



# EMSO ERIC

## 2016 ACTIVITY REPORT

Rome, June 21<sup>st</sup>, 2017

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# 1. Preamble

The present Activity Report has been prepared by Mr. Aleardo Furlani, EMSO ERIC Transition Manager, appointed by the Assembly of Members (AoM) on September 29<sup>th</sup>, 2016. In 2017, the Transition Manager will be replaced by the Director General, and the IST will evolve into the Central Management Office (CMO).

On September 29<sup>th</sup>, 2016 the European Commission decision established EMSO-ERIC, “The European Multidisciplinary Seafloor and Water Column Observatory - European Research Infrastructure Consortium”.

Members of the Consortium, together with Italian Republic, as hosting country, are Ireland, the Hellenic Republic, the Kingdom of Spain, the French Republic, the Portuguese Republic, Republic of Ireland, Romania and the United Kingdom of Great Britain and Northern Ireland.

The registered office of the Consortium is in Rome and is currently housed c/o Istituto Nazionale di Geofisica e Vulcanologia (INGV), that is the Italian Representing Entity.

A large, vertical photograph of an underwater seafloor, showing various geological features and water column structures. The image is used as a background for the text in the lower half of the page.

EMSO ERIC is a not-for-profit legal entity/international organization undertaking mainly non-economic activities which relate to research activity. The activities carried out by the Transition Manager during the start-up phase are aligned with the scopes and the status of EMSO ERIC.

The October–December 2016 start-up of EMSO ERIC phase period were characterised by the implementation by the Transition Manager of the necessary activities to ensure the full functionality of the accounting and administrative procedures according to the Italian law.

EMSO aims to provide a new kind of large-scale infrastructure able to spur multidisciplinary and interdisciplinary investigation of deep and water column ocean processes related to marine ecosystems, climate change and marine geo-hazards, and as such to address key gaps in ocean monitoring.

Such fixed-point observations significantly enhance the marine environmental research capabilities of European Member States and increase the potential for adequately responding to major challenges related to environmental changes. The power of EMSO ERIC is in its distributed nature, connecting research facilities across the oceans of Europe, from the Arctic through the North Atlantic to the Mediterranean and the Black Sea.

The observatory facilities allow for monitoring of processes at a large scale. EMSO ERIC contributes to coordinate a growing set of ocean observatories globally through various national and international efforts.

As stated in the Statutes, the main scientific output of EMSO is to provide an understanding of processes in the marine environment which are of paramount importance for any prediction of short, intermediate and long-term global change.

The oceans are complex dynamic systems across scales of time and space, including processes from episodic catastrophic events to slow trends difficult to discern from the overlying variability of short-term processes.

The high resolution, long-time-series collection of multiple variables across a breadth of environments represents the only approach capable of shedding light on the complexity of these systems. EMSO, a different legal entity, a convention between Research Bodies, was set up in 2006 (ESFRI Roadmap 2006) to provide the interactive monitoring capacity to track these critical changes and ecosystem services.

European research focused on the seas and oceans is central to addressing these challenges by delivering knowledge and tools to enable Europe to prepare for, and adapt to, these changes.

The capacity of EMSO infrastructure to be financially self-sustainable will come from three different sources of income:

- the contributions of the Full Members as well as eventually of Observers and of Candidates,
- the participation to European or National projects,
- Services rendered to Industry.

These modes will be implemented both through collaborative research between academic institutions and industries as well as through the individual access of industries for proprietary applied research. This is already being undertaken practically through FixO3 where there is a specific ranking score for industry.

The Set-Up Phase (2017-2019) already obtained additional funding under EMSO-Link and Danubius-RI EC projects, and additional funds will be leveraged from the European Union under the Cohesion Policy and Horizon 2020.

During 2016 and the first quarter of 2017- following specific requests- from 2 manifestations of interest were submitted to participate to the following project proposals :

- MarADonA\_CMS Project proposed under MarTERa ERA-NET and leaded by Istituto Nazionale di Fisica Nucleare – Laboratori Nazionali del Sud (Italy).
- Support to SHAREMED proposal an innovative marine infrastructure devoted to geo-hazard feature mapping in the Mediterranean.

