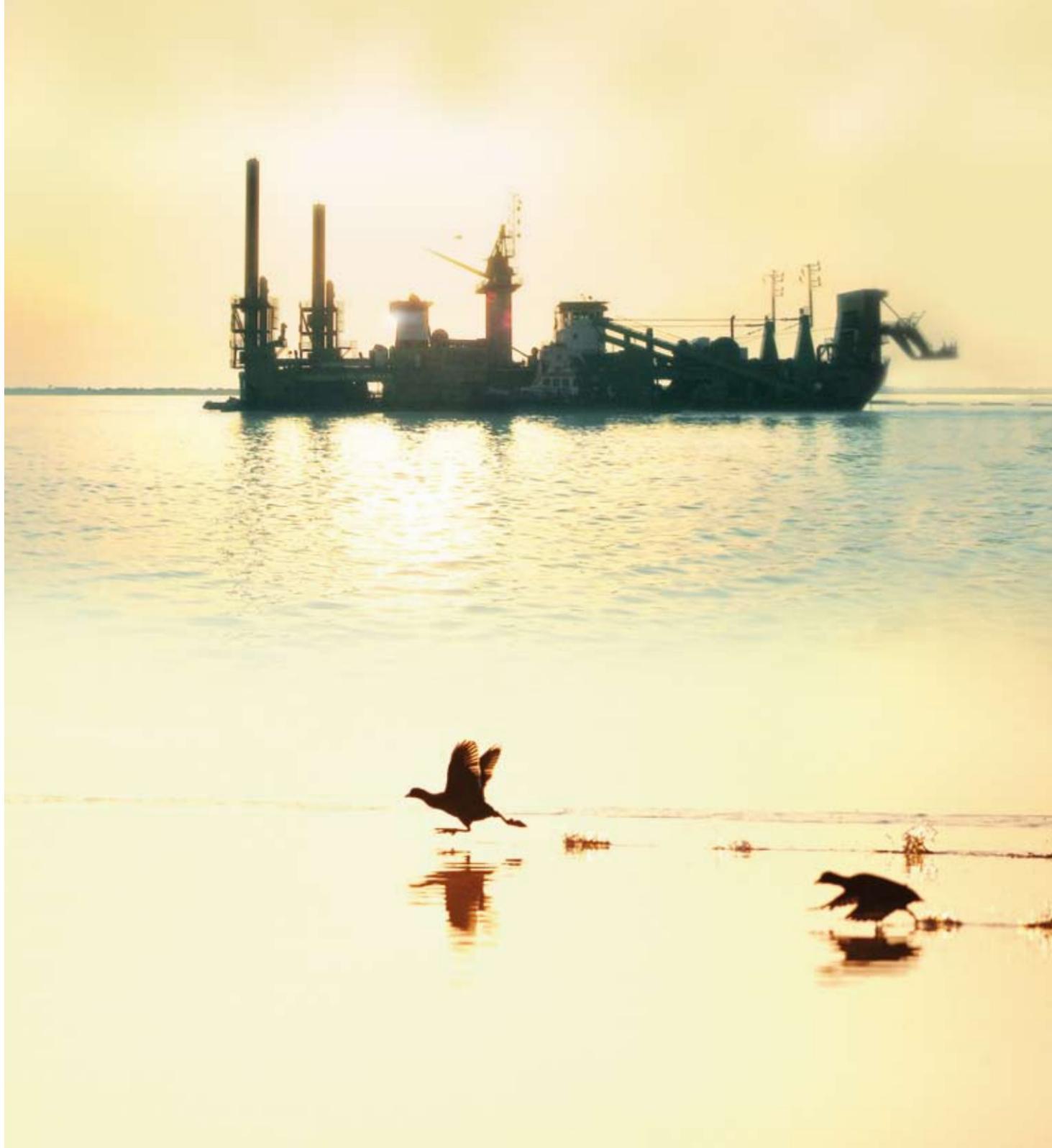




EUROPEAN DREDGING ASSOCIATION

dredging
creates space

ANNUAL REPORT 2006





EUROPEAN DREDGING ASSOCIATION

Photographs published with kind permission of EuDA members

ANNUAL REPORT 2006





IJsselooq, The Netherlands
Under the authority of The Ministry of Transport,
Public Works and Water Management,
6 million m³ of polluted sludge was cleaned
from Ketelmeer, for which a construction of a
23 mln. m³ depot called 'IJsselooq' was built.

Table of contents

| | |
|---------------------------------|----|
| industrial policy | 6 |
| message from the board | 8 |
| environmental policy | 12 |
| social policy | 24 |
| research and development | 30 |
| market policy | 36 |
| members | 42 |

*“EuDA,
a valuable link between Europe and
its dredging contractors”*

not every fish goes with the flow

The dredging industry stands for a holistic approach in executing its projects. It stands for a responsible, secure and sustainable development of infrastructures and the related ecosystems.

The dredging industry carefully watches the ecosystems and in dialogue with nature management, a master plan, among others, for the Rhine has been successfully established.

Dredging companies, just like the salmon, are much in favour of swimming against the stream in order to explore new and challenging directions.



Space for the rivers

A river needs to flow and follow its natural course; rivers must have enough space and safe outlet to flood during a high level water raise.

This implicates sensible regulation of the level of the water, enough storage capacity, an ecology that should remain in balance and improve its stability. Furthermore, a safe navigation system is also required. These four elements ask for a well-considered river plan.

Such Master Plan requires dedication of the dredging industry. It will be a challenge for our industry to design and to carry out river projects bearing in mind these four elements.



The Ecological Master Plan for the Rhine has provided a framework for restoration of varied ecological habitats in the main riverbed of the Rhine and its tributaries. The most visible accomplishment of the program has been the adaptation of weirs on the Rhine and its tributaries to allow for fish migration (ICPR). Progress on restoring habitats continues as studies and experiments reveal ways to incorporate natural processes into the highly regulated river.



Maintenance dredging

“Dredged spoil”...

A wrong word

Dear Reader Friends,

The European Parliament has recently voted an important motion (an “opinion”) that amends the Commission proposals for a revision of the European Waste Framework Directive.

