities lead by EO TA.	Possible conflicts between VS/S

Group of Services: Represent the European/Canadian EO Industry					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
	these organisations are aware of European & Canadian EO capabilities and the needs of the market.	better tailored to the needs of the VACs and their markets, for instance support for development of new products.			VACs and M VACs as M VACs already have these contacts which provides them with an advantage.
EC and/or ESA Initiatives	Through formal representation ensure that these organisations are aware of European & Canadian EO capabilities and the needs of the market.	Better alignment of plans between these initiatives and the VACs	Big to the entire VA industry.	Activities lead by EO TA.	Possible conflicts between VS/S VACs and M VACs as M VACs already have these contacts which provides them with an advantage.

Table A-1 Proposed Candidate Missions in relation to the Upstream Target Group of Actors, Identification of Benefits and Challenges

A.2 Benefits and Challenges of the Proposed Candidate Missions in relation to the Midstream Target Group of Actors

Group of Services: Keeping Track of and Influencing Programmes					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
European Research Institutes	Keep track of and influence the R&D programmes.	Closer collaboration. Faster and more reliable establishment and market acceptance of new products.	Medium for the entire VA industry, possibly bigger for the VS/S VACs since the M VACs in most cases already have established relations.	Activities lead by EO TA in close cooperation with the VACs that have good connections	Possible conflicts between VS/S VACs and M VACs as M VACs already have these contacts which provides them with an advantage.
European & International Research Organisations	Keep track of and influence the R&D programmes.	Closer collaboration. Faster and more reliable	Medium for the entire VA industry.	Activities lead by EO TA.	No conflicts.

		establishment and market acceptance of new products.			
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Group of Services: Gather Market Intelligence

Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
Internal EO TA/Intra-VAC Issues: <i>Market intelligence</i>	Market studies and analyses. Create an "Organisation of Users".	More sales leads thanks to more efficient marketing efforts.	Medium for the entire VA industry as such but big for the VS/S VACs who do not have the resources to do this themselves.	Activities lead by EO TA.	No conflicts.

Group of Services: Provide a Forum for Networking

Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
National EO TAs	Keep a close contact to ensure that the activities vis-à-vis upstream and downstream players are co-ordinated, for instance: <ul style="list-style-type: none"> • Lobbying • Joint training courses Be active in dialogues to ensure that industry representation is structured such that VACs benefit to a maximum extent	More powerful and co-ordinated representation. Reduced costs for activities. More powerful and effective representation. Reduced costs for membership fees.	Varying since national EO TAs only exist in a few countries. For the VACs in such countries the advantages are big, especially vis-à-vis the upstream and downstream actors on the Pan-European level. Also, the possibility of reducing member fees by reducing the number	Activities lead by EO TA, but with assistance from the VACs in their respective country.	Representation vis-à-vis the national upstream organisations (national R&D funding agencies, national government agencies and national customers in general) are probably best handled by a national organisation. Potential conflicts between the VACs in a country with national representation and other VACs.

Group of Services: Provide a Forum for Networking					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
			of TAs is attractive for such VACs.		
European GI TAs	Provide a forum for networking between the VACs and – for instance – the GI companies. Investigate possible future mergers.	More easy access to collaboration with organisations working in related disciplines.	Low, since most VACs already have established relations.	Activities lead by EO TA.	No conflicts.
International TAs	Provide a forum for networking between the VACs and – for instance – the GI companies	More easy access to collaboration with organisations working in related disciplines	Low, since most interested VACs already have established relations	Activities lead by EO TA.	No conflicts.
European Research Institutes	Provide a forum for networking between the VACs and the research institutes	Faster and more reliable establishment and market acceptance of new products.	Big for the entire VA industry, possibly bigger for the VS/S VACs since the M VACs in most cases already have established relations.	Activities lead by EO TA in close cooperation with the VACs that have good connections	Possible conflicts between VS/S VACs and M VACs as M VACs already have these contacts which provides them with an advantage.
European & International Research Organisations	Provide a forum for networking between the VACs and the research institutes	Faster and more reliable establishment and market acceptance of new products.	Medium for the entire VA industry.	Activities lead by EO TA.	No conflicts.
Internal EO TA/Intra-VAC Issues	Present the current product and service capabilities in a manner that	More sales leads thanks to more efficient marketing efforts.	Medium for the VA industry as such but big for the VS/S VACs who	Activities lead by EO TA.	No conflicts

