

CEDA DREDGING DAYS 2015

Innovative Dredging Solutions for Ports

Conference and Exhibition

5-6 November 2015

Ahoy Rotterdam, the Netherlands



In conjunction with



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peer reviewed
papers

Young CEDA
Pitch Talks
Session

Debate on sustainability in dredging



INTRODUCTION TO THE CONFERENCE

CEDA Dredging Days is CEDA's trademark event and it is the primary international dredging conference in the CEDA region since many years. It is widely considered as an invaluable forum for leading researchers and industry experts to discuss and share dredging challenges, solutions and experiences.



THE THEME

Dredging and the management of sediments are key elements in the sustainable development and operation of most ports. There is a growing call for them to become greener, more environmentally aware and more responsible with regard to operations. As a result, innovative and cost-effective solutions that meet both economic and environmental objectives and offer opportunities for enhancing or creating natural ecosystems around the port are increasingly important. Achieving this will need advanced dredging technology and a thorough understanding of the natural processes around ports including the effects of climate change.

In direct response to the need for more sustainable processes, CEDA Dredging Days 2015 will focus on innovative dredging solutions for ports and present the latest technical and scientific developments. It will also cover best practice relating to maintenance and capital dredging in ports and access channels and the management of sediments including the sediment balance of the broader port environment.

WHO SHOULD ATTEND

The conference is aimed at practitioners, engineers and scientists representing:

- Port authorities
- · Coastal, water management and environmental authorities
- · Environmental organisations and conservation bodies
- · Knowledge institutes and universities
- Consultancies
- · Dredging companies
- Manufacturers

VENUE AND DATES

CEDA Dredging Days 2015 Conference and Exhibition will be held at **Ahoy Rotterdam, Rotterdam, the Netherlands on 5-6 November 2015.**

An optional technical visit is organised on 4 November in the afternoon.



PROGRAMME

DAY 1 - THURSDAY 5 NOVEMBER

09:00 SESSION 1 - OPENING

Chair: van Rhee C - Delft University of Technology, the Netherlands

Opening remarks: Anders Jensen, CEDA President - DHI, Denmark

Introduction: Prof.Dr. Cees van Rhee, Technical Papers and Programme Committee Chairman - Delft University of Technology, the Netherlands

Keynote address: 'Implementation of sustainable design solutions in port development' by Tiedo Vellinga, Director Environmental Monitoring Maasvlakte 2 - Port of Rotterdam, the Netherlands

Featured presentation: 'Dredging projects - adaptive environmental management and related monitoring procedures' by Gerard van Raalte, Chair CEDA Working Group on Adaptive Management - Boskalis/Hydronamic, the Netherlands and Ida Brøker, Chair CEDA Working Group on Environmental Monitoring Procedures - DHI, Denmark

10:00 Coffee and tea served in the exhibition area

10:25 SESSION 2 - SUSTAINABLE DREDGE MATERIAL MANAGEMENT

Chair: Sheehan C - Anthony D Bates Partnership, United Kingdom

Innovative sustainable management of sediments

Dhervilly P, Bertrand M - SEDIGATE, France; Thanneberger L - VALGO, France; Levacher D - Université de Normandie, France; Houise C - INVIVO Environnement, France; Lafhaj Z - Ecole Centrale de Lille, France

Environmental dredging of a chromium contaminated fjord in Valdemarsvik, Sweden

Pensaert S, Nollet H, Rombaut E, Lepère X - DEME Environmental Contractors, Belgium

Keeping draft depths and controlling sedimentation by making use of innovative geotextile constructions to steer fines and store sediment

Lauwerijssen FM, Stook PJ, Egbring GAR - Tauw Group, the Netherlands; Jansen MHP - Witteveen+Bos, the Netherlands

The future of maintenance dredging: working with nature? A synthesis

Sforzi G, Middlemiss D, Feates N - HR Wallingford, United Kingdom

Sediment recycling to mitigate the effects of harbour deepening on habitat - and what happened over the following 15 years