Among the amendments is one that proposes to remove (dredged) sediments and silt from the list of waste products. This is motivated by the fact that these materials are an essential part of the environment and have no hazardous characteristics. Every person with common sense and with a basic technical and chemical knowledge is relieved to hear this news from the European Parliament... But we are not there yet... What all of us should be aware of... is that this unbelievably silly situation whereby silt is defined as a ‘waste’... is not yet shelved forever.

The official reaction of the European Commission has been to reject this particular amendment voted by the European Parliament... You could think that this is, once again, a dispute between economic reality brought by the benefits of ports and navigation on the one hand, and the environmental awareness and concerns on the other hand.

And, indeed, ESPO, supported by several national Port Associations, and the Navigation Association Pianc and our EuDA lobbyists, have all cooperatively been pleading against that silly qualification of the innocent sediments...

But, in reality it is not a war between economics and environment; no... it is a war between common sense and a self-styled “environmental awareness” of some people who do not know what sediments actually are nor what the essential role is that they play in the water bodies.

It should indeed be well known to all, professionals and the general public alike, that “dredging” means “earthmoving under water”. The Latin term “curare” makes it abundantly clear that dredging has everything to do with the responsible and sustainable management of water bodies. Who dares to use the words “waste” or “spoil” for... earth and soil!

If we would explain that silt and sediments are a category of young clay or if we could show (and smell) some solid cluster of dry silt, it would be evident that damage to the environment is, for that particular practice, not at stake and not at risk.

We should possibly have to ban the word “spoil” from the English professional jargon...

Do we speak in French of “des déchets de dragage” or in Dutch of “bagger-afval”?

The draft Waste Framework Directive is thus not yet approved and the particular amendments may yet fall, unless the Council and the Commission agree with the motion. It is therefore important to encourage the Parliament to stick to their guns and force the motion to become a fact.

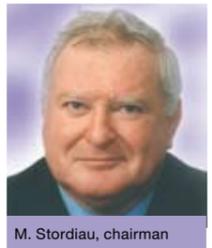
The Environment Council, consisting of the Ministers of Environment of European Member States will be, in the coming months, the forum where this topic is discussed.

EuDA will therefore approach the various national dredging federations and influential members of the European Parliament in order to align the definitions of the Council and of the Parliament.

If the European Environment Council does not come to a coherent and unanimous advice in line with the views of the Parliament... the second round of voting at the Parliament may also fail... and, once more, common sense would not prevail in EU environmental legislation.

This issue will be one of the priorities of EuDA in 2007.

*With our cordial regards,
Marc STORDIAU
and his colleagues
of the Board of Directors*



M. Stordiau, chairman



J. Rohde Christensen, vice-chairman



W. Möbius



F.A. Verhoeven, treasurer



J.H.M. Rovers



G. Vandewalle



J. van Herwijnen



C.J. van de Graaf



this frog found his harbour

Infrastructure works in rivers or in coastal areas have their influence on the natural surroundings. The dredging industry stimulates the dialogue between governments, industries and nature organisations to achieve a "win-win" situation in designing a master plan where each individual or organisation can find its own requirements.

In new infrastructures, many a frog will find a safe surrounding in ports.



W. Dirks,
chairman of the Environment Committee

Environmental Affairs

by *Wouter Dirks,*
chairman Environment Committee

Focus

EuDA supports the main goals of European Environmental Policy to protect the environment and to improve the environmental status of rivers, estuaries and coastal regions. The focus of the Environment Committee is on contributing to the process of developing and implementing relevant European Union environmental legislation such that endeavours are achievable, manageable and not in conflict with reasonable economic interests of the dredging community.

In 2005 the Environment Committee carried out a comprehensive review of environmental European Union legislation and assessed the impact of existing legislation on the dredging industry. A summary of the findings was presented in the annual report of 2005. Early in 2006, areas that needed attention were identified and EuDA's Environment Committee has since been working on specific issues related to the Waste Directive, the Water Framework Directive and the Habitat Directive.

In this process, the interaction is in particular with DG TREN, DG ENVI and the European Parliament but also with other stakeholders such as the Maritime Sector and the Port and Waterways Infrastructure sector.

The EuDA Environment Committee is cooperating closely with sister organisations (e.g. ESPO*, AMRIE**) to share its views and stimulate common action.

International Conventions

In view of the widening scope of the EU environmental policy extending into marine waters, EuDA will continue to emphasise the importance of the International Conventions (London, OSPAR, HELCOM) for dealing with dredged material in marine waters. The European Commission should not undermine the position of these Conventions. EuDA is of the opinion that these international conventions have adopted very workable procedures for dealing with environmental issues such as placing of dredged material in the marine environment. EuDA promotes that environmental assessments will continue to be based on the DMAF, Dredged Material Assessment Framework, which has been developed under the London Convention.

* European Sea Ports Organisation
** the Alliance of Maritime Regional Interests in Europe



Rio Formosa, Portugal
Approximately 38 km of channel was
dredged for the Ministério do Ambiente -
Instituto da Conservação da Natureza in Portugal.



'It should indeed be well known to all, professionals and the general public alike, that "dredging" means "earthmoving under water". The Latin term "curare" makes it abundantly clear that dredging earth and soil, has everything to do with the responsible and sustainable management of water bodies.'

Waste Directive

A correct understanding of the EU definition of "waste" is fundamental for the correct interpretation of the various provisions in the Directives. The EU definition is completely functional and does not take into consideration the properties of the material under consideration.

The issue raises a fundamental problem. The EU definition of "waste" is so broad that dredged material is seen as waste, rather than as a resource.

EuDA will reiterate that, within the overall Waste Framework policy, dredged material can often be used beneficially or be processed in an environmentally benign manner. Landfill disposal of dredged material is a solution of last resort which can and should be avoided for economic and environmental reasons.

The relocation of dredged material in the aquatic environment is promoted. In this respect "re-use" and "processing" of material need special attention as viable solutions. In the light of this view EuDA specifically opposes the terminology of "dredging spoil".

The EU is in the process of the revising the Framework Directive on Waste, it has adopted a Waste

Strategy and the revised Directive on Shipment of Waste is in the implementation stage.

