

Members Meeting

Jorn Stoelinga becomes newer president

Pipeline project Zeelink

Dialogue makes work easier

DCA-Working group 4

Focus on automation

DCA
DCA
Newsletter July 2019

DCA Annual Congress 2019
24th Annual Congress in Krakau, Poland



Sponsors of the Congress:



Impress

Information according § 5 TMG:

Drilling Contractors Association (DCA)
Charlottenburger Allee 39
52068 Aachen, Germany

Authorised to represent executive board:

1. President: Marc Schnau
2. Vice President: Jorn Stoelinga
Treasurer: Jürgen Muhl

Contact

Phone: +49 (0) 241 9019290
Fax: +49 (0) 241 9019299
E-Mail: dca@dca-europe.org

Registration information:

Recorded in the register of associations.
Register court: Amtsgericht Mönchengladbach
Company registration number: 18VR1860

Accountable for the content according to § 55 Abs. 2 RStV:

Dipl.-Geol. Dietmar Quante
Dipl.-Geol. Antje Quante
Charlottenburger Allee 39
52068 Aachen, Germany

Copyright © 2019 Drilling Contractors Association (DCA-Europe)

All rights reserved.

No part of this work covered by the copyrights hereon may be reproduced or copied in any form or by any means - graphic, electronic or mechanical, including photocopying, recording, taping, or information and retrieval systems – without written permission of the publisher.

Dear members and other HDD enthusiasts,

I am pleased to be able to reach out to you as the new president of our association. In 25 years we have grown from a young and new-on-the-market association to a well-known and respected institution in the HDD business. On this point I would like to thank all my predecessors for achieving this. Since we are not a starting association anymore, it was necessary to update our statutes to reflect the current established situation and modern times. We are very happy the boards proposal was well received and accepted at February's members meeting.



Jorn Stoelinga
President of the DCA

In the newly elected board, we see a lot of familiar faces, as well as a new comer. This will allow us to continue on the route that has proven successful but at the same time reflect and see where we can improve. Together we will take on the tasks that are on our plate.

Obviously we will continue to organise our successes, like the education and training sessions, members forum, drilling saloon and most importantly the yearly congress. We will also continue to work on topics that are of importance to the industry as a whole in task groups and strive to renew and keep updated our broadly recognised Technical Guidelines.

One of the main goals of the DCA is to be a European association and the new board will put more emphasis on the association being European. I think in the new board this is well reflected, with members from 4 different countries employed by companies, not necessarily based in their home country. We will try to attract new members from other parts of Europa (of course without forgetting about our current members) to ensure our ideas about quality and are respected and recognised in all corners of the continent. This will allow both employers and contractors to work per known standards.

This process was already started in the previous board by appointing local representatives, leading to a new Italian member and the DCA participating at the No Dig conference in Florence this year. Also the yearly congress being held this year in Poland for the first time, will make the DCA more visible as well in the eastern part of Europe.

Our business will always remain unpredictable up to a certain point, but that is also a bit of the charm.

I wish you all a successful summer!

Regards,

A handwritten signature in blue ink, appearing to be 'J. Stoelinga', written in a cursive style.

Jorn Stoelinga

Content



Reviews

- 4 Members Meeting 2019
- 5 20 years jubilee ceremony
- 6 IRO Oldenburg 2019
- 7 New board member Scott Stone



Members Meeting 2019

Marc Schnau hands over his mandate to the new president Jorn Stoelinga

Read more at **Page 4**



Award for the company Beermann Umwelttechnik GmbH

The Federal Ministry of Economics and Energy awards the German Raw Material Efficiency Prize to the DCA member company.

Page 11



Further education; exhibition

- 8 Member Forum HDD Technology
- 9 Site manager training course at Tracto-Technik
- 9 HDD education in Celle
- 10 Seminar Mud Technology
- 11 Education in the Netherlands
- 11 Award for Beermann Umwelttechnik GmbH



Technical articles and task groups

- 12 ZEELINK pipeline project
- 14 Status Report Task Group 1
- 14 Status Report Task Group 2
- 14 Status Report Task Group 3
- 14 New Task Group 4



Zeelink

The construction phase of the largest single project in the National Development Plan for Gas 2015 has begun.

Read more at **Page 12**



Members information

This edition again some of the new DCA member companies introduce themselves.

You can find company profiles from **Page 16**



Annual Congress 2019

The congress will take place from 16th to 18th October 2019 at the Qubus Hotel in Krakow.

Page 19



Information from members

- 16 Company profile TenneT
- 17 Company profile J.T. Miller
- 18 Company profile x-plan schnau engineering
- 18 Company profile Sharewell HDD



Social programme of 24th Annual Congress

This year, the congress will once again be accompanied by an attractive programme, including a visit to the Jewish quarter of Kazimierz.

Page 20



Previews 2019/2020

- 19 24th DCA Annual Congress 2019
- 20 Social Programme Annual Congress 2019
- 21 DCA at No Dig Florence 2019
- 21 Further training according to GW 329 Kassel 2019
- 21 Courses according to GW 329 Celle 2020
- 21 HDD education in the Netherlands 2020

Review Members Meeting 2019

Change in leadership

The Drilling Contractors association, DCA, has a new president. At the members' meeting in Oldenburg, Jorn Stoelinga was elected to the office without dissenting votes.

Jorn Stoelinga succeeds Marc Schnau, who after a term of 2 years did not run again for the presidency of the association due to a professional change.



Marc Schnau as outgoing president

Jorn Stoelinga from LMR Drilling GmbH in Oldenburg, with 29 years of professional experience in controlled horizontal drilling technology, is a recognized expert in the industry. After studying oil production technology at the University of Applied Sciences in Den Helder, he held various positions in HDD and pipeline construction at the Dutch companies Nacap and Visser & Smit Hanab b.v. before joining LMR Drilling GmbH at the end of 2018. During his career he has worked in Europe as well as in Central America and South East Asia.

Jorn Stoelinga has been a member of the DCA Executive Board since 2015 and was initially responsible for the training of site managers and machine operators in the Netherlands. Since 2017, he has

held the office of DCA Vice President, during which time he took over the leadership of the "Coating Quality" task group.

In his inaugural speech, the new



View into the meeting room

president announced that he would continue to actively pursue the objectives of the DCA in the future. In particular, the European idea of the association is to be given even greater focus. Following the successful introduction of two DCA representatives in Spain and Italy, further representatives are to follow, particularly in Northern and Eastern Europe.

New structure in the board

Prior to the elections to the Executive Board, the members had approved amendments to the Articles of Association which included, among other things, a new allocation of Executive Board positions. The following were elected to the Executive Board

- 2nd Chairman with responsibility for small scale drilling: **Marco Reinhard**, Leonhard Weiss GmbH & Co. KG

- 2nd Chairman with responsibility for large scale drilling: **Atef Khe-miri**, HDI

- to the 2nd chairman with the area of responsibility for Extraordinary members: **Dr. Tim Jaguttis**, de la Motte & Partner Ing. mbH

- to the Treasurer: **Jürgen Muhl**, STEP Oiltools GmbH

and assessors:

- **Marc Schnau**, x-plan schnau engineering,

- **Franz-Josef Kißing**, Open Grid Europe GmbH, and

- **Scott Stone**, Visser & Smit Hanab bv.

