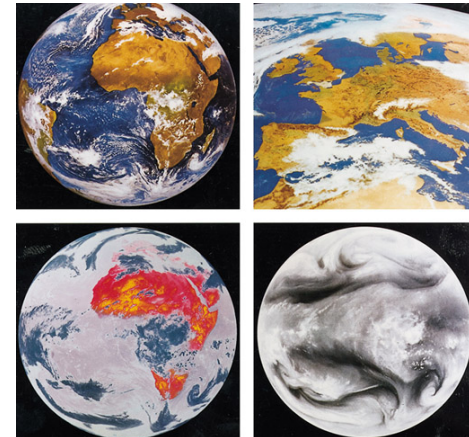


ROADMAP FOR THE EO VA INDUSTRY IN EUROPE AND CANADA 2006-2015

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- 1. Introduction
- 2. Industry Issues: Challenges and Risks
 - Economic Standing
 - Technical standing and innovation
 - Worldwide positioning
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- **This industry covers the whole remote sensing chain from data acquisition to value added data processing and interpretation, that is to geo-information**
- Companies come from most European countries and have achieved several operational successes world wide in Earth Science and applications:
- The representative association EARSC promotes both industry and Earth observation as tools at the service of the citizen and as instruments of European independence and autonomy

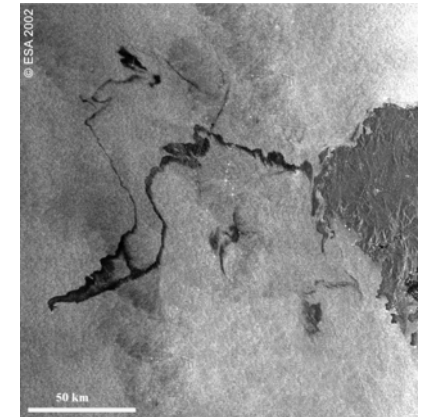


1. Strengths of European RS industry

- Large experience providing information based on RS data to government, industry and the citizen
- Mastery of space-borne/airborne/in-situ systems and sensors technologies
- a long history of close collaboration with Earth scientists in a large variety of thematic domains
- indigenous to Europe, a continent with extremely diversified landscapes and environmental problems
- strong partnership experience across European borders
- a dense network of relations with other continents and countries, from historical heritage
- innovation capability (spin-off from world class research in scientific laboratories and industry, new forms of partnerships,...)



- Technical and logistical competence reaching maturity
 - Possibility to capitalise on the successes of: METEOSAT, SPOT, ERS, ENVISAT, JASON,...
- Political, social & economical awareness of the importance of Global Monitoring of Environment and Security (GMES)
 - Protecting the planet, Sustainable Development
 - Warning and mitigation of natural disasters
- Emergence/expression of needs, applications and markets world wide, including developing countries, and global acknowledgement of the interest of international co-operation
- Opportunity in GMES to get world wide dimension, structure overall architecture, aggregate public demand (GEO)
- Opportunities to reach out to export markets



Developing the European EO business (public & private):

Economic Standing

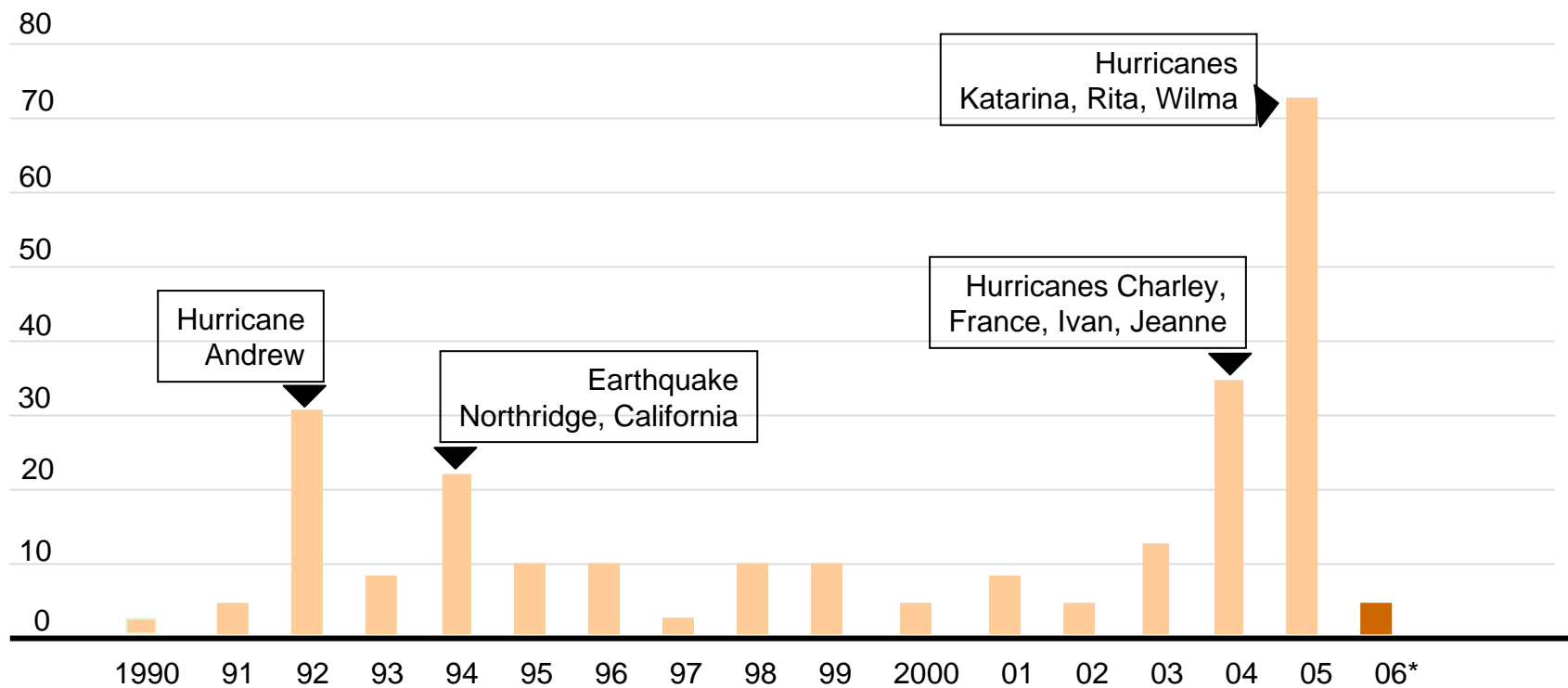
- Promote the right policies and budgets: levels of public investment
- Promote the right partnership
- Develop relations with new users
- Have a clear view on the prospects for the Earth Observation business.
- Develop efficient exchange of information mechanisms within the EO VA community
- Access economically sound information related to the Earth Observation business.
- Define suitable business models to implement new services
- Identify right financing mechanisms



