WORKSHOP ON GNSS APPLICATIONS

5th OREGIN Plenary meeting
Brussels, 1st December 2000
AGENDA

10.00 Workshop introduction and objectives

10.20 The GALILEO Programme

10.30 Towards the decision on GALILEO:
   - Applications and Business Opportunities
   - Mission Requirements (services)
   - Baseline Architecture
     - Space segment
     - Local elements
   - GALILEO Implementation Schedule

11.40 Coffee break

11.55 EGNOS paves the Way
   - EGNOS Implementation Schedule
   - EGNOS System Test Bed
   - Demonstrations accomplished so far

12.40 Lunch
AGENDA

14.00 EC/ESA Proposal for Application and Service Developments
   – Overall applications work plan 2001-2007
     EC
14.20 Near Term Actions
   – EC Tender Action 2001
     EC
   – ESA Tender Actions 2000-2001
     ESA
14.50 Views of (potential) user equipment manufacturers,
 service providers and users
     All
15.30 Coffee break
15.45 OREGIN session
   – Status of the initiative
   – Financing and projects
   – Communication and advertising actions
   – Any other business
17.15 Wrap up and conclusion
     OREGIN
17.30 End of the meeting

OREGIN
INTRODUCTION

- Welcome
- OREGIN background
- OREGIN members
- OREGIN missions objectives
- Workshop objectives
WHAT IS OREGIN?

The ORganization of European GNSS INdustry of equipment and services:

- information exchange
- cross-fertilisation of expertise
- point of contact/industry voice for the European Institutions
- publicity and lobbying
- fostering co-operation with non-European industries creating opportunities in overseas and global market
STATUS OF THE INITIATIVE

- Foundation meeting on 16 Feb. 99
- 4 Plenary meetings
- Interest expressed by Institutions
- Interest expressed by equipment and service industry
- Interest expressed by Non European industry to cooperate (Japanese, US, Israel, Canada …)
- Interest expressed by other players
- 5th plenary meeting/Workshop with EC and ESA on 1 Dec. 2000
## MEMBERS

- ACSA (FRANCE)
- ADTRANZ (GERMANY)
- ADVANCED AVIATION TECHNOLOGY Ltd. (UNITED KINGDOM)
- ADVETO AB (SWEDEN)
- AERODATA F. (GERMANY)
- AGROCOM (GERMANY)
- AIRSYS ATM (GERMANY)
- ALCATEL/SEL (GERMANY)
- ALENIA (ITALY)
- BCI (FRANCE)
- BMW-AG (GERMANY)
- CAA (GERMANY)
- COM DEV Europe Ltd. (UNITED KINGDOM)
- CS Communication & Systèmes (FRANCE)
- DAIMLER CRYSLER GROUP (GERMANY)
- DSNP (FRANCE)
- DIGINEXT (FRANCE)
- EDISOFT (PORTUGAL)
- EGERY (FRANCE)
- ELNA (GERMANY)
- ERICSSON TELECOMMUNICAZIONI (ITALY)
- ERTICO (INTERNATIONAL)
- EURO -TELEMATIK (GERMANY)
- EUTELSAT (INTERNATIONAL)
- FIAT (ITALY)
- GSS (UNITED KINGDOM)
- HELLENIC AEROSPACE INDUSTRY (GREECE)
- IMEC (BELGIUM)
- INDRA ESPACIO (SPAIN)
- INTECS SISTEMI (ITALY)
- MAN TECHNOLOGIE (GERMANY)
- MANNESMANN VDO (GERMANY)
- MARCOSOFT (ITALY)
- MLR (FRANCE)
- MORS (FRANCE)
- NAVIONICS (ITALY)
- NEXT S.p.A. (ITALY)
- NOKIA (FINLAND)
- OmniSTAR BV (THE NETHERLANDS)
- ORMSTON (UNITED KINGDOM)
- RACAL AVIONICS (UNITED KINGDOM)
- RACAL RESEARCH Ltd. (UNITED KINGDOM)
- RACAL TRACKS (UNITED KINGDOM)
- RAYTHEON (UNITED KINGDOM)
- ROBERT BOSCH GmbH (GERMANY)
- SAGEM (FRANCE)
- SAIT RADIOHOLLAND (BELGIUM)
- SATCON (GERMANY)
- SATPLAN (FRANCE)
- SEATEX (NORWAY)
- SEMA GROUP (SPAIN)
- SENA GPS (SPAIN)
- SENER (SPAIN)
- SEPTENTRIO (BELGIUM)
- SEXTANT (FRANCE)
- SKEYE (GERMANY)
- TCHIP SEMICONDUCTOR (SWITZERLAND)
- TECHNIUM (FRANCE)
- TELE ATLAS (BELGIUM)
- TELEMATICA (GERMANY)
- TELECONSULT (AUSTRIA)
- TELESPIAZIO (ITALY)
- TELIT (ITALY)
- TEMEX TELECOM (FRANCE)
- TERRAFIX (UNITED KINGDOM)
- THOMSON-CSF COMSYS (FRANCE)
- THOMSON-CSF AIRSYS (FRANCE)
- THOMSON-CSF DETEXIS (FRANCE)