The declared goal of the new Executive Board is to further sharpen the profile of the DCA, especially in the field of HDD small scale drilling. In addition to promoting training and further education measures for specialist personnel, the DCA continues to strive for the provision and further development of technical standards and recommendations.



Old and new president of the DCA

Measures to further develop technology, increase quality and harmonise contractual and competitive conditions remain the focus of the association.

Positive balance

At the beginning of the Members' Meeting, outgoing President Marc Schnau looked back on a successful year 2018 for the DCA. The number of members had increased once again to 112. Thus the positive trend of the past years continued.

The activities of the association included a HDD forum exclusively for DCA members, which was held for the first time and which met with a positive response with 20 participants and is to be continued.



The new Board of the DCA

In addition to the design of two lecture blocks at the Oldenburg Pipeline Forum and the participation in the Trenchless Engineering Conference in Krakow, the DCA Annual Congress in Oberursel near Frankfurt am Main was the highlight of the year 2018. With 151 registrations, the congress achieved a record attendance. The mix of practical, HDD-relevant lectures, a broader perspective and workshops on topics currently under discussion in the industry led once again to positive assessments of the participants in the survey.

In addition, the association was involved in the training and further education of skilled personnel. This is a task that is becoming increasingly important in view of the worsening shortage situation on the labour market.

The Task group with the topic disposal of drilling fluids and drilling cuttings locked its work contentwise. The results are to be published shortly. Also the task group, which concerns itself with the topic coating quality, wants to present to end of this year its results. A third working group has begun to revise the technical guidelines of the

DCA, which are highly regarded by experts, and - where necessary - to bring them up to date.

Annual Congress in Krakow

In the current year 2019, activities on training and further education will again be a focal point of the DCA's work. These include a mud seminar at the Bohrmeisterschule Celle and further training at the drilling machine manufacturer Tracto-Technik in cooperation with the engineering office Moll prd and AMC as well as training courses according to Worksheet GW 329 in cooperation with the Rohrleitungsbauverband (rbv).



Marco Reinhard in discussion

However, the highlight of the year promises to be the DCA Annual Congress from 16 to 18 October. The choice of venue fell on Krakow, a city steeped in history. The second largest city in Poland is considered the cultural, artistic and scientific hub of the country and promises to offer the congress an interesting and attractive ambience.

A.zu Eulenburg, bi

20 years in the DCA - Companies are honored

At this year's members' meeting of the DCA in Oldenburg in February, seven companies were honoured for 20 years of membership in the Drilling Contractors association (DCA-Europe).



Jubilees – 20 years in the DCA

These are the companies

- Cebo Holland B.V.,
- Ditch Witch International – Barcelona,
- Dr. Donié Geo Consult,
- Open Grid Europe GmbH,
- SST Prof. Dr.-Ing. Stoll & Partner Ingenieurgesellschaft mbH,
- TDC International AG,
- Tracto-Technik GmbH & Co. KG
- Vermeer.

The award was made by former president of the DCA Marc Schnau, who congratulated the companies and presented the respective company representative with a framed certificate.

A.Quante, DCA

**Please make a note:
Next members meeting
Wednesday
12.02.2020**

IRO 2019 – DCA convinces with presentations and Drilling Saloon

About 3500 visitors attended the IRO in Oldenburg, Germany's largest advanced training event for the pipeline construction industry, which took place this year for the 33rd time. This year the motto of the event was "Pipelines - Transport medium for drinking water and waste water". The focus was on the extreme weather conditions created by climate change and their effects as well as the associated solutions for urban development and the development of water-sensitive cities.



In the course of the IRO's five lecture series at the Jade University of Applied Sciences the DCA was traditionally present with six interesting lectures, which were well received by the audience. In the exhibitor area of the fair, in which over 400 international exhibitors were to be found, the obligatory exhibition stand of the DCA in Western style could not be missed also this year.

In lecture block I, moderated by DCA board member Marc Schnau, a program change had to take place at very short notice, as one of the originally planned speakers had to cancel due to health reasons. Special thanks go to Mr. Kracht and his employer HDI, who were able to fill the gap with the lecture "Crossing with Care - Major

HDD Crossings on the TAP Project". In his presentation, Mr. Kracht briefly presented the overall project of an almost 900 km long 48" gas pipeline from the Turkish-Greek border to the Albanian Adriatic coast with 13 HDD crossings (and 29 individual boreholes) and then gave a more focused presentation on the construction of the approx. 1,800 m long crossing of the Axios river.



Inspiring conversations in the Drilling Saloon

In the second lecture, Raino Porvari and Jouni Jokela from Geonex Oy, Finland, presented a special hammer drilling method which has been successfully used in Scandinavia for more than 20 years, but is not yet very widespread in the rest of Europe. However, several projects in Switzerland have recently been successfully implemented using this process.

Thomas Winkler of LMR Drilling GmbH concluded the first DCA lecture block with the presentation of two HDD projects in the course of laying new drinking water pipelines. The drillings with the dimensions approx. 1,700 m DN 400 and approx. 1,100 m DN 700 were, as Mr. Winkler reported, to be carried out in demanding geological conditions. Additional soil investigations were carried out to optimise the drilling programme and protective piping was also required in the area of gravelly formations in the inlet and outlet areas.

The second block was hosted by the newly elected president of the DCA, Mr Jorn Stoelinga.

In the first presentation Mr Ronald Siebel of TenneT Offshore gave an interesting look inside the issues involved in drilling in an area that is under protection of the most stringent environmental laws. He described the challenges TenneT is facing in the construction of the connections of the various wind-parks being built off shore, North of the German Wadden islands. Although the area is under highest protection and access is basically not allowed, Mr Siebel explained how special measures were implemented when drilling the landfalls to and from the island of Norderney. Special conditions apply to the drilling works regarding noise, dust, run off of fluids and the time frame in which the drills can be executed. These very sensitive drills can only be undertaken in very close cooperation between the (environmental) authorities, the HDD Contractor and TenneT.



Lecturers block II

In the second presentation Mr Ruben Rothuizen took the audience to Bergen in Norway, where Visser & Smit Hanab B.V. from the Netherlands has drilled an 800 m long 48" hole ending at 305 m below sea level. Due to this depth, it was impossible to access the exit point and all works had to be undertaken from on shore. Mr Rothuizen explained how the difficulties

were overcome when forward reaming to the final diameter in three steps. A special mini ROV was developed in the project and was run into the hole on drill pipe enabling the contractor to pick up parts of the tools and rock that were left in the hole, before installation of the pipe later on by the off shore pipe laying contractor.

