

# GAMBLE

## Global Altimeter Measurements By Leading Europeans

A Thematic Network under Framework 5 - Energy, Environment and Sustainable Development.

Bringing together European experts to provide recommendations for ocean altimetry:

Future altimeter missions  
Research Programmes

### *MID TERM PROGRESS REVIEW*

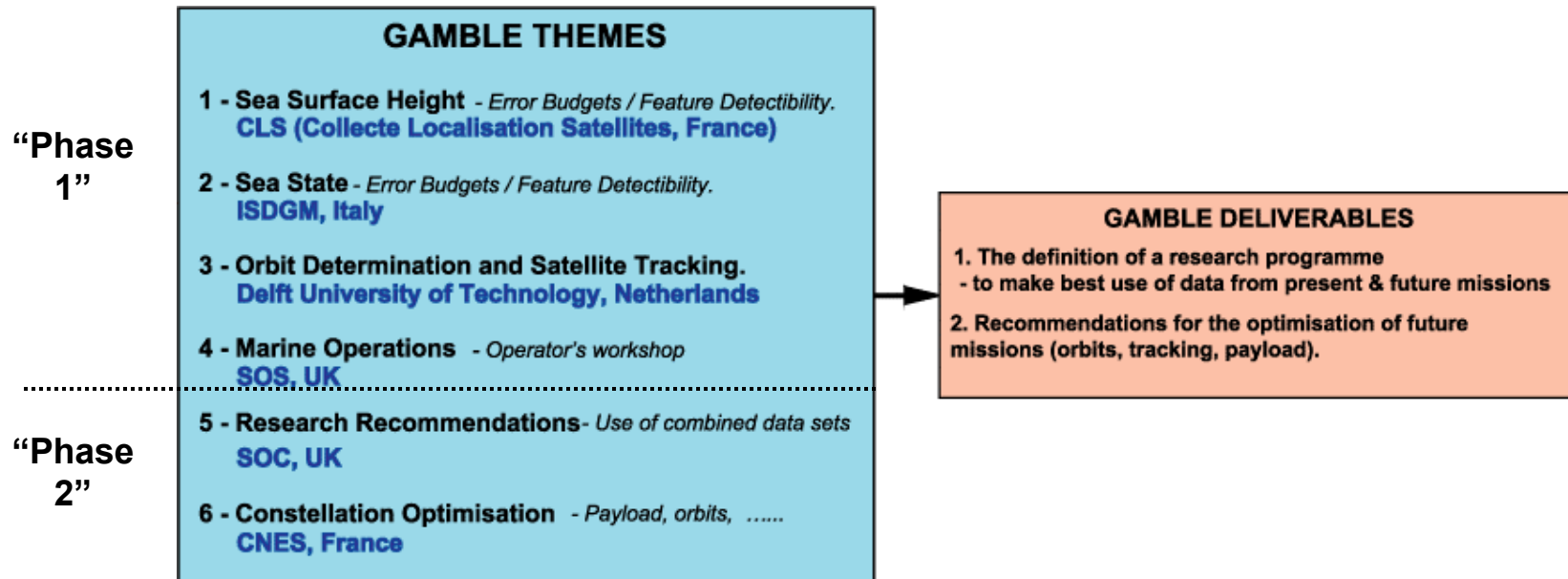
*Southampton Oceanography Centre - 17th January 2003*