Spearman J, Baugh J - HR Wallingford, United Kingdom

13:15 SESSION 3 - LATEST DEVELOPMENTS IN DREDGING TECHNOLOGY

Chair: van Rhee C - Delft University of Technology, the Netherlands

Application of LNG DF engines in dredging vessels

Shi W, Mestemaker BTW - MTI Holland, the Netherlands; den Boer LJA - Royal IHC, the Netherlands; Contessi C, Zotti A -Wärtsilä, Italy

An optimal dredging process by using new draghead control concepts

Van den Bergh PM, Osnabrugge J - IHC Systems, the Netherlands; de Keizer C - C. de Keizer Controls, the Netherlands

Fuel efficient drive train design for hopper dredgers

Den Boer LJA, Raimond CP, van der Blom EC, ten Heggeler OWJ - Royal IHC, the Netherlands

14:20 Coffee and tea served in the exhibition area

14:45 SESSION 4 - ACADEMIC SESSION

Chair: van der Blom E - Royal IHC, the Netherlands

Developments in underwater sound: establishing source levels for dredging equipment and modelling the propagation of underwater sound

Harris KL, Jones D, Marten K - HR Wallingford, United Kingdom

Modeling the effect of water depth on rock cutting processes with the use of Discrete Element Method

Helmons RLJ, Miedema SA, van Rhee C - Delft University of Technology, the Netherlands

Continuous flow modeling of soil and sand water mixtures Goeree JC, Keetels GH, van Rhee C - Delft University of Technology, the Netherlands

15:50 Coffee and tea served in the exhibition area

ACADEMIC SESSION

The 'Academic Session', a special session within the technical programme of CEDA Dredging Days 2015, is part of CEDA's continued support of young professionals. University and college students and young professionals do not have to adhere to the conference theme and can present papers on any subject matter related to dredging.





16:15 SESSION 5 - PLUME MONITORING AND MODELLING

Chair: De Sutter R, Antea Group, Belgium

Case study: proactive management of dredging operations during construction of the Wheatstone LNG plant facilities, Pilbara Coast, Western Australia

Chamelete de Vilhena L, De Wachter T - Dredging International Australia, Australia; Bollen M - IMDC, Belgium; Pedersen C - DHI Water and Environment, Malaysia; Pizzo GM - Chevron Australia, Australia

A methodological modelling approach to assess the potential environmental impacts of dredging activities

Feola A, Lisi I, Salmeri A, Venti F, Romano E - ISPRA-Institute for Environmental Protection and Research, Italy; Pedroncini A - DHI, Italy

Practical use of dredge plume source terms

Van Eekelen EMM, van Wiechen JJJ, van Koningsveld M - Van Oord Dredging and Marine Contractors, the Netherlands

EcoPlume: operational proactive environmental management of dredging

Mol ACS, Huygens M - DEME, Belgium

17:45 CEDA Annual General Meeting

18:15 CEDA Netherlands reception

RECEPTION

Thursday 5 November, 18:15 - 19:15 hours

The traditional CEDA Netherlands reception will take place in the foyer of the conference room; a relaxing opportunity for delegates to meet, make new contacts and catch up with old friends.



The CEDA Dredging Days 2015 Technical Papers and Programme Committee reserves the right to adjust or change the programme if necessary.

DAY 2 - FRIDAY 6 NOVEMBER

09:00 SESSION 6 - DREDGING CONTRACTS AND ENVIRONMENTAL ISSUES

Chair: Röper H - Hamburg Port Authority, Germany

Dredging contract specification for dispute avoidanceSheehan C, Maloney M - Anthony D Bates Partnership, United Kingdom

The value of remote sensing in the environmental management of dredging projects

Knaeps E, Raymaekers D, Bertels L, Van De Kerchove R, De Keukelaere L, Goor E - VITO, Belgium; Bollen M, Decrop B - IMDC, Belgium

A different kind of Environmental Impact Assessment: assessing the impact of compliance with environmental obligations

Engelen KDR, Read KM, Yzewyn T - DEME, Belgium

Development of sustainable marine infrastructure; publicprivate considerations on key enabling factors

Aarninkhof SGJ - Boskalis, the Netherlands; Bridges TS - US Army Corps of Engineers, United States of America

10:30 Coffee and tea served in the exhibition area

11:00 SESSION 7 - INTERACTIVE SESSION: WHEN IS YOUR PROJECT SUSTAINABLE?