In the final presentation, Dr. Bayer of Tracto-Technik introduced the audience to an international system of quantifying environmental effects in a monetary equivalent. Taking this into consideration when comparing HDD or other trenchless technologies with traditional open cut methods would in many cases lead to a clear decision in favour of HDD, where now open cut is selected. Dr Bayer used a specific project where this comparison was made showing a cost difference of more than € 38,500 in favour of HDD. In addition Dr Bayer showed five more job sites in Austria, Switzerland and Germany where HDD was selected, mainly because of the limited environmental effects compared to traditional methods.

After the two interesting lecture series of the DCA in the well-known lecture room of the IRO, the audience dropped by in the exhibition area of the fair, where the traditional Drilling Saloon of the DCA was perceived as every year as a pleasure. While snacks and drinks provided for the physical well-being, numerous conversations were held and professional exchanges took place.

This year's lottery with the question of the exact weight of a chisel roll attracted many interested people who tried their hand at estimating. The 1st prize finally went to Franz-Josef Kissing from Open Grid Europe.

Congratulations and to a new one in 2020!



The lucky winner of the DCA raffle

The DCA would like to thank all speakers and looks forward to hopefully a great willingness among the members to submit interesting lecture offers or proposals for the next IRO Pipeline Forum 2020.

A. Quante, DCA

**Please make a note:
34th Oldenburger
pipeline forum
13.-14.02.2020**

New board member in the DCA

At the DCA Members' Meeting in February 2019, Scott Stone was elected to the board as an assessor.

His career began in 1988 in Horizontal Drilling (HDD) with Visser Smit Reading & Bates (VSRB), where he worked as an engineer in HDD drilling control engineering.



He worked throughout Europe and became one of the VSRB's HDD Maxi Rigs Project Managers in 1991 before joining Visser & Smit Hanab b.V. in 1995. There he further developed HDD technology in Europe. From 1995 to 2015, he was involved in major HDD projects around the world, ranging from drilling to the installation of 56" pipelines over distances of over 2.5 km. He has also been involved in coastal landings in both loose and hard rock drilling.

In 2015, Scott Stone moved Visser & Smit Hanab b.V. from operational to commercial with a strong focus on the UK market (Volker Trenchless Solutions). Both companies are part of the Volker Wessels Group.

A. Quante, DCA

DCA Member Forum HDD Technology

DCA Member Forum HDD Technology

On 05.02.2019 the second DCA member forum HDD-Technology took place this time in Aachen. The event was held as part of a workshop on the topic "Requirements for small drilling technology". A total of 18 people took part in the member forum. Nine drilling companies, three planners, one client and further suppliers were present. Three participants had to cancel due to illness. The following points were discussed:

Definition Small Scale Drilling

- an exact definition of small drilling technology - what is small drilling technology, where are the limits to large drilling technology? - is not possible
- the splitting of the HDD technology according to the tractive force of the drilling rigs (>, < 40 t) is used in HDD training/certification (GW 301/329), but is by no means valid for all HDD measures
- the complexity of the drilling is an important factor, even small drillings with short drilling lengths can be very demanding
- In Germany, so-called small drilling technology accounts for around 95% of all drilling work (drilling rigs KB: approx. 1200; GB: approx. 15).

Requirements in the DCA-Guidelines to small scale drilling technology

- By far the largest part of the requirements in the DCA guidelines applies to both large and small drilling technology.
- The statement of many HDD companies that the requirements in the guideline only apply to large drilling technology is simply wrong.

- The subject of materials in the TR: It is suggested that permissible pipe loads and qualities for PE should be supplemented.

Project classification according to degree of difficulty (see chapter 10.5.1 ff of the TR)

- In the DCA Guideline, an attempt was made to classify projects according to their degree of difficulty (originally from the 2004 QM Guideline).
- Categorization of drillings into routine, standard and complex drillings
- As a result of the discussion in the workshop it can be stated that the topic "categorisation" incl. Tables 11 ff must be completely revised.
- It is also proposed that a separate document be drawn up for categorisation. This document could serve as an aid for clients and planners in the tendering and planning of HDD measures.
- The revised categorisation is also intended to sensitise clients/planners/contractors to the requirements of HDD construction measures.



Participants of the forum

Drilling mud disposal

- Presentation of the results of the task group.
- There is no generally valid recommendation for drilling mud disposal from DCA.
- One approach proposed is the so-called Danish model for a fair solution between clients and con-

tractors; clients must take action and conclude "contracts" with disposal companies/landfill operators; then regulate disposal in the bill of quantities via separate positions; DCA-bill of quantities should be reviewed to that effect.

- Drilling companies report on their own experiences: e.g. disposal of the drilling mud via a specialist disposal company (Maschinenring in Northern Germany) or establishment of their own specialist disposal company via which the disposal is then carried out (e.g. Beermann).

Dealing with inadequate planning on the construction site/ Dealing with unreasonable demands of the client, etc.

- Various example projects on this topic will be presented and discussed. In the course of the discussion, there will be a lively exchange of experiences between all participants, which will not be further deepened here.
- The basic recommendation is given that deviations from the course of the project or additional services should be reported in writing to the client / planner in a timely manner. This also applies to planning errors in the course of the invitation to tender or during the execution of construction work.
- It is suggested that contracting authorities/planners be trained by DCA in order to raise the level of tendering and the quality of monitoring of the measures.

Conclusions

The continuation of the event in this format is expressly advocated. The topics addressed should be further explored in further events. The overall too small number of participants was criticized, especially on the part of the client.

D. Quante, DCA

Site manager seminar Tracto-Technik

On 13 March this year TRACTO-TECHNIK GmbH & Co. KG invited decision-makers, project managers and site managers from HDD companies to an advanced training seminar in Lennestadt, the home of Tracto-Technik. The seminar under the title "Supplementary management and drilling mud disposal for HDD projects" was jointly designed and carried out by DCA, Tracto-Technik, AMC Germany and Ing.-Büro Moll-prd.



View into the congress room

Also due to some short-term cancellations, the event was unfortunately only moderately attended by 9 participants. The aim here is to identify optimisation potential for the future in terms of attractiveness and marketing. However, the already very good capacity utilisation of the drilling companies at this time of year certainly played a decisive role in the fact that many interested parties had to refrain from participating due to time constraints.

DCA board member Marc Schnau moderated and gave the first presentation. After the welcoming speech, his presentation focused on the DVGW Code of Practice GW321, the Technical Guidelines of the DCA and the VOB DIN 18324, which are relevant for HDD technology. Here, the responsibilities of the parties involved were

presented in particular.

The second lecture by Mr. Philipp Dick from the engineering office Moll-prd then dealt with the subject of contract agreements as a basis for enforceable supplements. Dr. Hans-Joachim Bayer, Tracto-Technik, who presented the possibilities of automatic drilling data acquisition for documentation and thus as a basis for supplements, followed.

The lecture series was completed by Mr. Andreas Schulze, AMC Europe GmbH. With the practical experience from a specialist company for drilling mud products and plants for mud treatment he was able to show which criteria have to be considered for the decision about the use of recycling plants on HDD construction sites and which aspects of mud treatment and disposal can be relevant for supplements.