17 January 2003

GAMBLE Mid-Term Progress

# The GAMBLE Programme

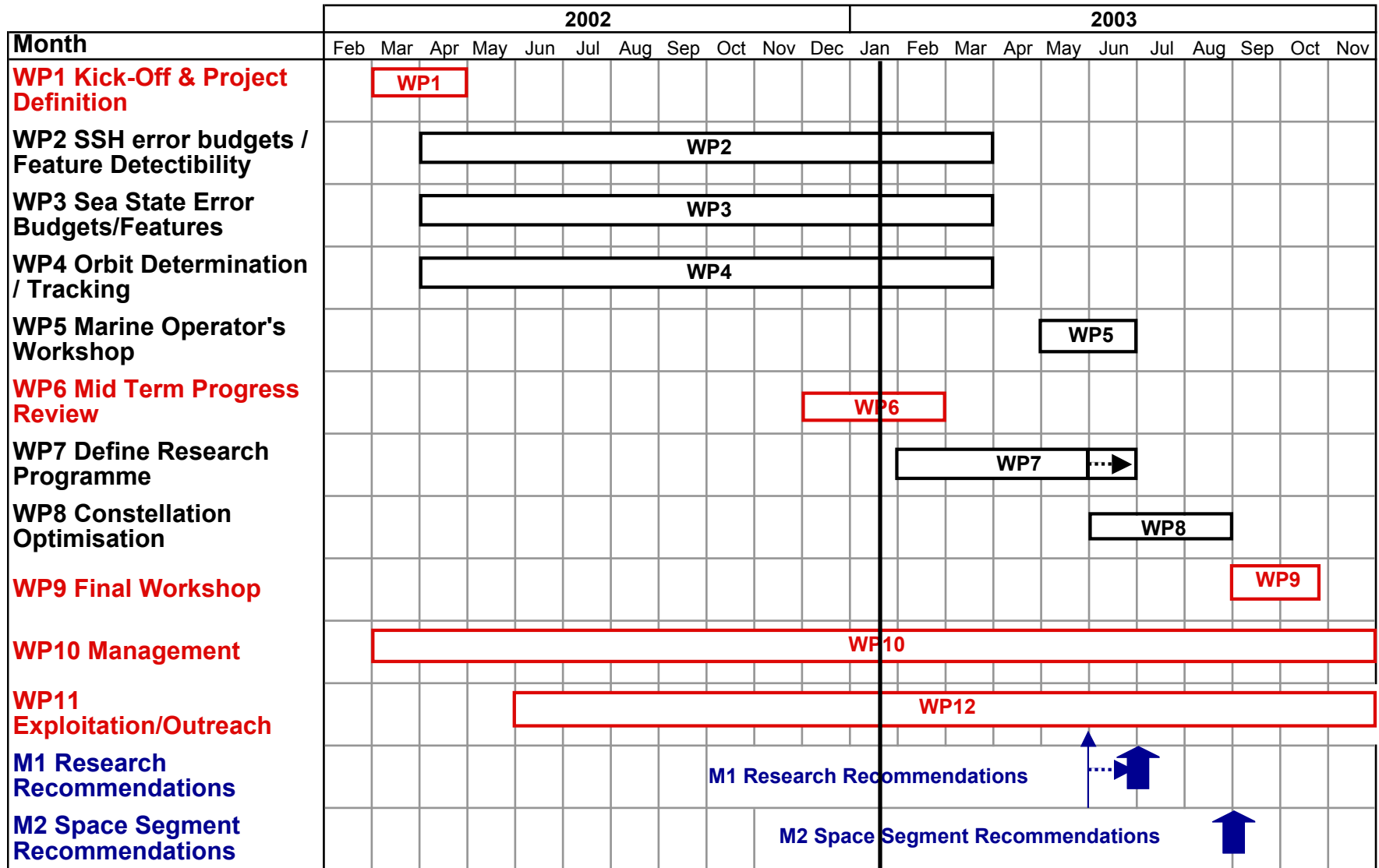


## INITIAL GAMBLE PARTNERSHIP

	UK	France	EU, Italy, Germany, Netherlands, Norway
Research organisations	<ul style="list-style-type: none"> <li>- Southampton Oceanography Centre</li> <li>- University of Newcastle</li> <li>- Proudman Oceanographic Laboratory</li> <li>- Environmental Systems and Science Centre</li> </ul>	<ul style="list-style-type: none"> <li>- Centre Nationale d'Etudes Spatiales</li> <li>- Collecte Localisation Satellites</li> <li>- Centre Nationale de la Recherche Scientifique</li> <li>- Service Hydrographique et Oceanographique de la Marine</li> <li>- Universite Joseph Fourier</li> <li>- Institut national Polytechnic de Grenoble</li> <li>- Universite Versailles</li> </ul>	<ul style="list-style-type: none"> <li>- Istituto per lo Studio della Dinamica della Grandi Masse</li> <li>- ENEA*, San Terenzo</li> <li>- Max Planck Institute</li> <li>- Delft University of Technology</li> <li>- Nansen Environmental and Remote Sensing Ctr.</li> </ul>
Commercial companies	<ul style="list-style-type: none"> <li>- Satellite Observing Systems</li> <li>- Surrey Satellite Technology Ltd.</li> <li>- Oceanroutes *</li> <li>- BP *</li> </ul>	<ul style="list-style-type: none"> <li>- Alcatel Space Industries</li> <li>- Meteo France*</li> </ul>	<ul style="list-style-type: none"> <li>- Shell*</li> <li>- Dockwise*</li> </ul> <p><i>* Member of Steering Committee</i></p>