Chair: Laboyrie P - Chairman CEDA Environment Commission, Witteveen+Bos, the Netherlands

This session is organised by the CEDA Environment Commission to get a more common understanding of how to improve the sustainability of dredging and dredging projects. Through discussion an expert panel, together with the audience, will seek to prioritise the most important issues that will need tackling in the near future. We will aim to devise an 'action plan' for project owners, dredging companies and governments, which will lead to more sustainable practices.

Expert panel:

- Pieter de Boer, Ministry of Infrastructure and Environment, the Netherlands
- · Erik van der Blom, Royal IHC, the Netherlands
- · Mark Bollen, IMDC, Belgium
- · Klavs Bundgaard, DHI, Denmark
- Astrid Kramer, Royal Boskalis Westminster, the Netherlands.

For more details please refer to page 5 in this brochure.

12:30 Lunch served in the exhibition area

13:30 SESSION 8 - YOUNG CEDA PITCH TALKS

Chair: de Heer A - Chairman Young CEDA, Witteveen+Bos, the Netherlands

Young CEDA will be hosting a session of pitch talks with the aim of creating a dynamic series of up to seven succinct presentations aligned with the overall theme of the conference. The pitch talks will provide students and young professionals with a platform on which to present their ongoing work, expose



their ideas to a broad expert audience, and get immediate feedback and inspiration. Young people, in particular students, rarely get the chance to submit a full paper to their peers at professional conferences like CEDA Dredging Days. This event has been organised specifically to give them the opportunity to receive peer input into their ongoing projects.

14:30 Coffee and tea served in the exhibition area

14:55 SESSION 9 - DEVELOPMENT IN DREDGE SEDIMENT RESEARCH

Chair: Cool L-R - dotOcean, Belgium

The impact of channel deepening and dredging on the suspended sediment concentration in the Ems Estuary
Van Maren DS, van Kessel T - Deltares, the Netherlands

Cohesive sediment research: current development by Flanders Hydraulic Research Laboratory, Antea Group and Dotocean

Meshkati Shahmirzadi ME, Van Hoestenberghe T, De Sutter R -AnteaGroup, Belgium; Staelens P - Dotocean, Belgium; Claeys S, Van Oyen T - Flanders Hydraulics Research, Belgium

Tests on new maintenance concept in the port of Rotterdam driven by mud rheology insights

Geirnaert K, Staelens P, Deprez S - DotOcean, Belgium; Noordijk AC, Van Hassent A, Schot C, Rutgers R - Port of Rotterdam, the Netherlands

Port of Falmouth development initiative - habitat removal and replacement as mitigation for dredging - a proposed approach Adnitt CS - RHDHV, United Kingdom; Sheehan EV, Attrill MJ - Plymouth Marine Institute, United Kingdom; Sansom M - Falmouth Harbour Commissioners, United Kingdom

- **16:25** Presentation of the **IADC Young Authors' Award:** René Kolman, Secretary General IADC, the Netherlands
- 16:30 Conference Chair's closing remarks: Prof.Dr. Cees van Rhee, Chairman Technical Papers and Programme Committee, Delft University of Technology, the Netherlands

16:35 Farewell drinks

TADC AWARD

The International Association of Dredging Companies' Young Authors Award will be presented to an author under 35 years of age for the best conference paper.

CONFERENCE PROCEEDINGS

All papers will be peer reviewed and published in the conference proceedings. The proceedings will be distributed to all registered delegates at the start of the conference and added to CEDA's digital library of proceedings on the website. CEDA Dredging Days proceedings are included in the Conference Proceedings Citation Index.

OFFICIAL LANGUAGE

English will be the official language of the conference.

INTERACTIVE SESSION When is your project sustainable?

This session is organised by the CEDA Environment Commission (CEC).

Sustainability is a broad term but what does it mean in the context of (navigation) dredging projects, or in the different phases of a dredging project? The aim of this session is to stimulate debate and harness the collective knowledge, and creative thinking, of the audience and a panel of experts. The discussion will highlight different perspectives on sustainability of dredging projects. Also we hope to gain a more common understanding of how to improve the sustainability of dredging and dredging projects.