In the concluding discussion round, the topic of drilling mud disposal was again discussed. The participants exchanged experiences in the practical handling of this topic. Since a state environment ministry made it explicitly clear for the first time about 4 years ago that the agricultural recycling of used drilling fluids does not represent a proper disposal in the sense of the applicable waste law, very different procedures can be found in practice, which were discussed extensively at this point.

All participants should have taken along one or the other interesting aspect for their daily work and in particular should have benefited from the exchange of experiences with other actors from the industry.

M. Schnau, DCA

HDD- education courses according to GW329 in Celle



The DVGW courses GW 329 "Controllable horizontal drilling methods" were successfully conducted at the Bohrmeisterschule in Celle in January of this year. They took place from 7 to 25 January and from 28 to 31 January.



Participants in front of the Bohrmeisterschule Celle

35 participants could be trained successfully, 10 participants to the skilled supervisor A/B, 8 participants to the site manager A/B and 17 participants to the machine operator A/B. For the active interest we thank cordially.

A. Quante, DCA

Further education in the DCA

Seminar mud technology - handling HDD drilling muds and laboratory practical training

Further training at the Bohrmeisterschule Celle in February 2019

In the discussion about „trouble shooting“ and quality assurance on HDD construction sites, drilling fluid is of central importance. During the practical execution of HDD drilling on construction sites, it is often found that the specialist knowledge in dealing with drilling fluids varies greatly or is often insufficient.



Participants in the classroom

One reason for this is certainly that the equipment operators, site managers and technical supervisors are only given basic knowledge of drilling fluids in the DVGW GW 329 courses.

For this reason, the DCA, in cooperation with the Bohrmeisterschule Celle, has developed a training concept which is intended to give equipment operators and site managers the opportunity to further develop themselves into "specialists for drilling technology for HDD construction measures" within the framework of a further training measure. Since the pilot training in 2016, the programme contents

have been coordinated in close cooperation between the DCA and the Bohrmeisterschule Celle and adapted to practical requirements.

Currently, the mud seminar consists of 10 topic blocks and was successfully held again in February 2019 at the Bohrmeisterschule Celle. Since the introduction of the three-day seminar, a total of 51 participants have been trained in the use of HDD drilling fluids in the laboratory. The program focuses on the practical understanding of the participants and combines the theoretical part as well as the practical part with exercises in the laboratory. HDD sample rinses and formulations for different soil layers are used. The suitable measuring instruments on HDD construction sites are used in the laboratory and the new requirements for the DVGW Worksheet W116, which has been in yellow print since 2018, are also taken into account.

The following parameters for an "optimal" HDD drilling mud are worked out in the seminar for different soil layers:

- Mixing water and conditioning: pH value, water hardness, salt content
- Drill cuttings discharge from the annulus: PV, SV, AZ
- Insertion of the drilling cuttings: RAZ/AZ, 10 s and 10 min gel thickness
- Clay inhibition: WAZ, additives
- Solids control: density measurement
- Drill hole stability: filter cake texture and thickness, wv
- External interferences: Effect of additives, polymers
- Influence of the pressure difference in the annular space for blowers
- Environmental aspects and quali-

ty: MSDS, BA, protocols, recycling, disposal.

The laboratory results are evalua-



Exercises in the laboratory

ted and discussed in the group. Practical examples for drilling fluids in unconsolidated rock with alternating gravel-sand-clay deposits will be discussed as well as drilling fluids for hard rock. During the final knowledge check, the participants can prove that they have deepened their specialist knowledge of mud technology. Following the evaluation of the participant survey and the experience of the lecturers employed, the course content is currently appropriate to the wishes/requirements of all participants. In order to make it easier for companies and employees to participate in this further training measure, it is planned to offer the seminar also in the future in the winter months, i.e. December 2019 to February 2020.

In conclusion, it can be stated that the further training measure for the development of employees as "specialists for mud technology in HDD construction measures" means an improvement in the quality of HDD drilling.

*Dr. U. Grossmann, BMC
M. Schnau, DCA*

HDD training in the Netherlands

The training courses in the Netherlands have been held since 2018 under the leadership of DCA member Deltares. In March 2019, 14 participants from the segment of small drilling technology (equipment < 40 t) and 7 participants from the segment of large drilling technology (equipment > 40 t) successfully participated in the training.



The next training courses will take place from 20-24.01.2020 (HDD 1: equipment < 40 t) and from 27-31.01.2020 (HDD 2: equipment > 40 t). The courses at Deltares will be led by Henk Kruse and Mike Woning. Please register at www.deltares.nl

Beermann Umwelttechnik GmbH receives award

Beermann Umwelttechnik GmbH, the subsidiary of long-standing DCA member Beermann Bohrtechnik GmbH, was awarded the German Raw Material Efficiency Prize 2018 by the Federal Ministry of Economics and Energy in the category "Company" in Berlin on 31 January 2019. A 14-member jury, consisting of representatives from business, science and society, nominated a total of six compa-

nies and two research institutes in various categories, of which three companies and one research institution received awards.



Managing director Steffen Beermann and Andreas Hagedorn

Since 2017, Beermann Umwelttechnik GmbH has been active as a certified waste disposal specialist for the horizontal drilling industry and recycles bentonite drilling muds properly and without damage. An innovative separation process developed by the company enables the use of bentonite drilling fluids by mechanical means on an industrial scale. In the very thorough separation process, less than 10 mg/l of mineral substances remain in the residual water, which is then further processed in the municipal sewage treatment plant of the town of Hörstel. This allows it to be returned to nature. The mineral residues such as sand and clay are further processed into tested RC high-performance building materials (liquid soil, filling sand) and ceramic masses. The recycling rate for this process is > 99 %, which is very desirable.



At the construction site, the use of powerful suction mixers eliminates the need for time-consuming traffic

safety and the pit is cleaned with minimal delay and left behind for the subsequent civil engineering team. It is always ensured that the drilling fluid is properly and harmlessly recycled just a few hours after receipt. If organoleptically conspicuous drilling fluids are produced, evidence is preserved, the customer is informed and active support is provided in the disposal of hazardous waste.



The recycling plant is to be operated 100% with photovoltaics before the end of this year, making it the first solar-powered recycling plant in Germany. As a pioneer for the entire industry, the company hopes for many imitators of the technology that comprehensively protects the environment, sustainably protects landfill space and still works economically.

The company Beermann Umwelttechnik GmbH from Riesenbeck, North Rhine-Westphalia, received the award in the category of companies for outstanding achievements in a ceremonial act by the Parliamentary State Secretary of the Federal Ministry of Economics and Energy, Oliver Wittke, and the President of the Federal Institute for Geosciences and Natural Resources, Prof. Dr. Ralph Watzel. The keynote speech was given by the Honorary President of the Club of Rome, Prof. Dr. Ernst Ulrich von Weizsäcker.

A. Quante, DCA

Information from Members

Dialogue makes work easier

ZEELINK pipeline project enters construction phase

ZEELINK is the largest single project in the Federal Network Agency's 2015 Gas Network Development Plan (NDP Gas). The approximately 216 km transmission pipeline plays a central role in the necessary conversion from L-gas to H-gas in North-Rhine Westphalia and beyond.