Considering that significant technological advances are essential for addressing societal challenges, EMSO ERIC will promote private-public partnerships with industry. The service offer of the EMSO Research Infrastructure is presently being structured and tested as part of the set up phase of the EMSO organisation.

A distinctive feature of the EMSO ERIC overall offering is its rich combination of products (e.g., data from sensor networks, data products), services (access and use of data and of node facilities and components), and transversal support (maintenance of advanced sensors, instrumentation, auxiliary devices, middleware), while strengthening both basic science and applied innovation.

These include:

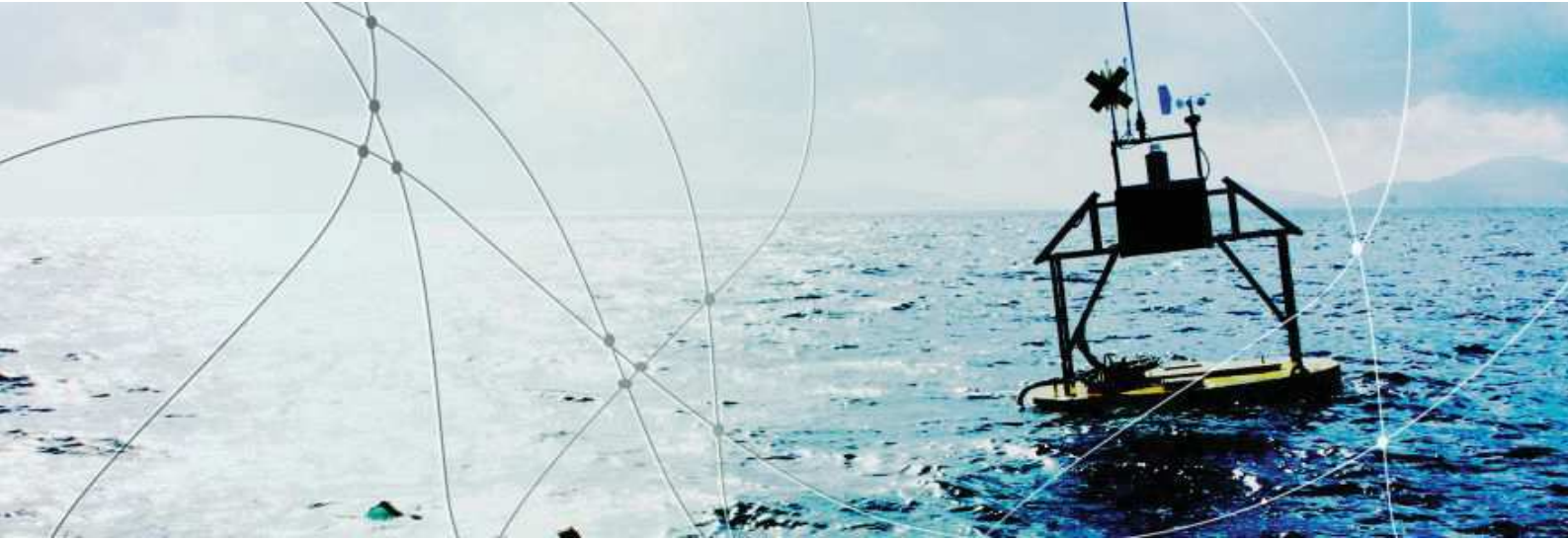
- un-biased, neutral recommendations, validation and advice in matters pertaining to building/innovating state-of-the-art underwater observatories;
- consultancy services to governmental organisations, international bodies and decision makers dedicated to climate change monitoring and environmental/ecological policy implementation;
- a comprehensive range of marine environment data and data products to a wide, multidisciplinary range of international users - scientific, governmental, educational, industrial and public on an "open access", user-friendly, basis;
- state-of-the-art monitoring services of key ecological, geophysical, chemical and biological parameters for cross-cutting applications.