Group of Services: Provide a Forum for Networking					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
	<p>can easily be accessed and understood by institutional and private customers.</p> <p>Build value propositions into governments</p> <p>Provide a forum allowing best practice to be captured and consistently presented.</p> <p>Development of new products and services through networking.</p> <p>Provide a forum where VACs can meet and discuss possible changes to the industrial structure (mergers, purchases of companies etc)</p>	<p>More efficient work.</p> <p>Better meet market requirements.</p> <p>Facilitate changes in the industrial structure.</p>	<p>do not have the resources to do this themselves.</p> <p>Low, as VACs probably are unwilling to share their knowledge with competitors.</p> <p>Big.</p> <p>Big, since structural changes are needed.</p>	<p>EO TA to supply the forum but not get involved in the activities as such.</p> <p>EO TA to supply the forum but not get involved in the activities as such.</p> <p>EO TA to supply the forum but not get involved in the activities as such.</p>	<p>Possible conflicts if the EO TA cannot stay out of the discussions.</p>

Group of Services: Support Certification of Products and Services					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
Internal EO TA/Intra-VAC	Organise certification of	Better meet market	Big in the near future	EO TA to supply the	No conflicts.

Issues: <i>Certification</i>	products and services, probably performed by external partner	requirements		forum but not get involved in the activities as such.	
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Group of Services: Provide Internal Services					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
Internal EO TA/Intra-VAC Issues	Managing risks. Recruitment of new skills into workforce (common database of CVs and job vacancies ...).	Possible reduction of costs by assisting in purchasing of insurances. Facilitate recruitment.	Very low. Low. Difficult to see that this will work.	VACs themselves without any involvement of EO TA. If VACs require this service: EO TA to set up such a service with inputs from VACs.	No conflicts.

Table A-2 Proposed Candidate Missions in relation to the Midstream Target Group of Actors, Identification of Benefits and Challenges

A.3 Benefits and Challenges of the Proposed Candidate Missions in relation to the Downstream Target Group of Actors

Group of Services: Raise General Awareness of EO					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
User Associations	Ensure that these organisations (and through them: their members) are aware of the EO technologies as such	More sales leads.	Big, even though general awareness of EO has risen considerably through - for instance - Google Earth.	EO TA vis-à-vis the User Associations and the VACs vis-à-vis the individual clients.	No conflicts, providing that the roles of each kind of organisation are respected.
Pan-European Operational Bodies	Ensure that these organisations are aware of the EO technologies	More sales leads.	Big, even though general awareness of EO has risen	EO TA vis-à-vis the the organisations as such and the VACs vis-à-vis the	No conflicts, providing that the roles of each kind of organisation are respected.

Group of Services: Raise General Awareness of EO					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
	as such.		considerably through - for instance - Google Earth.	individual clients and/or projects.	
General Market	Ensure that as many as possible are aware of the EO technologies as such.	More sales leads.	Medium, even though general awareness of EO has risen considerably through - for instance - Google Earth.	Activities lead by EO TA.	Possible conflict between EO TA and VACs commercial interest.

Group of Services: Promote European/Canadian EO Capabilities					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
User Associations	<p>Ensure that these organisations (and through them: their members) are aware of European & Canadian EO capabilities.</p> <p>Identify relevant export market segments either for joint or separate marketing activities.</p>	More sales leads, also from export markets.	Big to the entire VA industry, in particular the export market for VS/S VACs as they normally do not have the resources to do this job themselves.	EO TA vis-à-vis the User Associations , and the VACs vis-à-vis the individual clients.	No conflicts if the roles of each organisation are respected.
International Agencies	Ensure that these organisations are aware of European & Canadian EO capabilities.	More sales leads from the export market.	Big to the entire VA industry. Activities on the export market are particularly important	EO TA vis-à-vis the agencies as such, and the VACs vis-à-vis the individual clients/projects.	No conflicts.