The cost of natural disasters in the United States

For the insurance companies, in billions of dollars

In 2005 natural disasters have killed 97 000 people and cost 83 billion dollars for insurers



Developing innovative applications and services

- Develop synergies with telecoms and navigation organisations
- EOTA/EARSC must be able to show its technical background and competence as well as foster new technological developments.
- To show its capabilities, it must provide input to existing programs (in particular at EU and ESA) as an association. This can take the form of technical consulting on state of the art issues related to the technical aspects of value added Earth observation development.
- Bridges with EUROGI, OGC and other associations of the same type must be established on an operational basis: development of standards



Positioning the European industry worldwide through

- Increase involvement and dynamics within trade association
- Involvement in the definition of standards
- Partnership with international organizations globally (in particular through GEO, GMES and GEOSS)
- Strengthen links with European institutions
- Organization and participation in international events
- Be a European counterpart of OGC



Political Standing

- Relations to EU

The relationship with EU must be developed

- Relations with space Agencies

Foster renewed and more extensive Earth Watch/EOMD activities.

- Relations with Industry at large (Space, Non-Space)

Relationship with EUROGI/EUROSPACE must be strengthened. Other professional associations must be considered for partnership.

- Relations with User Communities

Relation with User Communities is the weakest link of Earth Observation today. It must be the industry's paramount objective and ambition to help the user community structure itself. It is an essential task for Europe, which will be duly appreciated by the governmental agencies and will bring the highest benefits to the EO VA industry.

THESE INITIATIVES REQUIRE A STRONG EO TA TO BE CARRIED OUT



3. Overall development plan of industry

- **The main focus of an industrial sector is to generate services and profits as well as provide employment.**
- **Preliminary strategic goals for European VA industry in 2020 can be summarised as follows.**
 - **Generate revenues from services in the order of billions of Euros.**
 - **Have a large and stable workforce. .**
 - **Cover all the out-sourcing needs of European institutions in terms of environmental monitoring**
 - **Have EO-based information smoothly and transparently integrated in all economic and industrial sectors**
 - **Have a strong trade association at least on a par with American or Asian equivalent**
 - **Play a leading role on the export market**



- **Generate large revenues from services in the order of billions of Euros.**
- This number is in line with predictions on the development of the geo-information market. In the short term sufficient levels of public investment must be provided.
- This must be based on the *assurance that there is a suitable operational data supply and acceptable data and price policy, in particular in favour of VACs.*

It is also quite obvious that governments should invest importantly in these domains of application.

- **Have a large and stable workforce.**
- Today the work force in EO VA industry is of the order of a few thousand at maximum. There is a real potential for growth in line with the Lisbon Agenda.