The session will seek to prioritise the most important issues that will need tackling in the near future. We will aim to devise an 'action plan' for project owners, dredging companies and governments, which will lead to more sustainable practices. CEC will publish the results in the future.

To pre-empt the discussion we ask you to consider: When is a dredging project sustainable?

- Is it when it's based on the ecosystem services approach?
- Is it when it applies on one of the '...with nature' approaches e.g. working with nature, building with nature, engineering with nature, eco-engineering?
- Is it when it has a low carbon foot-print?
- Is it when there is no turbidity?
- Is it when it doesn't create noise disturbance?
- Is it when dredged sediments are used beneficially?
- Is it when it fully complies with all prevailing regulations?
- Is it when you consider social concerns and interact with their stakeholders?
- Is it when contractors are involved early?
- Is it when we 'co-create'?
- Is it when we manage a project in an adaptive way?
- Is it when all impacts (on the natural and social environment) of project activities are compensated or do we have the responsibility to improve these environments for future generations?
- Is a dredging-project sustainable when necessary?
- If you use the shared (best) knowledge/practices?
- If you gather/use/share big data (open earth)?
- If you work efficiently?
- If you use the best assessment techniques?
- If you are transparent?
- If you don't use fossil fuels?

Panel members from a diverse background, with range of expertise, will use opening statements to kick-start and inspire the debate.



TECHNICAL VISIT

Wednesday 4 November 2015, 12:00 - 17:00 hours

DUTCH WATER PROGRAMME 'ROOM FOR THE RIVER'

Without dikes and coastal dunes, around two thirds of the Netherlands would be flooded. Flood protection is therefore a very high priority. The 'Room for the River' programme, the implementation of which started in 2007, restores the river's natural flood plain in places where it is least harmful in order to protect those areas that need to be defended. By 2015, through a series of measures at more than 30 locations across the country, costing 2,3 billion euro, the flood plain will be lowered and broadened and river diversions and temporary water storage areas will be created. Marshy riverine landscapes will be restored to serve once again as natural 'water storage' sponges and provide biodiversity and aesthetic and recreational values.

During the CEDA Dredging Days technical visit, we will visit one of the project sites in the vicinity of Rotterdam – decision about this will be made closer to the date to ensure that participants will get the most out of the visit.

You must register for the tour in advance (please refer to the registration form). There is an extra charge for participation: € 50.00 (excl. VAT). Please note: The number of places is limited to a maximum of 50 persons and places will be allocated on a first come first served basis.

The coach will depart from Rotterdam at 12:30 hours and will return at approximately 17:00 hours. Please check the conference's website for up-to-date information. Participants registering for the visit will receive detailed joining instructions from the Conference Secretariat.

The visit is hosted by Room for the River of Rijkswaterstaat. Rijkswaterstaat is part of the Dutch Ministry of Infrastructure and the Environment and responsible for the design, construction, management and maintenance of the main infrastructure facilities in the Netherlands.







STUDENT PROGRAMME

The Student Programme is a highly successful initiative that enables promising students to attend Dredging Days. Under this programme CEDA offers a considerable number of free registrations to graduate and post-graduate students. They are granted to students who have shown great affinity with dredging technology within their studies.

The free registrations are organised and co-ordinated by Young CEDA, and 15 European universities and institutions of higher professional education will be offered up to three each.

Those students who are not eligible for the Student Programme 2015 can still attend CEDA Dredging Days 2015 at a significantly reduced rate of € 150.00. Students who would like to participate in the programme, and whose universities may not have been approached by Young CEDA, are advised to contact the Young CEDA Chair, Arjan de Heer, at youngceda@dredging.org.



YOUNG CEDA SOCIAL EVENT

As always, the social events will be an important part of the Young CEDA programme during Dredging Days 2015. They help to ensure that students and young professionals, attending the conference, have plenty of opportunities to meet their peers and spend some relaxed time with each other. A networking event for students and young professionals is scheduled for Wednesday, 4 November, as an icebreaker for the conference. There will also be a Young CEDA lunch before the pitch talks session on Friday. More details will be announced later.