Group of Services: Promote European/Canadian EO Capabilities					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
	Identify relevant export market segments.		for VS/S VACs as they normally do not have the resources to do this job themselves.		
Pan-European Operational Bodies	<p>Ensure that these organisations are aware of European & Canadian EO capabilities.</p> <p>Identify relevant export market segments.</p>	More sales leads, also from the export market.	Big to the entire VA industry. Activities on the export market are particularly important for VS/S VACs as they normally do not have the resources to do this job themselves.	EO TA vis-à-vis the agencies as such, and the VACs vis-à-vis the individual clients/projects.	No conflicts.

Group of Services: Gather Market Intelligence					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
User Associations	Capture market segment requirements on an aggregated level.	More sales leads thanks to a better understanding of market requirements.	Big to the entire VA industry in so far that it enables VACs to be better suited to meet market requirements.	Activities lead by EO TA.	No conflicts.
International Agencies	Capture market segment requirements on an aggregated level.	More sales leads thanks to a better understanding of market requirements.	Big to the entire VA industry in so far that it enables VACs to be better suited to meet	Activities lead by EO TA.	No conflicts.

Group of Services: Gather Market Intelligence					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
			market requirements.		
Pan-European Operational Bodies	Capture market segment requirements on an aggregated level.	More sales leads thanks to a better understanding of market requirements.	Big to the entire VA industry in so far that it enables VACs to be better suited to meet market requirements.	Activities lead by EO TA.	No conflicts.

Group of Services: Provide a Forum for Networking					
Target Group of Actors	Possible Services	Possible Effects/Benefits for the VACs	Potential Impact for the VACs	EO TA or the VACs Themselves?	Conflicts or Consequences for the EO TA
User Associations	Organise joint marketing activities	More sales leads thanks to marketing activities directly to a specific market segment.	Medium to the entire VA industry since most market segments already aware of EO capabilities.	EO TA vis-à-vis the User Associations as such, and the VACs vis-à-vis the individual clients.	No conflicts.

Table A-3 Proposed Candidate Missions in relation to the Downstream Target Group of Actors, Identification of Benefits and Challenges

Appendix B - Detailed Analysis of EO/GI Trends and their Likely Effect on the Proposed Candidate Missions of an EO Trade Association

B.1 Introduction

The environment in which the EO TA will work will be subject to quite some changes over time. In order to enable a positioning that is as effective as possible, it is therefore important to have an understanding of the trends within the EO/GI field affecting the Proposed Candidate Missions of an EO TA.

Section B.2.1 depicts the most important trends, deducted from various independent studies, the observations from the T1 Analysis of Industry Issues and the views of the eoVox consortium. The trends are analysed both from a timescale perspective, i.e. Low/Medium/High impact for the VACs during the time period in question and the influence on the Proposed Candidate Missions. The timescales used for the analysis are the ones requested in the SoW for the strategic questions, i.e. present; next 2 years; 2-5 years; 5-10 years, and beyond.

Section B.2.2 contains a summary, showing the trends matched to the above timescales.

B.2 Trend Analysis

Legend:
- Timescale:
= Low impact for the VACs within the time period
= Medium impact for the VACs within the time period
= High impact for the VACs within the time period
- Influence on Target Group of Actors and Proposed Grouping of Services for an EO TA:
= Impact on UPSTREAM Target Group of Actors
= Impact on MIDSTREAM Target Group of Actors
= Impact on DOWNSTREAM Target Group of Actors
= Impact on both UPSTREAM and DOWNSTREAM Target Group of Actors
= Impact on both UPSTREAM and MIDSTREAM Target Group of Actors
= Impact on both DOWNSTREAM and MIDSTREAM Target Group of Actors