EMSO-ERIC will be funded also through the commercialization of scientific and technological services (indicated by the Statutes as up to 20% of overall revenues), such as: monitoring services of physical, chemical and biological parameters in the open ocean; support in building/innovating marine observatories and other related technologies in Europe and around the world, for example in Asian or South American rapidly growing economies; providing value-added data products and services acting as technical consultancy for designing new emerging services to specific categories of stakeholders in the domain of climate change.

The foreseen access mode of industries to the EMSO includes the following modalities:

- access to the experimental facilities for applied research related to the testing in real environmental conditions of sensors and devices,
- testing of materials under extreme conditions over long timeframes,
- access to data through the open data policy, including development of 3rd party applications and data products.

## 2. Financial & Economic Overview



EMSO ERIC started with **8 Full Members**, including the Host Country.

The Members paid 1/3 of the membership fee in 2016, which amounted to 1/3 of the full yearly fee. During this period, EMSO ERIC had no direct personnel cost and was managed by the Transition Manager and the Interim Support Team (IST), provided as in-kind contributions by the Host Country Organisation through INGV.

**EMSO ERIC balance sheet has been approved by the AoM on June 16<sup>th</sup> 2016**

**The 2016 balance sheet shows a total volume of assets of €123'963 (see the EMSO ERIC balance sheet 2016).**

**The profit and loss account shows a deferred income carry over of €104'124 to 2017.**

In 2017 EMSO ERIC has started progressively (Bando\_119\_241416.pdf\_1.pdf) staffing its CMO (Table 1). The Table contains the professional profiles envisioned in the EMSO ERIC Business Plan, and a cost estimate of the EMSO ERIC Staff in 2017.

The staff, whose cost is shown in Table 1 as full cost for EMSO ERIC, is carrying out the activities for the EU-funded projects EMSO-Link and DANUBIUS-RI, as well as the rest of the Core Activities outlined in the Implementing Rules. The estimated effort breakdown by project is provided.

Table 1: Provisional composition and cost estimate of the EMSO ERIC Staff in 2017. P/M = person/month

| EMSO ERIC staff 2017                      |             | Total Effort |                  | Effort and Value Break down by project |                 |             |            |                 |                 |
|---|-------------|--------------|------------------|--|-----------------|-------------|------------|-----------------|-----------------|
|   |             |              |                  | EMSO-Link                              |                 | DANUBIUS-RI |            | Core Activities |                 |
| Professional roles                        | Yearly cost | P/M          | cost             | P/M                                    | cost            | P/M         | cost       | P/M             | cost            |
| Director General                          | € 160'000   | 6.0          | € 80'000         | 0.0                                    | -               | 0.0         | -          | 6.0             | € 80'000        |
| Science and Operations Officer (TBA)      | € 75'000    | 0.0          | € -              | 0.0                                    | -               | 0.0         | -          | 0.0             | € -             |
| Emso Link Coordinator                     | € 75'000    | 5.0          | € 31'250         | 5.0                                    | € 31'250        | 0.0         | -          | 0.0             | € -             |
| Grant and Project Officer                 | € 70'000    | 0.9          | € 5'000          | 1.0                                    | € 5'000         | 0.0         | -          | 0.0             | € -             |
| Assistant to Emso Link Project Manager    | € 22'000    | 8.2          | € 15'000         | 8.0                                    | € 15'000        | 0.0         | -          | 0.0             | € -             |
| Accounting/ Administrative                | € 45'000    | 0.0          | € -              | 0.0                                    | -               | 0.0         | -          | 0.0             | € -             |
| IT Officer                                | € 50'000    | 2.4          | € 10'000         | 0.0                                    | -               | 0.0         | -          | 2.4             | € 10'000        |
| Communications Officer                    | € 70'000    | 0.0          | € -              | 0.0                                    | -               | 0.0         | -          | 0.0             | € -             |
| Innovation and External Relations Officer | € 100'000   | 3.5          | € 29'167         | 2.5                                    | € 20'833        | 0.0         | -          | 1.0             | € 8'333         |
| DG Assistant                              | € -         | -            | -                | 0.0                                    | -               | 0.0         | -          | 0.0             | € -             |
| <b>TOT</b>                                |             | <b>26</b>    | <b>€ 170'417</b> | <b>16.5</b>                            | <b>€ 72'083</b> | <b>0.0</b>  | <b>€ -</b> | <b>9.4</b>      | <b>€ 98'333</b> |

During 2017 some members of the CMO staff will continue to be provided also as in-kind contribution from Italy through INGV (Table 2).