ABOUT YOUNG CEDA

Young CEDA represents youthful CEDA members and give them easy access to a unique network of young professionals in the field of dredging, representing research institutes, universities, industry, governmental authorities and consultants. Young CEDA provides members with plenty of opportunities to exchange ideas, gain new technical insights, interact with older or more experienced fellow dredging enthusiasts and colleagues and expand networks with valuable new contacts to enhance their careers. And finally Young CEDA members aim to have fun!!



REGISTRATION

FEES (excl. VAT)

DELEGATE/SPEAKER

| | CEDA/EADA/WEDA member* | €550.00 |
|---|---------------------------|----------|
| • | Non-member | € 725.00 |
| • | Speaker/PhD student | €350.00 |
| | Student (undergraduate)** | €150.00 |
| | Technical visit | € 50.00 |

The above fees are exclusive of the additional VAT (21%)

- All individual members and employees of corporate members of CEDA are eligible for registration at the member's rate.
- ** Student registration is only accepted on receipt of letter of endorsement and a copy of the student card.

WAYS TO REGISTER

- Register online at www.cedaconferences.org/ dredgingdays2015
- E-mail copy of registration form to sylvia@mintenprojectmanagement.nl
- Send registration form by post to CEDA Dredging Days 2015, Rotterdamseweg 183c, 2629 HD Delft, the Netherlands

ACCOMMODATION AND TRAVEL

Delegates and guests are responsible for their own hotel bookings. Blocks of hotel rooms have been reserved at special Europort rates in a variety of hotels. For details and to make a reservation please visit the conference website.

Important: Reservations should be made in good time, as there will be many visitors in Rotterdam during the Europort 2015 week.

EUROPORT 2015

CEDA Dredging Days 2015 are held in association with EUROPORT 2015, exhibition for maritime technology, which will be held at Ahoy Rotterdam from 3-6 November 2015. For further information please visit: www.europort.nl.



EXHIBITION

To complement the conference, a technical exhibition will be located in the area adjacent to the technical session room. The central location of the exhibition area will provide organisations with an excellent opportunity to present their products and services to a select and focused group of international experts and decision makers. The exhibition will be open throughout the conference on 5-6 November 2015.



SPONSORSHIP

Sponsorship of CEDA Dredging Days 2015 will give organisations direct exposure to the world-wide dredging community. For information, including sponsoring the travel and accommodation costs of students, and a personalised sponsorship proposal, please contact the Conference Sponsorship

ABOUT CEDA

CEDA is an established authority and the leading independent forum for the professional dredging community and associated industries in Europe, Africa and the Middle-East. It represents dredging professionals and organisations from government, academia and business in the region and fosters and promotes the understanding and advancement of dredging to the wider community. Drawing on the collective knowledge of its members, and as an impartial body, CEDA regularly gives expert advice to government and international regulatory bodies.

CEDA members are representatives of consultancies, research and educational institutions, port authorities, government agencies, dredging contractors, designers and builders of dredging vessels, suppliers of ancillary equipment and organisations providing a whole range of related services.

CEDA is part of the World Organisation of Dredging Associations (WODA). CEDA's two sister associations, WEDA (Western Dredging Association) and EADA (Eastern Dredging Association), serve the Americas and Asia, Australia and the Pacific region respectively.



COORDINATING COMMITTEE
Anders Jensen, CEDA, Denmark
Anna Csiti, CEDA, the Netherlands

TECHNICAL PAPERS AND PROGRAMME COMMITTEE

Cees van Rhee, Delft University of Technology, the Netherlands (Chair)

Erik van der Blom, Royal IHC, the Netherlands

Louis-Robert Cool, Young CEDA representative, dotOcean, Belgium

Anna Csiti, CEDA, the Netherlands **Renaat De Sutter**, Antea Group, Belgium

Friederike Lehne, Young CEDA representative, Hamburg Port Authority,

Germany

Henrich Röper, Hamburg Port Authority, Germany

Colm Sheehan, Anthony D Bates Partnership, United Kingdom



UNDERSTANDING DREDGING

ENQUIRIES

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