B.2.1 Trend Description and Effects on the Proposed Candidate Missions

Trend	Time scale					Description	Likely Effect on the Services of the EO TA	Effects on Proposed Candidate Missions
	Present	< 2 yrs	2-5 yrs	5-10 yrs	Beyond			
Market/Demand								
Focus on product specifications						The market will to an increasing extent focus on the product specifications, not the method of data collection	Closely follow the development of market requirements and ensure that VACs are aware of the trends. Facilitate the development of new production methods and new products. Facilitate standardisation of products.	(i) Gather market intelligence (ii) Provide a forum for networking (iii) Support certification of products and services
Focus on price and performance					For "commodity" products, the prices will decrease as competition increases.			
GIS-ready products					The need for "GIS-ready products" e.g. various standardised products will continue to increase			
Stable, long-term supply						Clients will not introduce new methods on an operational basis unless a reliable, long-term supply of data can be guaranteed	Possibility for an EO TA to influence satellite investors, i.e. both public and commercial entities.	Keep track of and influencing programmes
National Spatial Data Infrastructure						NSDI drives demand for both cadastral and environmental information in Europe (i.e. INSPIRE) and internationally. For developing countries, these efforts are financed by e.g. the World Bank, the EC and various national aid organisations.	Possibility for a EO TA to increase the general market awareness on EO capabilities, probably with a focus on environmental information. This is particularly important outside Europe where European capabilities are not well-known. Keep track of and influencing programmes	(i) Keep track of and influencing programmes. (ii) Raise general awareness of EO. (iii) Promote European & Canadian EO capabilities. (iv) Represent the European & Canadian EO industry.
GMES and GEOSS					EU and international initiatives e.g. GMES and GEOSS will drive public demand, mainly for environmental information			
EU directives						Various EU directives(6:th Environment Action programme, Water Framework Directive, CAP etc) drives public demand, mainly for environmental information	Possibility for an EO TA to increase the general market awareness on EO capabilities and promote the E&C EO capabilities, probably with a focus on environmental information but also on NRT capabilities. This is particularly important outside Europe where European capabilities are not well known	(i) Promote the European & Canadian EO capabilities (ii) Keep track of and influencing programmes.
Security issues					Security issues will play an increasing role as the world reacts to threats from terrorists, more extreme weather events (floods, hurricanes, earth quakes...). Preparatory work, provision of Near-Real-Time information for prevention, damage assessment, relief actions and re-construction efforts.			

Trend	Time scale					Description	Likely Effect on the Services of the EO TA	Effects on Proposed Candidate Missions
	Present	< 2 yrs	2-5 yrs	5-10 yrs	Beyond			
Military						Demand is diverse. The "traditional" national military organisations and the international ones, like NATO, depend on national satellite assets for reconnaissance. International organisations like the UN and EU probably will play a more significant role in the future. It is likely that for instance the battle groups currently being planned by the EU and intended for quick reaction on disturbances could be new customers for commercially available information and services.	A possibility for a EO TA to promote E&C EO capabilities for instance to the relevant organisations inside UN and EC. There might also be a possibility to present the capabilities to for instance NATO, but probably not on the national scale.	Promote the European & Canadian EO capabilities

Trend	Time scale					Description	Likely Effect on the Services of the EO TA	Effects on Proposed Candidate Missions
	Present	< 2 yrs	2-5 yrs	5-10 yrs	Beyond			
Public R&D funding								
EC:s 7:th Framework Programme						EC:s 7:th Framework Programme contains funding for the continuation of GMES development as well as other R&D activities of interest for the VACs. The FP 7 holds substantially more money than FP 6.	Opportunity for an EO TA to: Keep track of and influence the content of these programmes and inform VACs of opportunities connected to these programmes. Promote European & Canadian EO capabilities.	(i) Keep track of and influencing programmes (ii) Promote European & Canadian EO capabilities.
ESA GSE-projects				?	?	ESA will continue to fund the service development within GMES until 2008. After this period, ESA participation in the funding is currently unsure		
ESA EOMD				?	?	Funding will continue at current level, i.e. 6-7 MEURO/year and presents interesting opportunities for VACs to obtain R&D funding		