### EUROPEAN GNSS INDUSTRIAL ORGANIZATIONS

- AUSTRIAN INDUSTRY (ASA)
- SCANDINAVIAN INDUSTRY (SGIC)
- SPANISH INDUSTRY (Galileo Sistemas y Servicios)
MISSIONS AND OBJECTIVES

- To support the development of GALILEO users segment equipment and services,
- To provide public authorities with technical and marketing expertise and support in analysing the impact of GALILEO architecture on user equipment and services,
- To support the necessary efforts on standardisation and certification for the development of user segment equipment and services,
- To foster the identification of business opportunities and define the necessary actions to ensure their success,
- To foster partnership between industrialists and in particular between large corporations and SMEs,
- To rapidly and efficiently circulate relevant information,
- To promote EUROPEAN industry, technology, products and services,
- To encourage participation of universities and research centres in R&D activities related to GALILEO developments.
WORKSHOP OBJECTIVES

• To keep the industry informed of the latest evolution of the Galileo Programme (including EGNOS)

• To provide the first important opportunity for open interactive discussions between the Application Industry and the European Institutions
To confirm the strong interest of the Application Industry to support the Galileo Programme

To identify the necessary actions to support and promote the Application Industry competitiveness

To contribute to the Galileo success story
How to prepare a favourable environment for the development of Satellite Navigation Applications
DISCUSSIONS

What are the top ten actions which could foster to the European Application Industry access to market and promote its competitiveness:

• funding?
• public laws?
• standardisation?
• creation of European centres of expertise/laboratories?
• political agreements and announcements?
• advertising and communication?
• start up creation/SME access to market?
• information and discussion?
• others ...
FOREWORD

US examples are provided in the following slides. It is only to stimulate the debate, but these examples must not be considered as de facto “good examples” for Europe.

Europe has its particularities which could make such examples as not applicable for the European industry, or which could lead to the generation of far more appropriate and efficient solutions.

These examples do not intend to steer the discussion but only to break the ice.
FUNDING: GPS EXAMPLE

DoD Plans in 92

Total Programme = $11.6 Billion

<table>
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<th>Year</th>
<th>SPACE &amp; CONTROL</th>
<th>USER EQUIPMENT</th>
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<tr>
<td>PRIOR</td>
<td>3500 M$</td>
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<tr>
<td>FYDP</td>
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</table>
FUNDING: GPS EXAMPLE

DoD plans in 92

Actual procurement in 93

M$:

Thousands of units:

0 1000 2000 3000 4000 5000 6000

0 2 4 6 8 10 12 14 16 18 20

PRIOR 92 93 94 95 96 97 FYDP

SPACE & CONTROL
USER EQUIPMENT

0 1000 2000 3000 4000 5000 6000

86 87 88 89 90 91 92 93

Thousands of units

DoD plans in 92

Actual procurement in 93

M$:

Thousands of units:

0 1000 2000 3000 4000 5000 6000

0 2 4 6 8 10 12 14 16 18 20

PRIOR 92 93 94 95 96 97 FYDP

SPACE & CONTROL
USER EQUIPMENT

0 1000 2000 3000 4000 5000 6000

86 87 88 89 90 91 92 93

Thousands of units
The US public law (n° 103-160 dated 30 Nov. 93) called “project 2000” urged on the US DoD to equip all military platform with GPS before the 30th Sep. 2000.

The FCC mandate forces the introduction of a location capability in mobile communication systems (911 emergency calls).
PUBLIC LAW: EUROPEAN POSSIBILITIES?

- Safety, emergency, SAR
- Electronic tolling
- Tachograph, black box
- Surveillance
- Other?
The US industry is very often leading standardisation efforts.

They are usually able to develop equipment in parallel with standard, or to generate de facto standards providing them with an important advance for the market penetration.

What should the European industry do?