Millions of residential, commercial and industrial customers are dependent on the timely completion of the pipeline in March 2021. The project is on schedule, which is not something to be taken for granted, given the long approval phases, public participation and the often stringent requirements for project execution. Construction officially began in April 2019.



Pipeline route

There are currently two types of natural gas, which differ mainly in terms of their methane content: L-gas (low-calorific gas) and H-gas (high-calorific gas). Six million gas appliances for heating and hot water production as well as industrial use are currently operated with L-

gas throughout Germany, which is around 25 percent of the total market. However, L-gas production is set to decrease by around 90 percent by 2030 as a result of declining reservoirs, particularly in Germany and the Netherlands. To ensure that proven natural gas technologies can continue to be combined with renewable energies, all residential, commercial and industrial appliances in service areas currently supplied with L-gas will have to be converted to the higher-quality H-gas, as will the upstream gas grids.

Major contribution to security of supply

The ZEELINK project comprises the new ZEELINK gas pipeline from the Belgian-German border near Lichtenbusch to Sankt Hubert near Krefeld and from there to Legden near Ahaus in North Rhine-Westphalia as well as a compressor station in Würselen and one in Legden (under design). The new pipeline will make a major contribution to security of supply in Germany. It will also boost H-gas transmission capacities from the north to the south.

Ablauf eines Planfeststellungsverfahrens



www.zeelink.de

On the upstream side ZEELINK can be connected to the Nord Stream pipeline and the new Nord Stream 2 pipeline system. This would allow additional quantities of natural gas to be shipped to the west.

Before the construction of the ZEE-LINK pipeline and associated facilities could start, the project had to be approved by the relevant authorities. This process was divided into several phases which provided various formal and informal opportunities for the public to participate. The most important phases included the application conference, the regional planning procedure and the planning permission procedure.



Pipeline along wind farm

During the planning phase there were two sets of information events for local citizens at venues along the route, so-called dialogue markets: eight in spring 2016 to present the overall project and another 16 in 2017 to present the pipeline corridor. The participants discussed local conditions as well as route alternatives and options. The events provided valuable information and feedback for route planners at a very early stage of the project.

About half of the landowners and tenants affected were provided with first-hand information on the project status. In total, the ZEE-LINK team held around 10,200 talks with around 2,800 different

guests about the pipeline route and its compatibility with regional planning requirements.

In spring 2019, the responsible district governments of Cologne, Düsseldorf and Münster announced their planning decision, issuing the approval for the ZEELINK pipeline project under public law.



Building pit view

With ZEELINK there is no such thing as "normal" when it comes to implementation

What the planning documents and the numerous discussions have shown time and again is that there is no such thing as "normal" or "routine" in pipeline projects. The construction methods used for ZEELINK always have to be adapted to local conditions – and they are also defined in the binding planning approval decision. Particular attention has to be paid to special structures, which often come with a very narrow working space and time and special safety concepts for people, nature and the environment.

For ZEELINK, these special structures include a tunnel underneath the motorway and the "Brander Wall" near Aachen, the open trench crossing of the Rhine and the trenchless crossing of the river Lippe and the "Wesel-Datteln-Kanal", as well as a special bottleneck area in a forest near Kaarst

requiring special protection with no-dig construction techniques.

To ensure a smooth construction process, the ZEELINK project team is in close contact with all relevant stakeholders throughout the construction phase. In addition to the project website www.zeelink.de and the online newsletter "ZEE-LINK aktuell", local citizens are regularly provided with information about upcoming work and contact details for questions, e.g. in personal letters, the citizens' newspaper "ZEELINK kommt" or press releases.

ZEELINK is making good progress but the construction period of only two years remains very ambitious. However, Franz-Josef Kißing, Senior Project Manager at ZEELINK, is confident: "We don't just rely on meticulous planning, very good materials and reliable partners for project implementation. The most important thing is to continue the dialogue with everyone; this makes many of the necessary steps much easier."

The ZEELINK project partners are Open Grid Europe GmbH (75 percent) and Thyssengas GmbH (25 percent). Open Grid Europe GmbH is the operator of Germany's largest gas transmission pipeline system (12,000 km) with almost 1,100 exit points. Thyssengas GmbH operates mainly in North-Rhine Westphalia, transporting natural gas via a 4,200 km gas pipeline network. Together they have established ZEELINK GmbH & Co. KG.

F.J.Kißing, DCA

Status report Task groups

Status report Task group 1

Disposal of drilling cuttings and drilling mud from HDD drillings

Task Group 1 "Disposal of drilling cuttings and drilling mud from HDD drillings" has completed its work. The final report was presented and sent to the members of the DCA via member information. The participants of the working group are currently working on an English version of the final report, which will probably be sent to the members in mid-July.



M.Schnau, DCA

fields also only in common work in the working group and for the most part not in individual homework of individual persons. The processing is therefore on the straight-line, the goal is also in sight, but for the final spurt all forces must be mobilized once again. In this context, Executive Board member Marc Schnau will be responsible for the completion of the final report.

J.Stoelinga, DCA

res, among other things, a fundamental revision of the tabular classifications (cf. Table 11: Criteria for the classification of an HDD project).

At the members' meeting in mid-February, the topic of "Dealing with homogeneous areas" was also discussed again. Vice-President Dr. Tim Jaguttis, responsible in the DCA for Associate Members, will write a short addition/explanation on this topic for the new version of the guideline.

Furthermore, the topic "Special procedures/special applications in HDD" was discussed at the last board meeting. This area is largely missing from the current version of the guideline. The new member of the board Scott Stone from Visser and Smit Hanab b.V. will write a supplement to this topic.

All in all, it can be stated that the revision of the guidelines will take some time due to the new starting points. The completion and publication of the 5th edition will take some more time and will not be expected by the board before the members' meeting 2020.

E.Fengler, DCA

Status report Task group 3

Revision of the Technical Guidelines

Task Group 3 "Revision of the Technical Guidelines" under the direction of Ernst Fengler has completed the first round of revisions. Following the members' forum in Aachen at the beginning of February, however, it was possible to note that there is still a need for further revision, particularly in the area of categorization of HDD drillings (cf. Chap. 10f). The Vice-Presidents Marco Reinhard and Atef Khemiri, responsible for small and large drilling technology in the association, will be in charge of the revision of this rather complex subject area in the task group. In particular, the previous classifications into routine, standard and complex HDD drilling will be reviewed and, if necessary, verified. This requi-



Status report Task group 2

Coating quality

In task group 2, the last phase has started. The structure exists and the individual chapters are filled with content. Now the task is to harmonize the volumes of the individual chapters, to identify and eliminate repetitions and contradictions and to determine the final wording. This is a laborious and also time-consuming task, which can be accomplished due to the complexity and the combination of different



New task group 4 Automation

In the course of the members meeting it was decided to create a working group 4 "Automation".



Leadership: Dr. Tim Jaguttis, Vice President of the DCA

Task definition:

The majority of HDD rig manufacturers, especially for small scale rigs, have moved to equip their rigs with automation systems providing extensive means for data acquisition and recording.