Trend	Time scale					Description	Likely Effect on the Services of the EO TA	Effects on Proposed Candidate Missions
	Present	< 2 yrs	2-5 yrs	5-10 yrs	Beyond			
Data Supply								
Airborne digital optical cameras						Exist already and their performance will improve and prices of the device will decrease over time	Opportunity for an EO TA to: (i) keep track on what's going on and analyse the possible consequences for the EO VACs, (ii) influence satellite investors/data providers, (iii) negotiate	(i) Keep track of and influencing programmes. (ii) Represent the European & Canadian EO industry.
New commercial optical VHR-satellites			?	?	?	Within 2 years time better ground resolution (0,5 m). If they are a commercial success, more will follow.		

Trend	Time scale					Description	Likely Effect on the Services of the EO TA	Effects on Proposed Candidate Missions
	Present	< 2 yrs	2-5 yrs	5-10 yrs	Beyond			
Data Supply								
New commercial SAR-satellites			?	?	?	Within 2 years time, better ground resolution (~ 1m). If they are a commercial success, more will follow.	favourable conditions under which the VACs can purchase data.	
New satellites from emerging space nations						India, Israel, China, Taiwan, Korea, Thailand, Brazil... will launch satellites within the coming 5 years and probably continue in the periods following this initial period.		
New satellites from existing civilian institutional EO players						ESA, NOAA, JAXA... will launch a number of new EO satellites, mainly in the timeframe 5-10 years, and probably continue following this period.		
Dual-Use satellites						More dedicated Dual-Use (military/civilian) satellites will be launched in the coming years, for instance Pleiades. Even though the military use has priority, there could be quite a lot of opportunities for non-military use as well.		
Satellite owners/data providers move downstream						These organisations are to an increasing extent trying to move into the traditional arena of the VACs, for instance by supplying various enhanced products (ortorectified products, satellite image maps, and other GIS-ready products). This trend will continue over the years as the technology develops.		

Trend	Time scale					Description	Likely Effect on the Services of the EO TA	Effects on Proposed Candidate Missions
	Present	< 2 yrs	2-5 yrs	5-10 yrs	Beyond			
Products/Services								
Integrated services						Geographical information will in the future to a much greater extent be used together with other types of information ("in-situ" data, statistical information, user specific information etc) to provide operational services. EO data can be used in many of these applications, but normally only as a smaller piece of these integrated products/services.	Possibility for an EO TA to keep track on what's going on and spread the knowledge amongst VACs, encourage VACs to participate/be active and - in some instances - promote the capabilities of EO VACs to "User oriented TAs". Also there is a possibility for VACs to develop new products by joining forces between them, share "best practise" find joint initiatives together with GI-companies etc.	<ul style="list-style-type: none"> (i) Keep track of and influencing programmes. (ii) Promote European & Canadian EO capabilities. (iii) Provide a forum for networking.
NRT, forecasting, data assimilation and modelling						EO data is already increasingly being used to provide for NRT services and - through data assimilation and modelling - forecast services will possibly play an important role in many operational services such as air quality/chemical transport		