Additional in-kind contributions are expected to be received by the other full Members to support the Regional Teams and Service Groups (Table 3).

The estimated income statement (Table 4) for 2017 includes:

1. EMSO-Link Grant in 2017
2. DANUBIUS-RI Grant in 2017
3. Contribution from Host Country and Member States (Tab. 2 and 3)
4. In Kind contributions

Table 2: Estimated In-kind contribution by the Host Country in 2017. staff (Tab. 1).P/M = Person / Month.

| Host Country in-kind contribution (estimate) |             |             | 2017             |
|--|-------------|-------------|------------------|
| CMO Staff                                    | Yearly cost | P/M         | cost             |
| Science and Operations Officer               | € 114'000   | 0.0         | € -              |
| Grant and Project Officer                    | € 46'963    | 4.0         | € 15'654         |
| Accounting Administrative Assistant          | € 38'738    | 14.0        | € 45'195         |
| Innovation and External Relations Officer    | € 106'105   | 6.5         | € 57'474         |
| Communication Officer                        | € 70'000    | 6.0         | € 35'000         |
| <b>SUBTOTAL</b>                              |             | <b>30.5</b> | <b>€ 153'323</b> |
| Non CMO Staff                                | Yearly cost | P/M         | cost             |
| External service providers                   | € -         | NA          | € 112'411        |
| Other  | Unit cost   | P/M         | cost             |
| Office space                                 | € -         | NA          | € -              |
| Utilities                                    | € -         | NA          | € -              |
| <b>TOT</b>                                   | <b>€ -</b>  | <b>30.5</b> | <b>€ 265'733</b> |

\*2017 Estimate has to be confirmed by the Host Organization in compliance with the activities planned by EMSO ERIC for the year. The in-kind contribution resources will be exclusively allocated to core activities and not to projects receiving grants.

Table 3: Estimation of the In-kind contribution from the other Members States\*\*

| Other members in-kind contributions     |             |            | 2017            |
|---|-------------|------------|-----------------|
|   | Yearly cost | P/M        | Value           |
| Regional Teams                          | € 70'000    | 1.2        | € 7'000         |
| Communication Service Group             | € 70'000    | 1.2        | € 7'000         |
| Data management Service Group           | € 70'000    | 1.2        | € 7'000         |
| Engineering and standards Service Group | € 70'000    | 1.2        | € 7'000         |
| Science Service Group                   | € 70'000    | 1.2        | € 7'000         |
| <b>TOT</b>                              |             | <b>6.0</b> | <b>€ 35'000</b> |

\*\*2017 The in-kind contribution resources will be exclusively allocated to core activities and not to projects receiving grants.



## 2. Financial & Economic Overview

The Grants from EMSO-Link (Tot € 620'426) and DANUBIUS-RI (Tot € 47'188) are paid in three installments: the pre-financing (75%) in 2017, an interim installment (max10%) in 2018 for DANUBIUS-RI and in 2019 for EMSO-Link, and the balance (15%) in 2020.

The EC pre-financing has been received for the EMSO-Link project in February 2017 (€ 3'269'588.26). EMSO ERIC will hold 25% of the EC pre-financing received (€ 1'089'862.81) to implement a Joint Fund. The management of the Joint Fund is regulated in the EMSO-Link Consortium Agreement.

