Deltares in the Middle East
MENA Webinar series

Digital twins for pipeline systems

Ir. Sam van der Zwan – Deltares
Eng. Mina Ibrahim - Exergia Engineering
Mr. Michiel Tukker - Deltares
Dr. Ahmed Elkadi - Deltares
MENA Webinar series – Deltares

https://www.deltares.nl/en/webinars/

Webinars

16 Dec
Digital twins for pipeline systems – focus on MENA region
10.00 am Delft, 1.00 pm UAE

13 Jan
Supporting Sustainable development of the Gulf with the Gulf Comm...
10.00 am Delft, 1.00 pm UAE

Past webinars

8 Dec
Understanding Health issues related to water systems – focus on M...
10.00 am Delft, 1.00 pm UAE

Slides and recording available
Not-for-profit, independent knowledge institute
Working worldwide on smart innovations in the field of water, subsurface, and infrastructure
100 year expertise
The closure works of the Closure dam for the Zuiderzee needed new knowledge → Delft Hydraulics 1927
The derailment near Weesp in 1918 required new knowledge of the soil → LGM 1934
Extreme weather
Deltares today

850+ employees
40 nationalities

Experimental facilities
Water
Subsoil
Data

Offices in Delft and Utrecht

Region offices in Singapore, Washington, Jakarta, Abu Dhabi
Deltaires today

Our expertises

- Flood Risk
- Environment
- Water & subsurface resources
- Infrastructure
- Adaptive Delta Planning
- Enabling technology

More than 100 years experience

“Dare to share”

we work closely with governments, businesses, other research institutes and universities at home and abroad.
Experimental facilities
Risk reduction and cost reduction through design optimization
Deltares Experience in the GCC, Red Sea, Egypt, Turkey and Levant

- Deltares active in the Gulf and Red Sea for 40+ years
- Worked on many iconic projects, such as the Palm Islands
- Local presence in the region (UAE)

Knowledge partner for early and strategic advice on coastal developments, climate change adaptation, energy and water safety and security in the Middle East region
Worst ever storm

VIOLENT storms, which hit most of the Gulf last week, caused considerable damage in Abu Dhabi, resulting in the sea wall being breached and parts of Abu Dhabi itself being flooded.

The storm, which reached a peak on Thursday night, is reckoned to be one of the worst to hit the state in living memory. By Friday it had died down and mopping up operations had begun.

The breach in the sea wall, caused by the terrific pounding of wave after wave, occurred about half a mile west of the big roundabout on the Corniche Road.

The sea managed to batter an immense 20 meter long hole in the wall and water flooded through to form a small lake full of debris between the wall and the road.

Experts commented afterwards that if the storm had not abated as soon as it did, considerably more damage could have resulted.

Another victim of the storm was a pickup truck which had been overturned as it tried to dump its load. It is thought the driver was trying to close the gap in the sea wall.

Work has begun on repairing the wall temporarily. According to one Abu Dhabi official, this should be strong enough to prevent any further damage and prevent serious damage in the event of another storm.

The same official stated that ever since the Corniche wall had been built in 1968, to stop the drifting of sand and erosion, the Abu Dhabi authorities had been aware of the dangers of a really vicious storm.

As soon as the wall had been built it was found to be inadequate. It was also clearly not high enough to prevent the sea from coming over the top.

Two years ago the government appointed the Delft hydraulics laboratory to carry out a study and find a solution to the pressing problem.

After one year they came up with three proposals, all of which were highly expensive and involved changes in the shape of the Corniche wall. Modification plans have been shelved.

Now following last week’s storm, Abu Dhabi residents are hoping that the government will heed the advice of the Delft company and carry out the changes proposed before a disaster overtakes the town.

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Deltares Experience in Egypt, Turkey and Levant area

- Deltares active in Egypt, Turkey and Levant for over 30 years
- Primarily in the fields of Integrated Water Resource Management
- Egypt: Long lasting institutional cooperation
  Completed the GERD impact assessment study (published in Cairo Water Week 2019 & 2020)
  A 4-years Joint Cooperation in Applied Research (JCAR) Program (start January 2021)
- Turkey: focusing on EU funded projects on WFD and FRM
Deltares activities in the Middle East Region

Topics

– Climate Change Adaptation Strategies
– Integrated Coastal Zone Management
– Integrated Water Resource Management
– Environmental Hazard and Risk Assessment
– Groundwater Modelling Studies
– Marine Spatial Planning
– Hydraulics for Infrastructure & Industry
– Water Security, Quality, and Ecology Studies
– Nature-Based Solutions
– Resilient Infrastructure
– Geotechnical engineering studies
– Data management and services
– Port navigation, mooring, wave penetration and sedimentation studies

– Earth Science Services
– Offshore and Coastal Engineering
– Dredging and reclamation
– Numerical Modelling
– Physical Modelling
– Open Source Software
– Training and capacity building

Deltares
Deltares in the Middle East

MENA Regional Coordinator: Ir. Robin Morelissen (Robin.Morelissen@deltares.nl)

GCC area (local) manager: Dr Ahmed Elkadi (Ahmed.Elkadi@deltares.nl)

Egypt, Turkey and Levant manager: Dr Mohamed Yossef (Mohamed.Yossef@deltares.nl)
Keep connected, share our knowledge and invite you to collaborate with us for creating a positive impact in the region & beyond

Digital twins for pipeline systems – focus on MENA region

During the webinar we will discuss the advantages of using a digital twin in the operation of pipeline systems. This will be followed by a demonstration of the digital twin system WANDA-FEWS, which is developed by Deltarcs. WANDA is the hydraulics of pipeline simulation tool and Delft-FEWS is the data integration platform both developed by Deltarcs and used world-wide. Combining these two, results in a high-quality performance monitoring platform.

Outline of the webinar
- Presentations
- Q&A on the topic

Deltarcs
Our speakers

WEBINAR SERIES FOR MENA, PART 2

Featured speakers
Sam van der Zwan, expert pipeline hydraulics
Mina Ibrahim, hydraulic surge protection lead engineer

Digital twins for pipeline systems

December 16 – 1:00 pm UAE, 10:00 am Delft

Deltares