In cooperation with ESPO, EuDA has commenced the lobby for removal of "dredged spoil" from the waste catalogue. Comments on the new Waste Strategy and Waste Framework Directive were sent to the European Commission in May, followed by discussions with members of the European Parliament Environment Committee. Support was sought for the position that clean dredged sediments shall be excluded from the directive. The amendments suggested by EuDA and ESPO were proposed to the EP Environment Committee.

These amendments were:

- 1 "Excluded from the scope are sediment and silt that do not feature hazardous properties";
- 2 "Excluded are contaminated non-excavated soils and non-contaminated excavated soils". This allows for transport and export of soils which become available e.g. at a construction project; it could be interpreted to cover marine aggregates as well. A potential problem with this amendment is that 'contamination' is not defined. A plenary vote in the European Parliament on the amendments was held in January 2007.

Amendment 1 was not accepted by the European Parliament Environment Committee but later accepted by the European Parliament in plenary session. A small victory for our lobbying efforts in good cooperation with ESPO and some member states. In 2007 the issue will be on the agenda of the European Council. The Council's vote for accepting the amendments that passed the EP is required to get the amendments incorporated into the Waste Strategy.

EuDA will continue to plea for excluding from the scope of the Directive sediments and silt that do not feature hazardous properties. In addition clarification on the definition of "contaminated" shall be sought if possible.

"The EU definition of "waste" is so broad that dredged material is seen as waste, rather than as a resource"

Dredge transport.



Dike construction, Ellewoutsdijk, The Netherlands.

Water Framework Directive

The European Commission adopted, in February 1997, its proposal for a Water Framework Directive (WFD). Its purpose is to establish a framework in order to achieve sufficient provision of water for drinking and economic purposes, protection of the environment and alleviation of the adverse impact of floods and droughts. This proposal has evolved to become Directive 2000/60.

The environmental objective of the Directive is to achieve “good status” for all groundwater and surface waters. The administrative structure to achieve the targets is left to the discretion of Member States. The implementation process is achieved by the Water Directors of the Member States who at river basin scale develop implementation plans. This process is supported by the “Common Implementation Strategy” (CIS). Stakeholders are being given the opportunity to participate in the actions that are part of the CIS.

EuDA is member of the “Navigation Task Group” which is led by PIANC*. The group is formed by branch and professional organisations with the common interest that the WFD should not lead to a situation where it becomes very difficult or impossible to manage the European ports and waterway system.

The navigation task group represents the sector in the relevant CIS activities.

Over the last couple of years the European Commission has been preparing the WFD Daughter Directive on Environmental Quality Standards (EQS). There are a number of potential problems with environmental quality standards. The EQS Daughter Directive does not take into account the dynamic nature of the marine aquatic environment and estuaries, which causes high variability of suspended matter, and it does not sufficiently differentiate between water quality and sediment quality in the assessment. In addition, the threshold values for a number of priority substances are too low to be detected, which will lead to all kind of practical and administrative problems. In her advice to the European Commission, EuDA did propose that particulate matter and water quality must be disconnected in the EQS Daughter Directive and made a plea for a practical and pragmatic approach towards maximum allowable levels.

The EQS Daughter Directive will be on the agenda of the European Parliament in 2007. EuDA will continue to lobby for amendments to the proposed daughter directive that will make it more practical and achievable.



Reclamation works in the port of Zeebrugge, Belgium.

Habitats and Infrastructure

In 2006 the Environment Committee did make an assessment of the impact of the Habitats Directive on marine infrastructure, port development and dredging.

The assessment was conducted by evaluating a number of cases where the development of maritime infrastructure was delayed due to issues related to the Habitat Directive. A number of external publications were analysed as well.

Some conclusion from our assessment:

“Grey areas of definition, leaving room for interpretation in National- or European Courts, are left in

“It is common understanding that compensation should eventually result in habitat areas which are in quality and quantity similar to the threatened ones, and located in the close vicinity of the original site”



“Deurganckdok”, a container harbour being built on the Left Bank of the Scheldt. Via the Scheldt, the harbour is open to the sea and the resulting tidal influence.



New wetlands and birds' habitat were created as environmental compensation in the vicinity of the new “Deurganckdok” in Antwerp, Belgium.

the procedure for project approval as entered in Art. 6 of the Habitats Directive. Legal uncertainty follows from ambiguous criteria such as ‘imperative reasons of public interest’; the geographic extent of both the need to investigate alternative solutions and the distance to be considered for the possible effects of a project; the role of ‘scientific evidence’ to support the decisions; and the meaning of ‘appropriate assessment’ in specific cases.”

“Yet, notwithstanding these, it is common understanding that compensation should eventually result in habitat areas which are in quality and quantity similar to the threatened ones, and located in the close vicinity of the original site”.

“The Directives have no provision on how to deal with pre-existing user rights, nor is there a mechanism to compensate for property rights that have been infringed as a result of the site designation”.

“With respect to the application of the Habitats Directive, neither EC guidance, nor the case law, have clarified fundamental uncertainties and potentially conflicting demands of the decision making procedure”.

“The lack of clarity and definition of the IROPI test is obvious from the fact that no ruling by the European Court of Justice or by any national court has given special weight to the classification of a port or waterway as being of strategic importance and listed under the Trans-European Network of waterway transport infrastructure”.

“There exists a wide gap between EU Transport Policy and Environment Policy, the Environmental Directives are integrated into policies for maritime

transport and infrastructure. However, there is no obligation to consider other EU policies when designating sites that fall under the Birds and Habitats Directives”.

These findings were discussed on EuDA’s Annual General Meeting which was held on the 28th of October 2006. In a panel discussion EuDA, represented by Mr. Wouter Dirks, chairman of the EuDA Environment Committee and by NGO ‘Natuurpunt’ represented by Mr. Peter Symens, debated on sus-

tainable development of economy and environment. During a lively debate, under excellent guidance of Prof. Dr. Patrick Meire of the University of Antwerp, the invited parties came to the conclusion that different views should not be any obstacle anymore to achieve sustainable port development. However, beyond willingness and technical solutions, stakeholders have to be brought on board and the legislative framework has to be adapted. A small tabloid ‘Nature and Dredging’, ‘dialogue instead of confrontation’ was distributed at the European Institutions.