- **Cover all the out-sourcing needs of European institutions in terms of environmental monitoring**
- European institutions have been the first users and customers of the VA sector. It is only logical that the public needs be fulfilled in priority. However *specific policies and financing must be put in place to allow VAC to develop operational products and services instead of focusing on pre-commercial product development. FP 6 mechanisms are not suitable while FP 7 mechanisms are still under discussion.*
- *Enforcement of environmental policy and legislation must be accompanied by participation of European Industry in Environmental policy implementation.*
- *Generally the tuning of EC programs must be made in consultation with Industry.*
- **Have EO-based information smoothly and transparently integrated in all economic and industrial sectors**
- EO-based and geo-information in general have their natural place in geographical information systems. Tomorrow those GIS will be present everywhere. So should be EO VA data. *Links with other information technologies and related application domains must be fostered and standards and certification protocols must be developed and generalised.*
- *For the same objective more formalised long term partnership must be established (both horizontal between different application and domains, and vertically)*



3. Overall development plan of industry

- **Have a strong trade association at least on a par with American or Asian equivalent**
- the Asian region will develop quite fast and be on a par with the US.
- It will achieve autonomy in value-adding and have active trade associations, whatever the structure of such associations could be as a function of local political choices.
- *Trade association and public institutions must work together to strengthen European EO TA.*
- *Elements of the action plan for the development of the EO TA have been analysed in the EOVOX project*

- **Play a leading role on the export market**
- International market forces at work in geo-information are mostly today in the area of provision of geographical information systems and satellite images. The domain of services is an emerging one.
- It is expected that by 2020 all continents will play a role and stronger market forces will be at play. It is thus essential to take advantage of the present edge European companies have to strengthen this domain of activity. The first period (2006-2010) must be dedicated to the operationalisation of services before being able to export them in the medium-term.

- *Market development activities of VAC's must be supported due to their lack of own resources (examples are provided by EOMD).*



- **Summary of Short Term Objectives for European/Canadian Industry: 2006-2010**
- Lobby large scale public services to be funded and delivered through the private sector
- Lay the ground work for web service development
- Develop public applications to the furthest extent and insure sufficient levels of public investment.
- Setup increased synergies between EO, Navigation and Telecoms
- Prepare European independence and autonomy in operational environmental monitoring
- Generate annual revenues of 1 billion euros in 2010
- Consolidate and enlarge the existing companies and their trade association EARSC
- Strengthen the Trade Association to cruise
- Start substantial deployment on export market



3. Overall development plan of industry

- **Summary of Medium-Term Objectives: 2010-2015**
- Generate revenues of 5 billion euros in 2015
- Cover all the needs of European public institutions
- Large scale development of synergistic geo-information applications based on EO, Navigation and Telecoms
- Increase involvement in diverse economic and industrial sectors
- Achieve European independence and autonomy in operational environmental monitoring
- Start consideration of PPP
- Develop partnership beyond Europe
- Be significant on export market for services



ROADMAP for EO VA INDUSTRY DEV	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
INSTITUTION-LED	<i>Phase 1</i>				<i>Phase 2</i>					
Insure Government Investment <i>GEO, GEOSS, EU, ESA, National Programs</i>	<i>Infrastructure and Application Financing</i>				<i>Infrastructure Financing</i>					
Insure Operational data Supply <i>Launches</i>	<i>CS-a</i>	<i>RDRST-2</i>	<i>CS-b</i>	<i>CS-c</i>		<i>S1-a</i>	<i>CS-d</i>	<i>S1-b</i>	<i>S3-b</i>	<i>MTG</i> <i>S4-a</i>
		<i>Terrasar</i>	<i>Pleiades</i>			<i>S2-a</i>	<i>S3-a</i>	<i>S2-b</i>		<i>S5-a</i>
Set up public financing tools for industry growth <i>EU, ESA, EIB</i>	<i>InveSAT, INNOVA, FP7,...</i>									
Finalise European Policy <i>Governance, Space policy, Data Policy</i>	<i>EU Finan Persp</i>		<i>ESA-M in</i>							
Ensure suitable environm. policy & legislation <i>International agreements and regulations</i>	<i>Kyoto,...</i>									
Develop public services <i>European Union, EEA, National and Regional Institutions</i>	<i>Fast Tracks EOMD</i>									
INDUSTRY-LED	<i>Phase 1</i>				<i>Phase 2</i>					
Develop standards and certification <i>European Union, OGC, W3, ETSI</i>	<i>INSPIRE Web Service</i>									
Develop horizontal and vertical partnership <i>New Technologies, New Thematic</i>	<i>Synergy Space, Web, GPS, Telecom, In-Situ, GIS</i>									
Set up private financing tools, business models	<i>Venture Capital, Debt Financing, Loans,...</i>									
Power up European EO TA - EARSC	<i>>100 members, WGs,...</i>									
Set international entities for sector development	<i>Links with US, GEO, India,...</i>									
Promotion of Workforce Training and Services										
S=Sentinel CS=Cosmo-Skymed RDRST=Radarsat										



- Presentation of the Industry Agenda Draft Position Paper, Frascati, Sept. 14th, 2006
- Feedback on the Position Paper will be collected with two complementary mechanisms
 - 1. At the Sept. 14th Workshop, through the splinter sessions and participants comments
 - 2. Continuous e-mail inputs/discussions from stakeholders until October 31th.
- EoVox will manage the Industry feedback. EARSC will insure tracability of Industry comments.
- Position Paper will be finalised October 31th, 2006
- Endorsement from VAC's will be obtained in a continuous process starting at the Workshop and finalised on November 15, 2006. An Annex to the Position Paper will list the VAC's which endorse the paper.