Trend	Time scale					Description	Likely Effect on the Services of the EO TA	Effects on Proposed Candidate Missions
	Present	< 2 yrs	2-5 yrs	5-10 yrs	Beyond			
Products/Services								
						models, ice services, hydrological modelling etc		
GIS-ready products						End-to-end systems, automatisisation of image processing, large productions scale are increasingly being implemented to facilitate delivery of GIS ready products which can be used directly in the end-users operations		
Standardisation of products						Is already well on its way and will increase dramatically over the coming years. On the European arena, one of the major drivers is of course the INSPIRE initiative. This will in particular effect "commodity products".	Possibility for an EO TA to: keep track on what's going on and spread the knowledge amongst VACs, encourage VACs to participate/be active in the process and influence the standardisation bodies. Naturally, there is also a possibility for VACs to develop new products by joining forces between them, share "best practise" find joint initiatives together with GI-companies etc.	(i) Keep track of and influencing programmes. (ii) Provide a forum for networking. (iii) Support certification of products and services
Data Harmonisation						The overall idea is to enable a user to "drill down" through information from various heterogeneous sources ("cross-sector" and "cross-border") over his/her area of interest – and be able to combine this information to achieve his/her objective. There are significant work going on within INSPIRE and GMES towards this goal, but it will take many years before this is achieved.		
Technological development						Much is happening, and fast! For instance, on the IT-side, webservices will have a dramatic effect.	Possibility for an EO TA to keep track on what's going on and spread the knowledge amongst VACs	Gather market intelligence.

Trend	Time scale					Description	Likely Effect on the Services of the EO TA	Effects on Proposed Candidate Missions
	Present	< 2 yrs	2-5 yrs	5-10 yrs	Beyond			
Industry Structure								
Consolidation						During the last years, there's been a clear tendency for larger VACs to absorb smaller, specialised companies or are building stronger bonds with the smaller companies in order to broaden the portfolio or market presence. This trend is expected to continue.	The EO TA can be a forum where VACs can meet and discuss possible changes in the industrial structure, but without the involvement of the EO TA as such .	Provide a forum for networking.
Vertical integration						For instance large aerospace companies have been purchasing VACs and putting them under one umbrella, e.g. Astrium and Alcatel/Telespazio. Up-stream down-stream integration, end-to-end systems. Users organisations are to a larger degree in-sourcing	No task for a EO TA	
Horizontal integration						Players outside the traditional EO industry have lately been entering the market, e.g. large engineering consultancy companies acquiring aerial- and EO remote sensing companies, Google, Microsoft, ESRI, etc. This trend is expected to continue.	No task for a EO TA	
Newcomers						In all likelihood, there will always be room for new, small and specialised, companies to enter the market place since the entry costs are fairly low.	Need for an EO TA to present itself to the various players, especially the Newcomers.	Provide a forum for networking.
Industry Representation								
Changing to match changes in the market						Both upstream and downstream. Some TAs disappear/merge and others are emerging. In line with the above trends in the market, it is assumed that some mergers will take place within the coming five years.	The EO TA could be active in dialogues with other TAs, ensuring that the industry representation is structured such that the VACs benefit to a maximum extent.	Represent the European & Canadian EO industry.

Table B-1 The most Important Trends affecting the Proposed Candidate Missions of an EO TA

B.2.2 Summary of EO/GI Trends Aggregated to Timescales

The below table shows the trends aggregated to the time scales indicated for the strategic questions in the SoW, i.e.: present; next 2 years; 2-5 years; 5-10 years and beyond.

Trends	Present	Next 2 yrs	2-5 yrs	5-10 yrs	Beyond
Market/Demand					
Focus on product specifications					
Focus on price & performance					
GIS-ready products					
Stable, long term supply					
National Spatial Data Infrastructure					
GMES & GEOSS					
EU directives					
Security issues					
Military					
Public R&D Funding					
ECs 7:th Framework Programme					
ESA GSE-projects				?	?
ESA EOMD				?	?
Data Supply					
Airborne digital optical cameras					
New commercial optical VHR-satellites			?	?	?
New commercial SAR-satellites			?	?	?
New satellites from emerging space nations					
New satellites from existing civilian institutional EO players					
Dual-Use satellites					
Satellite owners/data providers move downstream					
Products/Services					
Integrated services					
NRT, forecasting, data assimilation and modelling					
GIS-ready products					
Standardisation of products					
Data harmonisation					
Technological development					
Industry Structure					
Consolidation					
Vertical integration					
Horizontal integration					
Newcomers					
Industry Representation					
Changing to match changes in the market					

Table B-2 The most Important Trends affecting the Tasks of an EO TA depicted to the Timescales for the Strategic Questions indicated in the SoW.

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