Current maritime policy patchwork (EuDA summary 2006)

| Sustainability | social | | economic | | | | environment | | | | | |
|-----------------------------|----------|-------------------|--------------|-----------|--------|-------------|-----------------|-----------|-----------|-------|--------------|--------|
| | training | labour conditions | compensation | transport | energy | living RSRS | non-living RSRS | pollution | emissions | water | biodiversity | seabed |
| Directorates general | | | | | | | | | | | | |
| DG transport | ● | ◆ | ● | ◆ | | | | ● | ◆ | ● | | |
| DG fish | ● | ◆ | | | | ◆ | | | | | ◆ | |
| DG energy | | ● | | | ● | | | | ● | | | ● |
| DG industry | | | ● | | | | ● | | | | | |
| DG social | ◆ | ◆ | ● | | | | | | | | | |
| DG environment | | | | | | | | ◆ | ◆ | ◆ | ◆ | |
| DG research | | | | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ |

Legend: ◆ = direct involvement ● = indirect involvement or supporting role ○ = facilitates policy



P. Symens
NGO 'Natuurpunt'



W. Dirks
Chairman of the EuDA
Environment Committee



Prof. Dr. P. Meire - University of Antwerp

Maritime Policy

In 2006 the European Commission issued the Green Paper on the Maritime Policy. EuDA's position towards the Green Paper will be communicated to the European Commission in the course of 2007. We will build on the input provided in the preparation stage of the Green Paper and defend the essential role of international Conventions, including UNCLOS.

In the Green Paper, the European Commission makes reference to the statement already made by EuDA at the Mare Forum Green Paper Conference in 2005:

"The European Dredging Association (EuDA) suggested the establishment of 'a European Centre of Excellence' for the knowledge of the sea and the oceans with as focal themes marine resources, climate change effects, dynamics of coastal zones, impact of infrastructure development, the relationship between development and ecology over longer periods. This proposal highlights the multi-faceted nature of marine-related research.

Taking account of this could facilitate the exchange of information between sectors and research organisations. Options could include a regular conference to disseminate results of marine-related research and obtaining feedback from industrial stakeholders.

The establishment of a single European Internet portal for research-related projects to replace the fragmented web pages that currently exist could be envisaged".

"It has been good to see that the European Commission has acknowledged that there is need for consolidation in the field of maritime research in Europe as identified by EuDA.

In the process of improving European research, EuDA will support R&D activities within the EU that are focused on sustainable development of maritime infrastructure"

Marine Strategy

The Environment Committee has followed the process of adopting the Marine Strategy paper, which took place prior to the finalisation of the EU Maritime Policy. The Marine Strategy forms in fact the environmental leg of the maritime policy. The strategy paper has been adopted by the European Parliament after amending it and tightening the implementation dates for achieving 'good quality' status of the marine waters. Of particular relevance for the implementation is that the strategy calls for designation of extensive Marine Protected Areas (MPAs), where stringent limitations on environmentally harmful activities will apply. The MPA concept is in line with the demands under the Habitats Directive, which include designation of Special Protection Areas (SPA) also in coastal waters.

The view of the dredging industry is that its members have a responsibility to act as managers of the aquatic environment, having in sight the ecological quality as well as the needs for coastal protection and maritime infrastructure. The sector has no major issue with the Marine Strategy and welcomes the efforts to improve the quality of coastal marine waters.

The European Parliament and the European Commission have decided to present the strategy also in the legal form of a Directive.



Construction bird island, Le Havre, France.

busy, but social, bees

Wherever we take up residence, we are industrious. Large projects of important infrastructures are complex and the execution of the works need a well oiled organisation.

Dredging companies employ people who have curious, creative, innovative, adventurous and dynamic minds who like challenging situations.

These attitudes have a radiant effect on the development of new infrastructure works.