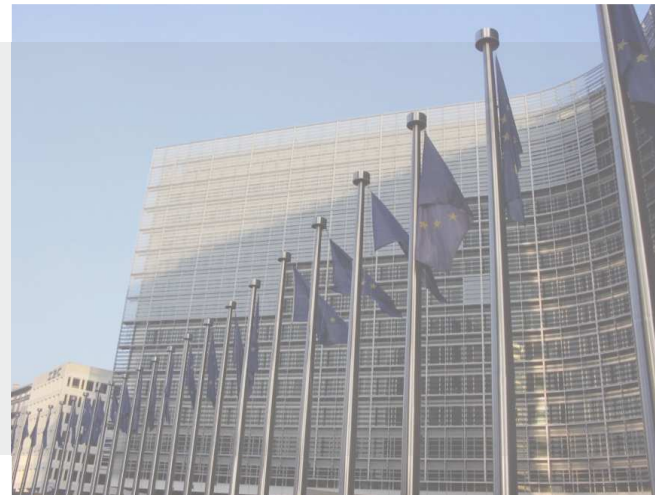


Table 4: EMSO ERIC 2017 provisional income statement

### EMSO ERIC income statement

2017

| Revenues  | Units | €       | TOT            |
|---|-------|---------|----------------|
| Contribution Host Country                               | 1.0   | 220'000 | 220'000        |
| Contribution other Full Members                         | 7.0   | 20'000  | 140'000        |
| Contribution Observers                                  | 0.0   | 5'000   | 0              |
| In-kind contribution Host Country                       | 1.0   | 265'733 | 265'733        |
| In-kind contribution other Full Members                 | 0.5   | 70'000  | 35'000         |
| Transition Manager                                      | 0.7   | 53'000  | 35'333         |
| EMSO-Link   | 0.13  | 570'426 | 72'083         |
| DANUBIUS-RI   | 0.5   | 47'188  | 23'594         |
| <b>on TOT Revenues</b>                                  |       |         | <b>791.744</b> |
| Costs   | Units | €       | TOT            |
| EMSO ERIC staff (non in-kind)*                          | 1.0   | 170'417 | 170'417        |
| Other direct*   | 1.0   | 100'000 | 100'000        |
| Use of In-kind contrib. Host Country                    | 1.0   | 265'733 | 265'733        |
| Use of in-kind contrib. other Full Members              | 0.5   | 70'000  | 35'000**       |
| Transition Manager*                                     | 0.7   | 53'000  | 35'333         |
| Overheads (estimate)*                                   |       |         | 51'438         |
| <b>TOT Costs</b>  |       |         | <b>657'921</b> |
| <b>Deferred income carryover 2017</b>                   |       |         | <b>133'823</b> |
| <b>Deferred income carryover 2016</b>                   |       |         | <b>104'124</b> |
| <b>Cumulative Deferred income carryover (2016/2017)</b> |       |         | <b>237'947</b> |

\*Items used for the calculation of the Overheads  $(170.417 + 35.333) \times 25\%$  (EC rate) = 51.437,50

The funds from EMSO-Link and DANUBIUS-RI are distributed in 2017 in a way that they can support the foreseen ramping up of EMSO ERIC operations. Annex 1 includes the cash flow status for 2016 and for the period from January 1<sup>st</sup> 2017 to May 31<sup>st</sup> 2017.

### Additional Explanations (Tab. 1 – 4)

- Cash contribution host country: the membership fee of the Host Country as by Statutes.
- Cash contribution full members: the membership fee for the Full Members as by Statutes.
- Cash contribution observers: the membership fee for the Observers as by Statutes.
- In-kind contribution Host Country: the rationale is shown in Table 2. The in-kind contribution does not generate cash flow. In Table 4 the in-kind-contributions are balanced with the used in-kind contributions. The in-kind contributions are mostly personnel cost.
- In-kind contributions of other members: this is calculated in Full Time Equivalents at an average cost of € 70.000/year.
- Transition Manager: the cost of the Transition Manager, who is the legal representative of EMSO ERIC until the appointment of the DG, is an *un tantum* cash contribution from Italy to cover the TM cost until June 30<sup>th</sup>, 2017.
- EMSO-Link: funds from the EMSO-Link grant.
- DANUBIUS-RI: funds from the DANUBIUS-RI grant: preparatory action started in Dec. 2016
- Cash-carryover: surplus or deficit from the previous year.
- Director General: the full cost of the salary of the DG, corresponding to the gross salary as reported in the Call.
- Other staff: the 2017 full cost of the salary of the staff directly employed by the ERIC. This figure is an indication of the reasonable expense which can be allocated to the staff for that year, on the basis of the presently estimated human resources requirements.
- Other direct: the other direct costs are an indication of the reasonable expenses that can be allocated to travels, meetings, equipment, promotional material, subcontracting (legal and financial) and other non-personnel costs incurred during the EMSO-ERIC operations. It is estimated on the basis of a predictable ramping-up of EMSO-ERIC activities
- Overheads: those are calculated with the flat rate adopted by the European Commission of 25% on direct costs of personnel.
- Deferred Income carryover: profit before taxes. EMSO-ERIC is a non-profit organization: profits are retained every year and reinvested. No dividends or profit sharing are foreseen for the Members.