The operators of these rigs are showing an increasing interest in analyzing and processing this data for the purpose of failure analysis, progress reports as well as quality control measures.

Beyond that it is meanwhile common practice on individual international markets that Clients demand a fully automated data recording for HDD projects similar to the requirements that are already now made for larger pipe jacking projects in Germany.

It is of interest of all parties (both operators and clients) to standardize data acquisition as well as transmission to allow for common solutions to process this data.

Goals:

The workgroup „Automation“ is aiming to draft a guideline for the acquisition, transmission and recording of machine data to provide effective means for data exchange between different makes of machines as well as Client applications

or solutions.

The following aspects are to be covered:

- Review of common automation systems as well as recorded machine data
- Definition of relevant machine data for exchange (e.g. torques, advance rates, rpm) including their respective units (e.g. SI-Units) or conversion factors
- Compilation of further information to be recorded, possibly operator input (e.g. status, shift, operator)
- Definition of reasonable recording frequencies depending on machine status or recording of min/max values for longer intervals.
- Specification of possible data transmission for offline (e.g. USB stick, CSV) or online (IP based, OPC) operation including file formats and protocols, preferably based on "open" standards to allow data exchange by standardized hard- and software interfaces, independent of machine make.
- If required, rules or recommendations for visualization or filtering of data during (post) processing.

Agenda:

With regard to the experience that can be drawn from similar techniques for tunneling machines a swift progress may be expected. It is aimed to present a draft guideline for the members meeting in 2020.

The following meetings are expected:

1. Kick-off and confirmation of the 'terms of reference', definition of research areas (Mai 2019)
2. Specification of machine data, units and recording frequencies (June 2019)
3. Requirements for data recording / interfaces (Aug. 2019)

4. Guideline structure (Nov. 2019)
5. Discussion of first draft (Jan 2020)

Participants: The working group will be composed of members of the following groups:

- equipment manufacturers
- operator (Large and small drilling technology)
- Client/Engineering offices, if applicable

A number of discussions have already taken place in the run-up to the meeting and a number of commitments to cooperate have already been received from members. If you are still interested, please contact the office.

Dr. T. Jaguttis, DCA

**For more information
about the DCA please visit
our website:**

www.dca-europe.org





Company profile TenneT

TenneT is Europe's largest and first ever cross-border transmission system operator with approximately 23.000 kilometres of high-voltage and very-high-voltage transmission lines. The company and its over 4.500 employees are responsible for the operation, maintenance and expansion of the extra-high voltage grid in large parts of Germany and in the Netherlands. As transmission system operator in the coastal German states of Schleswig-Holstein and Lower Saxony, TenneT has been under an obligation to connect wind farms in the North Sea to the extra-high voltage grid on the German mainland since 2006. And in 2016, the Dutch government appointed TenneT as the offshore grid operator in the Netherlands.

The energy transition is the largest future project ever seen in Germany. Its objective is to gain more power in Germany from renewable energies to avoid the need for nuclear energy going forward. Wind energy generated far away at sea is one of the main pillars in the energy transition. The German federal government has set specific objectives to meet this target: by 2020, offshore wind energy facilities with a capacity of 6.5 gigawatts (GW) should be connected to the grid. This should provide 15 GW of available energy in total by 2030, which corresponds to the energy output of around 15 large-scale power plants.



Figure 2: Horizontal drilling on Norderney for the DolWin6 offshore grid connection project

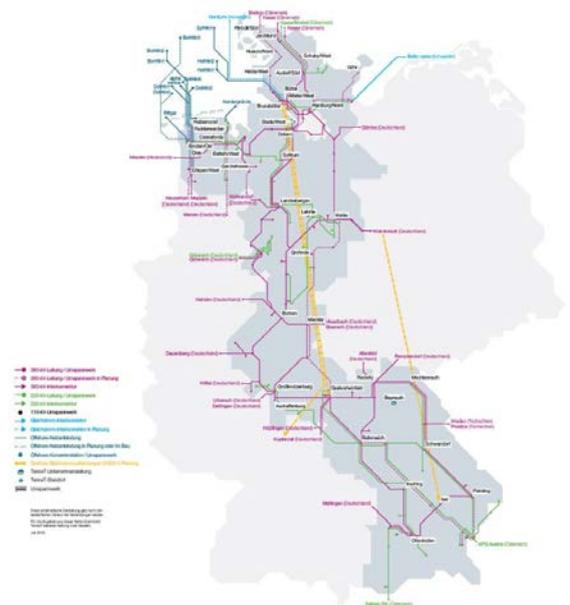


Figure 1: The control area of TenneT

TenneT is ensuring the infrastructure required is in place. Pioneering work has been conducted by TenneT in the world's first offshore grid connections using direct current (DC) technology. TenneT has already realized the German federal government's targets for 2020 by more than two thirds: the projects for connecting offshore wind farms realized to date already transport more than five GW of offshore wind energy to land. By 2019, TenneT will complete more of these grid connections in the North Sea, which will lead to a total of more than seven GW of transmission capacity. The proportion of offshore wind energy supplied in the Netherlands is also set to increase. At least 3.5 GW of transmission capacity shall be installed by 2023 to supplement the one GW already available in accordance with the Dutch government's national energy agreement. To this end, the Dutch government has designated the three wind energy zones Borssele, Hollandse Kust (South) and Hollandse Kust (North) as the locations where three-phase electric power connections for wind farms can be realized due to their proximity to the coast. It is intended for another 7 GW of transmission capacity to be realized at sea by 2030.

TenneT has already demonstrated innovative potential by connecting wind farms located in the North Sea far off the German coast to the onshore grid. Now, TenneT is developing long-term concepts in order to further increase the proportion of renewable energy in the electricity mix of the future, such as through

TenneT TSO GmbH, Bernecker Straße 70, 95448 Bayreuth
+49 (0)92150740-0, info@tennet.eu

Tips on Selecting Proper Drill Pipe



A person should consider (5) major aspects when purchasing Maxi Rig drill pipe. (1) Strength, which is the relationship of Tube Diameter, Wall Thickness and Grade of steel. (2) Torsional Stiffness, which becomes more important on longer bores to avoid “pipe wrap”. (3) Connection size and type, with consideration of O.D. and I.D. for downhole hydraulics as well as strength and serviceability. (4) Value, with consideration of New vs. Used pipe and some definition of how to determine the value or anticipated life and risk of Used pipe. (5) Quality and understanding the benefits of advanced manufacturing procedures.

(1) Strength: Let’s establish that HDD contractors use Grade S-135 (135,000 PSI minimum yield strength) drill pipe because of its strength, and also because of the “toughness”. The new blends of steel allow for heat treating that makes the pipe “tougher” than found in previous years.