S. Hoek, chairman of the Social Committee

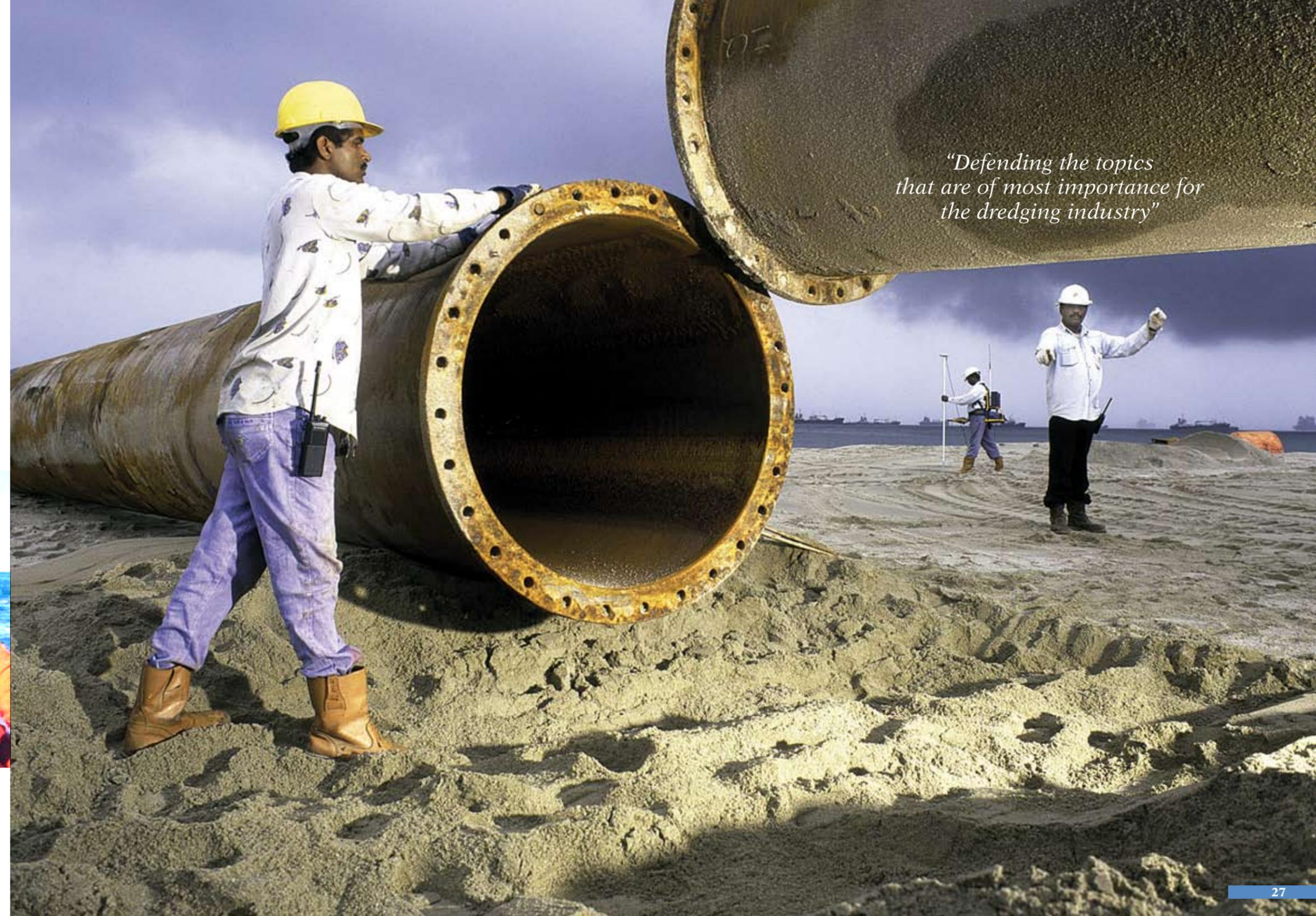
Social Affairs

by Simon Hoek, chairman of the Social Committee

In 2006, the EuDA Social Committee dealt with two major issues:

- **Consolidated Maritime Labour Convention (CMLC) of the ILO (International Labour Organisation)**
After many years of discussions, the members of the International Labour Organisation, together with the employers representatives and the seafarers unions representatives, met in Geneva in February 2006. In this (Maritime) Labour Conference, the final draft text of the CMLC was negotiated.

On behalf of the European Dredging Association, Mr. Simon Hoek attended the conference defending the topics that were of most importance for the dredging industry.



“Defending the topics that are of most importance for the dredging industry”



The areas of concern for EuDA were brought into the discussion in the preparatory meeting of the employers representatives. With their support the final result was, that those definitions with respect to ships and seafarers were adopted which were essential for the dredging industry.

The definition of ships is now such that only self-propelled dredgers will fall entirely under the scope of the CMLC. Ships that are working in or closely to sheltered waters and port areas are excluded from the CMLC.

With the adoption of the CMLC a long negotiation process came to an end, but a time-consuming ratification and legislation process will follow, notably the ratification process of the individual Member States and the translation of the CMLC into national laws and regulations.

In addition, the European Union will incorporate the CMLC code into the body of EU law; this legislative route has started.

EuDA will monitor the legislation process in the EU through our co-operation with the European Community Shipowners' Associations (ECSA).

• **Study on Employment in areas related to the sea prepared by Ecotec.**

The second important item of the Social Committee was the preparation of the Study on Employment in Areas Related to the Sea done by Ecotec.

The Social Committee updated the results of this study as far as the dredging industry is concerned. The impression of the Social Committee is that the sources from which Ecotec got its data/figures on maritime employment are sometimes obsolete or not very sector specific. In discussions it appeared that the definitions of the specific maritime sectors vary from country to country, hence the confusion on actual employment per sector.

EuDA made a strong plea for an integrated approach by a maritime cluster organisation on the basis of commonly accepted definitions. The final report by Ecotec, is based on correct data for the dredging sector.

“A strong plea for an integrated approach by a maritime cluster organisation”

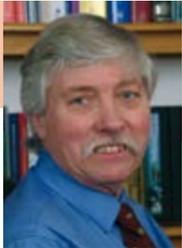




the quest for the egg of Columbus

A key vision of the Waterborne Technology Platform is to enable the expansion of waterborne infrastructure to accommodate the potential 80% growth in waterborne trade by 2020 in a safe and efficient way without harm, and where feasible, with positive benefit to the marine and aquatic environment. If the expected growth in waterborne trade is to be accommodated without unacceptable delay and cost, it is necessary to streamline the procedure leading to the development of new infrastructure, or the expansion of existing infrastructure.

This requires new, or improved methods, of rapidly determining the physical characteristics of potential development sites, increased knowledge of their ecological status and improved understanding of the potential effects of development. The outcome of a coordinated series of research programmes in which these research topics are combined could well achieve the elusive 'Egg of Columbus' effect.



A. Bates

Waterborne Technology Platform

by Anthony Bates, EuDA representative in the Waterborne Technology Platform

The past year has seen important progress by the Waterborne Technology Platform. The main activity has been the preparation of a Research Implementation plan, a process in which EuDA has made a significant contribution, resulting in the inclusion of a number of research topics of potential benefit, not only to EuDA members, but also to the infrastructure of the waterborne industry and society as a whole.