**Aleardo Furlani**  
**EMSO ERIC Transition Manager**  
**Rome, June 21<sup>st</sup>, 2017**

# 2016

# 2017

## EMSO-ERIC 2016 Cash In-flows

|   |                    |
|---|--------------------|
| Debit Note Emso n. 02/2016 (2016 Monetary contr.) | € 5.000,00         |
| Debit Note Emso n. 05/2016 (2016 Monetary contr.) | € 2.500,00         |
| Debit Note Emso n. 03/2016 (2016 Monetary contr.) | € 5.000,00         |
| Debit Note Emso n. 01/2016 (2016 Monetary contr.) | € 5.000,00         |
| <b>Total Cash In-flows</b>                        | <b>€ 17.500,00</b> |

## EMSO-ERIC 2016 Cash Outflows

|  |                 |
|--|-----------------|
| Reimbursement kick-off Danubius-RI 12-13/12/2016 Bucharest | € 434,10        |
| Other  | € 61,90         |
| <b>Total Cash Out-flows</b>                                | <b>€ 496,00</b> |
| Cash-carryover as of January 1st 2017                      | € 17.004,00     |

## EMSO-ERIC 2017 Cash In-flows as of May 31st 2017

|   |                       |
|---|-----------------------|
| Cash-carryover as of January 1st 2017                   | € 17.004,00           |
| Debit Note Emso n. 07/2016 (2016 Monetary contr.)       | € 5.000,00            |
| Prefinancing Danubius-RI to Emso-Eric                   | € 35.390,63           |
| Debit Note Emso n. 08/2016 (2016 Monetary contr.)       | € 5.000,00            |
| Prefinancing Emso Link to Emso from European Commission | € 3.269.588,44        |
| Debit Note Emso n. 01/2017 (one-time contribution)      | € 53.000,00           |
| Debit Note Emso n. 06/2016 (Payment Fee 2016)           | € 73.333,00           |
| Debit Note Emso n. 04/2016 (2016 Monetary contr.)       | € 2.500,00            |
| Debit Note Emso n. 04/2017 (2017 Monetary contr.) FPCT  | € 20.000,00           |
| Debit Note Emso n. 07/2017 (2017 Monetary contr.) NERC  | € 20.000,00           |
| <b>Total Cash In-flows</b>                              | <b>€ 3.500.816,07</b> |

## EMSO-ERIC 2016 Cash Out-flows as of May 31st 2017

| Description   | Amount     |
|---|------------|
| F24 Payment VAT   | € 371,75   |
| Invoice 'Il Fungo srl' n. 1/b - 27/01/2017  | € 1.230,00 |
| Invoice EuroJobsites n. 9984 - 22/12/2016   | € 990      |
| Invoice n. 1-2-2017 -13/02/2017   | € 850,00   |
| Invoice 'The Economist' n. ON20283 del 28/01/17   | € 1.911,32 |
| Invoice Research n. NADEU28389 del 15/12/16 and invoice n. 2676025102 of 10/01/17 Macmillan Publisher (Springer Nature) | € 1.766,43 |
| Payment F24 VAT January for Invoice Springer n. 2676025102 del 10/01/17 and Invoice Economist n. ON20283 del 28/01/17   | € 639,44   |
| Invoice n. 10/2017  | € 1.344,00 |
| Advance Proforma n. 22000217 Roma Gest Srl  | € 807,00   |