(2) Torsional Stiffness. This becomes very important while drilling a pilot hole on an extended reach HDD project. For example, 6-5/8”, 27.70#/ft., S-135 drill pipe which has a .362” wall thickness will have 59% less “twist” than 5”, 19.50#/ft., S-135 which also has a .362” wall thickness. This becomes very important while trying to maintain “high side” or the clock-face position of the mud motor and drill bit at the end of a 5,000-foot string of pipe

(3) Connections: Most HDD contractors prefer to use common, field tested API style connections such as 4-1/2” IF, 5-1/2” Full Hole or 6-5/8” Full Hole. These connections are available in their standard form, or with a “double shoulder” feature. The double shoulder versions of these connections provide a secondary shoulder at the end of the Pin. This adds approximately 30% more strength to the connection and helps prevent over-torque to the connection if “slip torque” is experienced downhole.

(4) Value: Do you want to buy New or Used drill pipe? The primary thing to consider is the useful remaining life of Used pipe compared to New. For example, let’s evaluate 6-5/8” Full Hole connections on 6-5/8”, 27.70#/ft. S-135 tubes. This pipe is typically built with 8-1/2” O.D. tool joints. The minimum O.D. for this pipe to pass a Premium Class or DS1-CAT5 inspection is 8” O.D. New pipe is available for \$XX per foot; therefore, you can calculate the value that you are willing to pay for Used pipe based on the remaining useful life before the pipe falls below Premium Class inspection criteria.

Another very important consideration while determining the value of Used pipe is the “useable tong space”. This same 6-5/8” pipe is typically manufactured with 10” Pin Tong Length and 13” Box Tong Length. Some of the tong space may be lost to Hard Banding (which can extend the life of drill pipe when used on rock crossings) if it is placed in the traditional area since you cannot grip hard banding with the rig vises or jaw dies. It is important to look at the Useable Tong Length of Pin and Box tool joints when considering buying used pipe. Some pipe may not have enough space to work with certain rig vises. It is important to read the inspection report or look at the connections to ensure that you know the length of “useable tong space.”

(5) Quality (of New pipe): Consider the manufacturers quality control standards, quality of steel “source” (manufacturer and/or processor), as well as chemistry (high molybdenum, low sulfur and phosphorous) and length of upset from the manufacturer. Request the exacting standards of API spec 5DP, qualified to API Q1 and ISO 9001 from the manufacturer and/or processor. The length and quality of the internal upset transition between the Tool Joint and the Mid-Body Tube will help prevent bending and rotating fatigue to help avoid downhole failures.

There are resources available from your drill pipe vendor or manufacturer to assist with these decisions. T.H. Hill® has published inspection criteria that has become an industry standard for inspection of used drill pipe. Your drill pipe vendor or manufacturer should be able to provide reference material, calculations or inspection reports to help you determine which pipe is right for your application. After all your drill pipe is what holds the entire project together. Better drill pipe for a better project. J.T. Miller, LLC is a supplier of quality new and used drill pipe worldwide as well as hole openers, reamers, mud motors, drill bits and other HDD supplies.

Jay Miller, President J.T. Miller, LLC. & Grady Bell, Marketing Consultant J.T. Miller, LLC

Company profile x-plan schnau engineering



x-plan schnau engineering (x-plan) has specialized on consulting, conceptual design and engineering in the field of trenchless technologies with a special focus on horizontal directional drilling (HDD). x-plan assists its clients during design and execution of trenchless pipelaying projects, e.g. to undercross obstructions like infrastructures, waterways, biotopes etc.

As the HDD methodology is a complex interaction of several specific fields, amongst others e.g. mechanics, surveying, geotechnology, drilling fluids, hydraulics, pipeline technology etc., it is often very difficult to assess or anticipate interferences and interdependences of these.

Because of the comparatively young history of the HDD technology, this complexity yet is not represented all-inclusively in the to date standards, guidelines and other engineering tools. Especially for demanding crossing projects operator experience is essential. However, already the assessment whether a project is a demanding one or not, often is challenge enough.

As owner of x-plan, Marc Schnau with his more than 20 years experience in the execution of pipeline and HDD projects throughout Europe can provide valuable input from the first conceptual phase until project completion. Here, the portfolio of x-plan ranges from selective consulting and advice, where and when necessary, to comprehensive design and engineering. If required, including participation in tender and contract award and in site supervision.

At trenchless projects, faulty and incomplete design or misinterpreted incidents during execution can easily make time and cost going through the roof. Therefore, x-plan can assist employers, general planners, main contractors and drilling contractors to keep full control of their project.

x-plan schnau engineering, +49 (0) 4941 92 36 58 0, mail@x-plan-schnau.de

Company profile Sharewell HDD



Sharewell HDD is the original steering and tooling company in the HDD industry. Starting in the mid 1980's Sharewell modified down hole tools and wireline steering from the oil drilling industry to fit with the HDD industry. This established it as the leading HDD service company of the time.

In recent years, Sharewell has invested heavily in the development of several new and exciting technologies which are again pushing forward the boundaries of HDD.

In partnership with Smith Bits (a Schlumberger company) Sharewell has developed the best-in-class Smith Gemini HDD range of ultra high performance reamer cutters. These have expanded the horizons of what performance can be expected from a rotary reamer cutter in the HDD market, enabling contractors to drill further and quicker though all types of challenging formation than was previously possible.

Sharewell has also recently brought to market the PipeVac system, a vacuum pipe lifting system. With a patent pending hydraulic system, this is a simple, safe and flexible lifting system. One single unit can lift pipes from 4" OD to 48" OD, all powered by the auxiliary hydraulic line of an excavator.

This year will see the roll out of the Optitrack Gyroscopic HDD pilot guidance system. Built with unique, state of the art, miniaturised Fibre Optic Gyroscopes (FOG), this system is set to establish itself as another industry standard. It combines accurate gyro drilling with the flexibility of secondary tracking via a magnetic package.

Cutting edge technology and innovation, combined with an unparalleled history of providing service to the HDD industry sets Sharewell on an exciting path for the future.

Sharewell has recently restarted operations in Europe, with their office based in the Netherlands covering the EMEA region.

Sharewell HDD, +1 281 288 2560, www.sharewellhdd.com

24th DCA Annual Congress Krakow, Poland - Topic: "HDD smart and green"

Workshops on "Electrically operated drilling rigs" and "new trenchless techniques in the field of HDD technology" are in focus

„HDD smart and green", this is the motto of the 24th Annual Congress of the Drilling Contractors Association (DCA), which will take place from 16 to 18 October 2019 in Krakow, Poland, at the Hotel Qubus.

Krakow, the capital of the Lesser Poland Voivodeship, lies in the south of Poland about 250 km southwest of Warsaw and is the country's second largest city with about 765,000 inhabitants. The independent city on the upper Vistula was the capital of the Kingdom of Poland until 1596. It is the seat of the second oldest Central European university and developed into an industrial, scientific and cultural centre. Today Krakow is a lively technology and life science location for Central and Eastern Europe. In 2000 it was awarded the title of European Capital of Culture. Krakow is known for its well-preserved medieval centre and the Jewish quarter of Kazimierz, which was the original location for Steven Spielberg's film "Schindler's List". Today, the quarter, whose buildings remained largely intact during the war, has become an attraction with trendy cafés and bars for many German and foreign visitors.