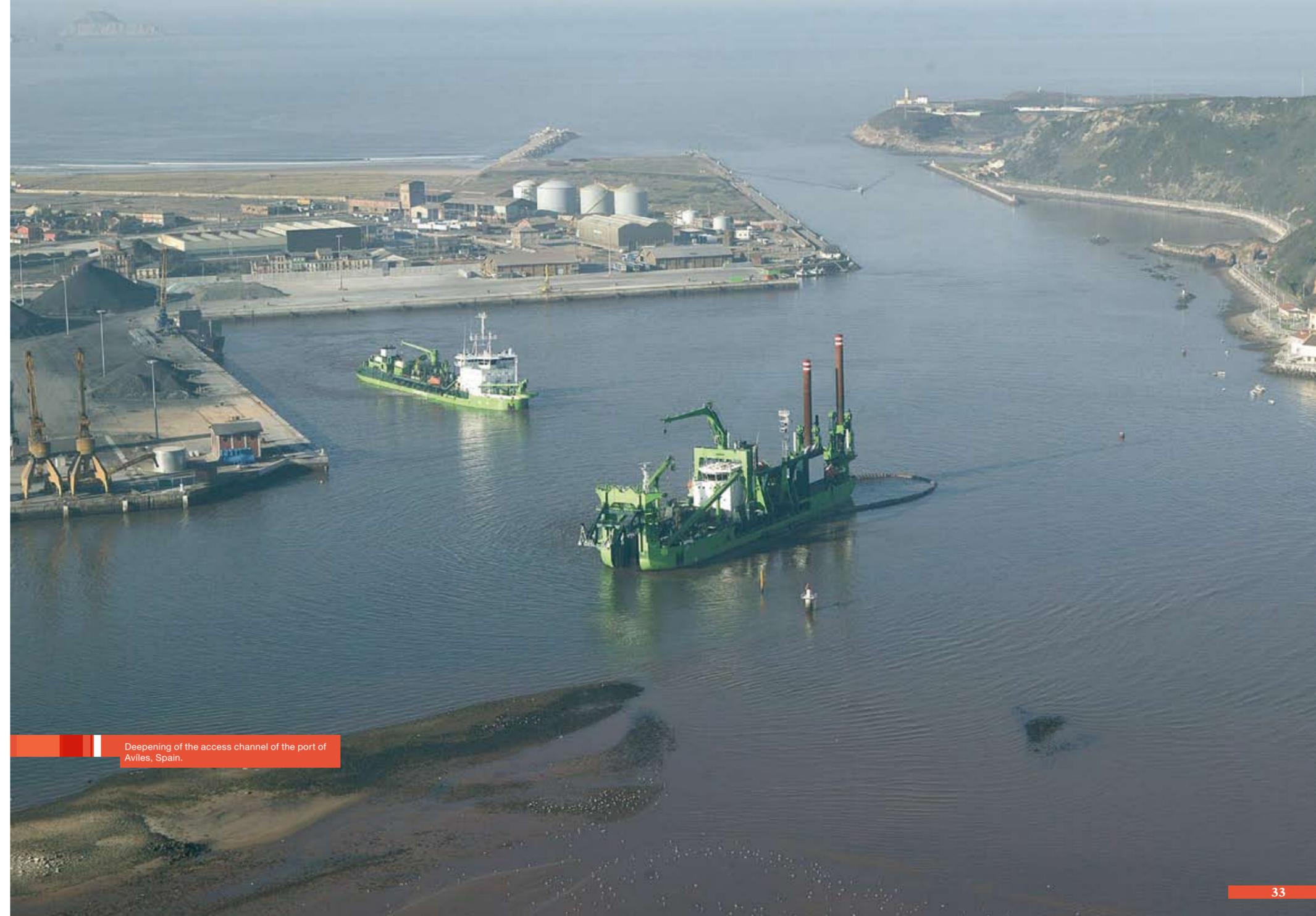
Preparation of the Implementation Plan is now nearing completion. This has been achieved over the past year by a series of 10 editorial meetings and 1 workshop, all held in Brussels, the latter successfully hosted by EuDA in their new offices. I am pleased to report that support for the workshop was good with 12 contributors from a wide cross section of industry, including various ports.

Whilst workshop attendance was good, with fruitful discussions, the subsequent response in terms of written contributions has to date been slow, but there remains time for this to improve.

There have been various contacts between the leading Waterborne TP members and the EU, including presentations and written submissions, in which a selection of priority research areas were identified. These included the topic 'Understanding the Environmental Impact of Infrastructure Building and Dredging'. This topic was promoted as high priority for possible inclusion in the next Call under FP7.



Reclamation Project, Palm Island II, Dubai.



Deepening of the access channel of the port of Aviles, Spain.



Cutter suction dredger working in Spain.

Research topics of special interest to EuDA members that are included within the Implementation Plan include the following:

- **The determination of real Baseline conditions against which the effect of infrastructure development may be measured, including:**
 - State of the Art Review,
 - Improved understanding of the potential impact of development,
 - Establishment of a Centre of Excellence, or Knowledge Portal, for the pooling of knowledge of the behaviour of the coastal marine environment and the impact of development,
 - Potential for Long-term cumulative impact.

“The main activity has been the preparation of a Research Implementation plan, a process in which EuDA has made a significant contribution”

Programme to enable refinement of Environmental Regulation to remove inconsistency, conflict and duplication.

- **Advanced field measurement techniques, including:**
 - Improved application of remote sensing techniques,
 - Technology exchange with the offshore industry in non-intrusive ground investigation techniques.

If all, or even some of these research topics are completed, our understanding of the behaviour of the coastal marine environment and the effects of development will be greatly improved. The more rapid and efficient collection of data, both physical and ecological, will also be achieved.

The combined effects of these advances in knowledge and understanding will serve to allow waterborne infrastructure projects to be planned with increased confidence and implemented more rapidly with reduced risk. These are challenges worth pursuing, not only for the benefit of the dredging industry, but also for the whole waterborne industry and, importantly, for society at large.



Infrastructure development.

time to leave your shell

With the start of new projects, investors and shareholders play an important and determined role.

These key role players aim for sustainable development based on new thinkpatterns which focus on the economic, social and environmental aspects.

The combination of these three elements will change negative and bad circumstances into better living conditions for local inhabitants and society generally, especially in subordinated areas.