How can the European institutions support them?
Police Agreement and Announcements

- US President or Vice President makes press announcements and directives almost every year (IOC, SA, modernisation …)

- An agreement has been signed between Japan and the US to promote their respective GPS equipments
• Start up creation is easier in the US than in most of the European Countries

• In Japan, government support takes the form of wide access credits under very favourable conditions
GPS EXAMPLE

- 3 symposiums a year
- Dedicated magazines
- Reports in news papers, magazine, TV news
- Others
CREATION OF EUROPEAN CENTERS OF EXPERTISE/LABORATORIES

Public facilities could support the test and validation of new products and services developed by industry

(e.g.: GPS user equipment test & validation Centre of expertise, SPAWAR...)
Does such meeting need to be regularly hold?
Other ?
OREGIN

5th Plenary meeting
STATUS OF THE INITIATIVE

- 70 members including international industry organisations and national groups
- Industries from 14 countries
- Pressure from non European Groups having small subsidiaries in Europe to be involved and informed

Urgent to define accurate eligibility criteria for the selection of OREGIN member
FINANCING AND PROJECTS

Philosophy:

- no subscription fees
- no annual fees
- members accept to provide time, travel expenses and support
- sponsoring members accept to participate to general expenses (up to 1000 Euros)
- looking for funding from Institutions
# 2000 Budget and Expenses

**Budget 2000:** € 2 000 (DSNP and SEATEX)

<table>
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<th>Expenses:</th>
<th>Costs</th>
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<td>GNSS 2000:</td>
<td>€ 3 000</td>
<td>OREGIN</td>
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<td>Brochure:</td>
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<tr>
<td>Workshop:</td>
<td>€ 1 000</td>
<td>FDC or OREGIN</td>
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<td>Logos (OREGIN/OREGIN Member):</td>
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<td>FDC</td>
</tr>
<tr>
<td>Posters:</td>
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<td>SEXTANT and FDC</td>
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<td>Co-ordination:</td>
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<td>FDC</td>
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<tr>
<td>Other Travel Expenses:</td>
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<td>All</td>
</tr>
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Sponsors and in kind contributions are welcomed
CURRENT PROJECTS

GENESIS:
To provide the EC with support to monitor all GNSS related activities through the setting up of a structured network of institutional partners and on request experts

www.genesis-office.org
- Galileo Newsletter free subscription
- Expert database registration

GUST:
To provide the EC with support on user segment issues
OTHER PROJECTS

- Galileo Overall Architecture Definition: GALA
- EGNOS Integration into Galileo: INTEG
- Support to Galileo Standardization Process: SAGA
- Galileo Service Definition: GEMINUS
The GALILEAN thematic network will create an open dynamic network of industrialists, organisations and authorities with the general objective to:

- share data and information to increase the knowledge base on the Galileo system,
- create synergies and encourage standardisation in European research efforts related to Galileo applications,
- encourage the creation of advanced services,
- increase acceptance of the satellite navigation industry and obtain stronger support from transport policy,
- increase the awareness and the attractiveness of Galileo towards all user groups
- develop recommendations for industry, operators, administrations and policy makers,
- outline a concise roadmap to promote Galileo applications on European and international levels.

PROPOSAL CURRENTLY UNDER EVALUATION
TELEMATICA is willing to propose to the EC the development of a European RadioNavigation Plan.

A ERNP can:
- take care of Industry/user constraints
- support marketing and lobbying
- stimulate the development of new systems, services or products

OREGIN can participate in:
- mapping user needs
- providing the technical details on the systems and equipment
- studying systems/services enhancement or next generation
- others (e.g. cost/benefit, organization...)

A ERNP should include information on all private system and services
COMMUNICATION AND ADVERTISING

Last important events:
- GNSS 2000 (Edinburgh - may 2000) OREGIN Booth, brochures
- NAVSAT (Paris - jun 2000) Brochures (members booths)
- ION GPS (Salt Lake City - sep 2000) Brochures (members booths)
- ERNP (Weihenstephan - oct 2000) Presentation, brochures

Planned events:
- 3rd ASIA PACIFIC Symp. (Tokyo - feb 2001) Presentation, brochures
- GNSS 2001 (Seville - may 2001) OREGIN Booth, brochures?
- ION GPS (Albuquerque - sep 2001) Brochures (members booths)?
- NAVSAT 2001 (Nice - nov 2001) Brochures (members booths)?

- Others?
COMMUNICATION AND ADVERTISING

- A Web site is necessary

- Brochures have to be completed
  (some industry fiches are missing)

- Several articles were fully dedicated to or mentioned OREGIN
  (Galileo Newsletter, Galileo World, GPS World, GPS World Newsletter,
  Air&Space, national publications…)

- A press release and/or a letter to the EC and ESA should be drafted
  after this workshop

- The logo is used (should be used by everybody)
ANY OTHER BUSINESS
WRAP UP