## EMSO-ERIC 2016 Cash Out-flows as of May 31st 2017

| Description   | Amount                |
|---|-----------------------|
| Invoice n. 1/2017   | € 14.132,00           |
| Invoice Aruba n. 20170997407 - 31/03/2017                                   | € 286,21              |
| Pre-financing project Emso Link to INGV                                     | € 196.875,00          |
| Pre-financing project Emso Link to Innova Srl                               | € 115.875,00          |
| Travel Reimbursement (Bruxelles) 16-17 March 2017                           | € 850,00              |
| Pre-financing project Emso Link to Marine Institute                         | € 214.683,70          |
| Invoice n. 23454536 of 31/01/17 Il Sole 24 Ore                              | € 2.000,00            |
| Payment F24 VAT February for Invoice n. 1-2-2017, 13/02/17                  | € 187,00              |
| Invoice n. 100019782 del 1/04/17 Barcelo Gestion Hoteles Roma Srl           | € 1.326,00            |
| Pre-financing project Emso Link to Universita Politecnica de Catalunya      | € 138.000,00          |
| Pre-financing project Emso Link to Hellenic Centre for Marine Research      | € 279.307,50          |
| Payment F24 March Tax 2017 for Invoice n. 1 and n. 10                       | € 3.853,20            |
| Balance on Invoice n. 1414/01 of 6/4/17 Roma Gest Srl (Hotel Villa Eur)     | € 1.927,73            |
| Invoice n. 1413/01 of 6/4/17 Roma Gest (Hotel Villa Eur)                    | € 869,00              |
| Payment Invoice n. 01/2017, 10/04/2017                                      | € 2.514,00            |
| Payment Invoice n. 02/2017, 13/04/2017                                      | € 14.132,80           |
| Travel Reimbursement for DG Emso Interview in Roma il 30/31 march 2017      | € 157,00              |
| Travel Reimbursement for DG Emso Interview in Roma 30/31 March 2017         | € 537,23              |
| (expenses in Canadian Dollars)  |                       |
| Travel Reimbursement for DG Emso Interview in Roma 30/31 March 2017         | € 159,00              |
| Travel reimbursement to FPCT for DG Emso Interview in Rome 30/31 March 2017 | € 318,25              |
| Travel reimbursement for DG Emso Interview in Rome 30/31 March 2017         | € 172,90              |
| Travel Reimbursement for DG Emso Interview in Rome 30/31 March 2017         | € 460,53              |
| Travel Reimbursement for DG Emso Interview in Rome 30/31 March 2017         | € 364,53              |
| Travel Reimbursement for DG Emso Interview in Paris 10 April 2017           | € 884,70              |
| Travel Reimbursement for DG Emso Interview in Rome 30/31 March 2017         | € 106,30              |
| Travel Reimbursement for DG Emso Interview in Rome 30/31 March 2017         | € 983,70              |
| (expenses in Canadian Dollars)  |                       |
| Proforma Invoice n. 1 -13/04/2017   | € 4200,00             |
| Proforma Invoice n. 2 -13/04/2017   | € 588,00              |
| Travel Reimbursement FPCT for DG Emso Interview in Paris on 10/04/2017      | € 396,21              |
| Payment F24 VAT April 2017  | € 4673,2              |
| Pre-financing proj. Emso Link to Ifremer                                    | € 404.348,03          |
| Pre-financing proj. Emso Link to Nerc                                       | € 293.635,77          |
| Pre-financing proj. Emso Link to Crns (including prefinancing to UPMC)      | € 226.787,50          |
| Invoice n. 02/2017  | € 2.514,00            |
| Travel Reimbursement for DG Emso Interview in Rome 30/31 March 2017         | € 378,23              |
| Travel Reimbursement for DG Emso Interview in Rome 30/31 March 2017         | € 357,56              |
| Balance Travel Reimbursement - Bruxelles 16-17 March 2017                   | € 78,88               |
| Others  | € 198,82              |
| <b>Total Cash Out-flows</b>   | <b>€ 1.939.029,46</b> |
| Cash-carryover as of May 31st, 2017   | € 1.561.786,61        |

2017