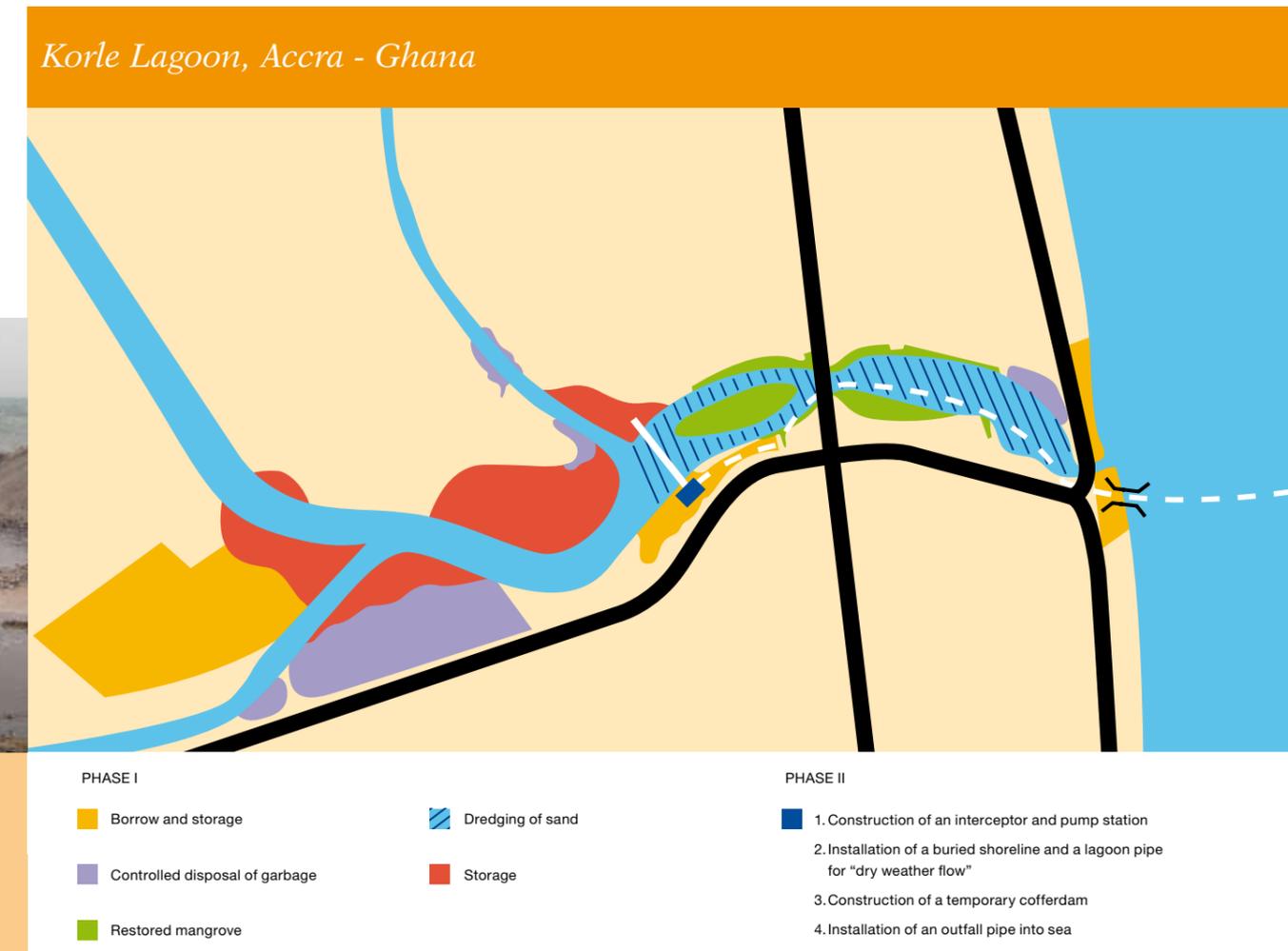
Sharing and discussing new ideas are important experiences. Dredging plays a critical role in all aspects of our uses of rivers and harbours. Therefore, topics like beneficial uses of dredged materials, effectiveness of dredging as a remedial tool, dredging and management of contaminated sediments, costs and other impacts of dredging policies and regulations, dredging as a tool for port expansion, international experiences with placement and management of dredged materials are of utmost importance to invest.

New approaches in contracting come into being. They involve close partnerships between public authorities, contractors, consultants and others. Contract forms such as public-private partnership (pps) and design, build, maintenance and finance schemes become a reality. A lot has been said about dialogue and cooperation.

European dredging firms are involved in projects encompassing the dredging of sludge and to control the process of disposal of contaminated materials from several lagoons in Africa. These works add to an improvement of the standard of life of the people living in the vicinity of lagoons, where the change from a bad, unhealthy water situation into a proper and clean one, will be of enormous benefit for the population and its direct surroundings.

“New approaches in contracting come into being. They involve close partnerships between public authorities, contractors, consultants and others”

European dredging firms are involved in projects encompassing the dredging of sludge and to control the process of disposal of contaminated materials from several lagoons in Africa.





Construction of the interceptor for the
"Korle Lagoon Ecological Restoration Project", Ghana



Trenching for outfall pipeline installation for the
"Korle Lagoon Ecological Restoration Project", Ghana.



'In Ghana dredging works were executed in the 'Korle Lagoon' Ecological Restoration Project, an important project encompassing the dredging of sludge and controlled disposal of these contaminated materials from the Korle Lagoon inside the capital, Accra.

Earthworks, foundation piling and cofferdam sheet piling, civil construction works as well as the installation of pipelines to transport the collected wastewater to the sea-outfall were prepared.

This project has been labelled 'Friends of the Earth' by the NGO-organisation, in recognition of its importance as one of the most urgent sanitation projects from so-called 'black spots' in Africa'.

Mühlenberger Loch, Hamburg - Germany

Originally, Mühlenberger Loch (ML) was an amphibious environment characterised by watercourses, islands and sand. Because of its direct proximity to the Elbe River, the current environment in ML changed as the river was dredged, meaning that further dredging was required around the turn of the century. By 1937, an expanse of open water had been created. Before construction began in 2001, ML was a much-frequented resting place for rare ducks, gulls and sea swallows. This made it a protected environment covered by the International RAMSAR Convention, under which an intrusion was permitted only under special conditions. These included the making of compensating wetland areas which are equally close to the Elbe River.



Mühlenberger Loch, Hamburg - Germany



Dredging Project

Enclosure and Heightening of the Airbus Works Extension "Mühlenberger Loch" Hamburg - Germany

A new addition to the Daimler Benz Aerospace Airbus GmbH (DA) plant in Hamburg has been built to assemble its new Airbus A 380. It was necessary not only to create new land to build on, but also to extend the existing runway.