The DCA Annual Congress will be opened on Thursday with two interesting lectures by GAZ-System SA on the future direction of gas supply in Poland and AGH University of Science and Technology, Krakow. In addition, an additional presentation is planned, similar to last year's presentation by Adri Wischmann. Wischmann had captivated the participants with his lecture on IOT "Internet of Things" how does that affect our daily life? The DCA plans to engage a similarly top-class speaker for the congress in Poland.



Qubus hotel Krakau

The focus of the congress will again be on two workshops, which will each be conducted in two linguistically separate groups (German/English), similar to last year's congress.

Workshop 1 will be dedicated to the topic "Electrically operated drilling rigs". The workshop will be led by DCA President Jorn Stoelinga. In this workshop the advantages and disadvantages, the current state of development and the future perspectives will be discussed with the participants in cooperation with the manufacturers.

Workshop 2, which will be led by Vice President Atef Khemiri and Board Member Marc Schnau, will deal with "new" trenchless techniques in the field of HDD technology and will discuss areas of application as well as advantages and disadvantages compared

to classic HDD technology with the participants.



Krakow from above

In addition to the workshops, lectures on current HDD projects from Europe and the Far East are traditionally planned for Friday. In addition, there will be lectures on topics such as "Horizontal filter wells", "Special features of difficulties in small drilling technology" and "Installation of fiber optic cables by HDD-Drilling in Biotope and Biosphere Protection Areas".

The congress will again be accompanied by an attractive spouse programme. As always, the highlight of the spouse programme will be the Thursday evening. Here the DCA invites you to an underground celebration in the former salt mine "Wieliczka" not far from Krakow. The mine has been included in the UNESCO World heritage list. A short tour of parts of the mine is also planned as part of the evening event.

The congress programme and the registration documents for the congress are expected to be sent to the members in mid-July. They will also be available on the DCA homepage.

A. Quante, DCA

Preview Social program

Annual congress in Krakow - Social program

Learn more about Jewish life in Krakow

The social program of this year's annual congress of the DCA starts on Wednesday, 16th of October, with an interesting city tour, which will bring you closer to the congress venue.

The royal city of Krakow was once the Polish capital and the coronation city of kings. The numerous beautiful noble residences, castles and palaces that have survived to this day bear witness to this.

The old town of Krakow was built in the 13th century and has Europe's largest medieval market square, which covers an area of 40,000 square metres. This is why numerous historical townhouses, palaces and churches with magnificent interiors are crowded together. They date from different stylistic periods and have been admirably preserved in their original form and furnishings.



The theatre in Krakow

On Thursday, 17th of October, you will have the opportunity to get to know the Jewish life of the city of Krakow. The first stop will be in the Podgorze district of Krakow. In this quarter not far from the hotel there was a ghetto at the time of National

Socialism, from which parts of the original ghetto wall have been preserved. The program includes a visit to the world-famous factory from the film "Schindler's List". In the enamel factory of Oskar Schindler, which today houses a museum, Jewish life during the Holocaust is vividly depicted.

Then we go to the Jewish quarter Kazimierz on the other side of the Vistula. Once characterized by an intensive penetration of Christian and Jewish life, the initially independent city was incorporated into Krakow by the Austrians in 1800. The Kazimierz district is home to many historic houses that survived the tragic times of German occupation and the Holocaust. In Krakow, 7 synagogues from different stylistic eras bear witness to Jewish life. The medieval city map shows a complete Jewish quarter, a special feature of Krakow.



City district Kazimierz

Today Kazimierz is a very lively place, artists centre of Krakow, where there are numerous cafes, pubs, flea markets, which create a special atmosphere. The building fabric, like that of the entire city, has remained largely intact during the war and has largely been renovated. Trendy cafes and bars invite you to linger.

Afterwards the old town of Krakow is visited. Beside the visit of the landmark of Krakow, the St. Mary church, there is still some time to explore the shopping area of the city.

The return to the Qubus Hotel is planned for around 4 o'clock in the afternoon.

On Thursday evening the DCA welcomes its congress participants in a special ambience as always: This time it is the Wieliczka Salt Mine, one of the oldest and most famous salt mines in the world and a UNESCO World Heritage Site. Today the Wieliczka Salt Mine is used for concerts and theatre performances. Films are made and exhibitions are opened.

A walk along the salt corridors opens the view into the extraordinary chambers of the salt mine, venue of the DCA evening event. The entrance to the mine begins with a ride in the elevator of the Danilowicz shaft to a depth of 135 metres. The tour is followed by a short tour in the mine where guides tell stories and secrets about the salt mine and the ethos of the hard work of many generations of miners. Towards the end of the tour you will have a look into one of the numerous chambers of the mine, the place of the festive dinner of our association!

The Friday morning is then available for general use and can be filled with shopping events in Krakow, a visit to the hotel swimming pool or a boat trip on the Vistula to Wawel Hill, which the Qubus Hotel offers free of charge.

A. Quante, DCA

DCA at the No Dig in Florence

30.09.-02.10.2019



The Drilling Contractors Association will be represented with a lecture at this year's No Dig in Florence, which will take place from 30 September to 02 October 2019. The 37th international event will be initiated by the Italian Association for Trenchless Technology IATT and offered as a conference with an exhibition area. Extensive scientific lectures by leading national and international speakers will inform about innovations in the HDD market. International exhibitors will present the most innovative trenchless products and services in a live show embedded in a fascinating open-air museum, the city of Fortezza da Basso, Florence!

Further training according to GW 329

10.12.2019 Schlosshotel Wilhelmshöhe, Kassel



The seminar is primarily aimed at technical supervisors who have an examination certificate in the training levels A and B. The seminar is designed to provide an overview of the training and the work of the supervisors. In addition, it also serves as a suitable training event for technical personnel, site managers and supervisors working in the field of horizontal mud drilling. This year's programme is in progress and will be published at the end of July.

Note: Please register for the continuing education seminar and the courses at www.brbv.de

Courses according to GW 329

The training courses for technical supervision, site manager and equipment operator for horizontal drilling according to DVGW Worksheet GW 329 will take place again in 2020 at the Bohrmeisterschule Celle.



1.1.1 Technical supervision (A/B) for horizontal directional drilling according to DVGW worksheet GW 329

1.1.2 Site manager (A/B) for horizontal mud drilling procedure according to DVGW worksheet GW 329

1.1.3 Machine operators (A/B) for horizontal directional drilling according to DVGW worksheet GW 329

Starting January 2020

Note: Please register for the continuing education seminar and the courses at www.brbv.de

HDD training in the Netherlands:

HDD Course 1: Devices <40t	20.-24.01.2020
HDD Course 2: Devices >40t	27.-31.01.2020



Note: Please register at www.deltares.nl



Drilling Contractors Association (DCA-Europe)
Verband Güteschutz Horizontalbohrungen e.V.
Association des Entrepreneurs de Forage Dirigé

Charlottenburger Allee 39
52068 Aachen
Deutschland

Phone: +49 241 901 9290
Fax: +49 241 901 9299
Web: www.dca-europe.org