# GAMBLE Progress in 2002

- **WP1 - Kick Off Meeting: 21st March 2002 (LEGOS/CNES)**
- **WP2 - Sea Surface Height (CLS)**  
Interim Report (D2), Joint Workshop, DUT 7-8/11/2002
- **WP3 - Sea State (ISDGM)**  
Interim Report (D4), Workshop, ISDGM 30/09/2002
- **WP4 - Orbit Determination & Satellite Tracking (DUT)**  
Interim Report (D6a), Joint Workshop, DUT 7-8/11/2002



# GAMBLE in 2003

- 17/01/03** **GAMBLE Mid Term Review (SOC)** (Deliverables D8, D13)
- 01/02/03 *WP7 (Define Research Programme) Begins (SOC)*
- 31/03/03** **WP2, WP3 and WP4 end:**  
Final reports due by 31/03/2003 (Deliverables D2, D4, D6b)
- 19/05/03** **Marine Operator's Workshop, Stavanger** (To be confirmed)  
*Propose:* WP5 runs from 01/05/03 to 30/06/03  
Deliverable D7 due by 30/06/03.
- 01/06/03 *WP8 (Constellation Optimisation) Begins (CNES)*
- 06-07/03** **Constellation Optimisation Workshop (CNES)**  
(To provide recommendations for orbits and satellite payloads)
- 01/07?/03** **WP7 ends:** Deliverable D9 (**Milestone M1**)
- 09/03** **Final Workshop (CNES)/ WP8 Ends:**  
Deliverables D10,D11, (**Milestone M2**)
- 31/10/03** **GAMBLE EC FUNDING ENDS**

# WP2 and WP3 Final Reports

- *Final Reports due by 31/03/03*
- *Objectives of these work packages are to:*
  - *“Generate requirements for accuracy, space/time sampling of altimeter measurements and orbit maintenance measurements to provide detectability of target oceanic features”*

## ***Final Reports should provide recommendations for:***

- *Processing and provision of sea surface height data from present and future missions*
- *Studies required to support recommendations for future missions*

# WP4 Final Report

- *Final Report due by 31/03/03*
- *Objectives of this work package is to:*
  - *“Provide recommendations for optimum orbits, orbit maintenance and satellite tracking and expected orbit error budget for a GANDER type satellite”*

## ***Final Report should provide recommendations for:***

- *Specific orbits for future missions, including an assessment of attainable orbit accuracy.*
- *Studies required to support recommendations for future missions.*

# Mid Term Report

- *Report on “Error Budgets and Potential Solutions” due by 28/02/03*
- *Suggest this includes*
  - **Overview of results on SSH and Sea State Error Budgets from WP2 and WP3.**
  - **Preliminary view on how well different technical solutions can meet various measurement requirements (JASON, ENVISAT, AltiKa, SWIMSAT, Wide Swath altimetry, GANDER)**
  - **Height error budget of GANDER type satellite**
    - *Possible ways to reduce budget (JASON x-overs, tracking solutions, Ionospheric/Wet Trop corrections)*
    - *Define useful (SSH) measurements (features that can be resolved) that can be made within this budget.*
- **SOS to produce first draft extracted from WP2,3 and 4 Reports, DUT/CNES/CLS/SOC/ISDGM to review?**

# GAMBLE: Administration/Reporting

- *The Marine Operators' Workshop will take place on 19th May 2003 in Stavanger, Norway*
- *Hence we propose that:*
  - *WP5 runs May-June 2003*
  - *Deliverable D7 is due 30/06/03*
  - *WP7 is extended to incorporate D7 and to finish 31/07/03.*
  - *Deliverable D9/M1 is now due 31/07/03*

## ***Also:***

- *We (SOS) are required to produce 6 monthly interim management reports. The next is due in Feb 2003.*
- *We (ALL!) are required to produce 6 monthly cost statements, the next are also due in Feb. 2003.*