The enlargement plans included:

- Filling the Mühlenberger Loch
- Empoldering the enlargement area
- Constructing a quayage to load aircraft parts
- Moving the access road to the Rüscher Channel
- Extending the runway



Channels essentially are our waterway's version of highways. Just as cars and trucks need safe highway systems, the huge ocean vessels sailing in and out of ports need channels that are well maintained at a uniform depth and width. Over the past decades, efficiencies in the maritime industry have caused the size of the world's ocean vessels to grow dramatically. As a result, ports world-wide must regularly conduct maintenance dredging and continuously examine expansion and improvement dredging projects.



MEMBERS OF EuDA

BELGIUM

Dredging International N.V.

www.dredging.com

www.deme.be

Jan De Nul N.V.

www.jandenul.com

Baggerwerken Decloedt en Zoon N.V.

www.deme.be

Fédération du Dragage Belge A.S.B.L.

baggerwerken@confederatiebouw.be

DENMARK

Rohde Nielsen s/a

www.rohde-nielsen.dk

FRANCE

EMCC

www.vinci.com

GERMANY

Vereinigung der Nassbaggerunternehmen E.V.

www.nassbagger.de

Josef Möbius Bau-Aktiengesellschaft

www.moebiusbau.de

GREAT BRITAIN

BMAPA

British Marine Aggregate Producers Association

www.bmapa.org/

IRELAND

Irish Dredging Company

www.boskalis.com

ITALY

SIDRA - Società Italiana Dragaggi SpA

www.deme.be

THE NETHERLANDS

Baggerbedrijf De Boer B.V. / Dutch Dredging B.V.

www.dutchdredging.nl

Royal Boskalis Westminster N.V.

www.boskalis.com

Van den Herik B.V.

www.herik.nl

Van Oord N.V.

www.vanoord.com

VBKO - Vereniging van Waterbouwers in

Bagger-, Kust- en Oeverwerken

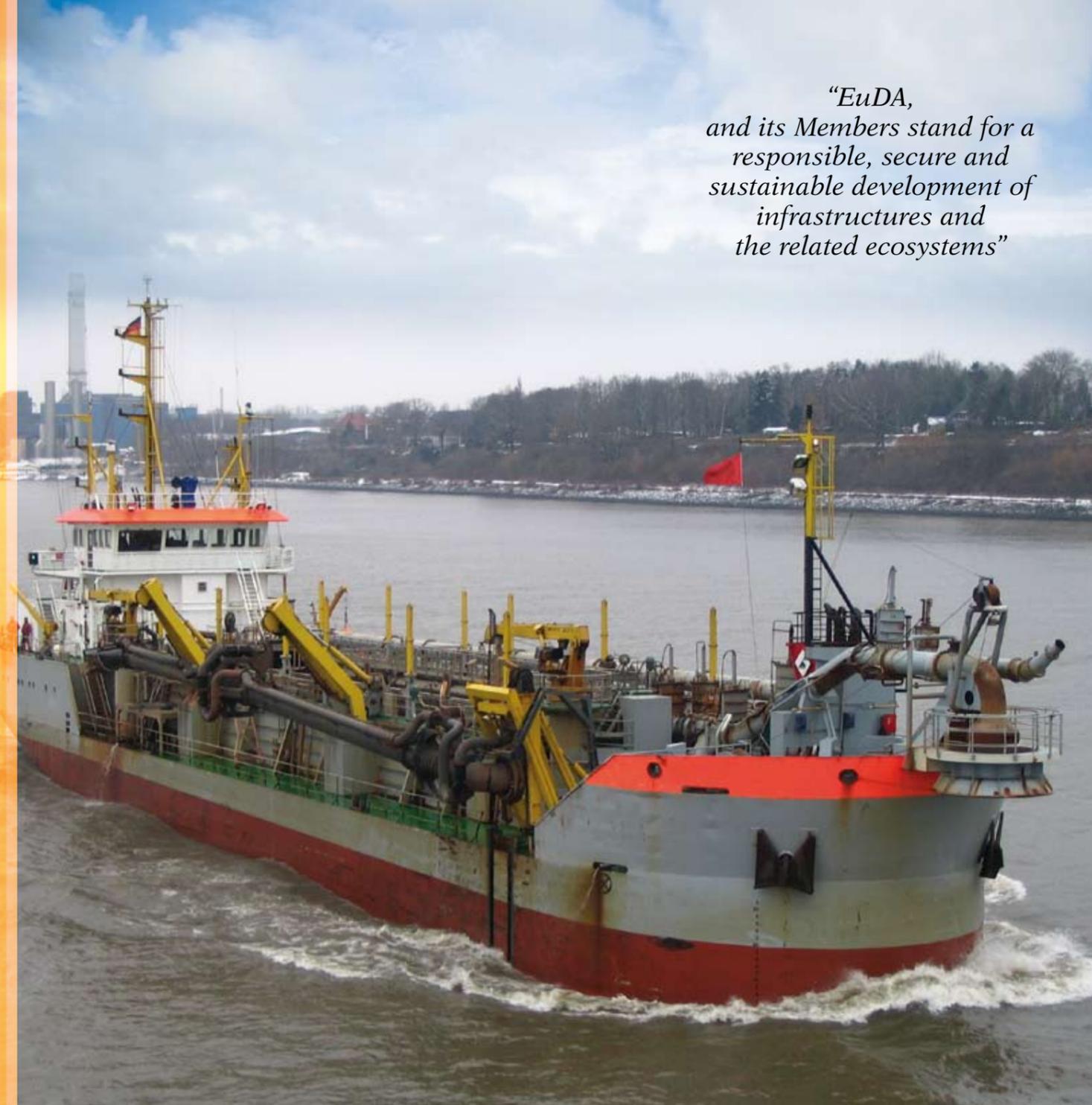
www.vbko.nl

SPAIN

DRACE

www.drace.com

*“EuDA,
and its Members stand for a
responsible, secure and
sustainable development of
infrastructures and
the related ecosystems”*



EuDA Secretariat Agnès de Meester, advisor to the board Isabelle Gourdin, secretary

148, Avenue Grandchamp 1150 Brussels Belgium T. +32 (0)2 646 81 83 F. +32 (0)2 646 60 63 E-mail info@euda.be www.european-dredging.info