

# **AGMA visit to DHI**

## **15 September 2022**

**Introduction to DHI, our activities in Israel and  
DHI's experience with flood control in the  
Mediterranean area**

**Jesper Dørge, Project Director**  
**Andrea Crosta, VP and Director**



# Outline agenda

8:30	<i>Arrive DHI</i>
8:30 – 8:45	<i>Welcome, introduction to DHI and DHI's activities in Israel</i>
8:45 – 9:15	<i>Israel's plan for rehabilitation of streams and construction of reservoirs for flood prevention and a general outlook on Israeli challenges, future plans, and needs. By vp ministry of agriculture and ceo of drainage authority</i>
09:15 – 11:00	<i>DHI experience with real time decision support systems for reservoir operations and flood protection – in the Mediterranean area and worldwide, including Q/A</i>
11:00 – 11:30	<i>Visit to DHI's laboratories for physical model testing</i>
11:30 – 12:30	<i>Lunch and final discussion</i>
12:30	<i>Departure from DHI</i>

# DHI in short



We're an independent, private and not-for-profit organisation



Our people are highly qualified

80% of our 1,100 employees hold an MSc or a PhD degree



Our knowledge represents 50 years of dedicated research

21% of our resources are allocated to R&D to enhance our knowledge and innovation



We make this knowledge globally accessible

through our local teams and unique software

# About DHI

We are global

Our network of offices spans  
more than 30 countries worldwide  
We have experience from projects  
in over 140 countries

We transform global expertise into  
local solutions



We associate with global leaders in water environments



World Health  
Organization



Global Water  
Partnership

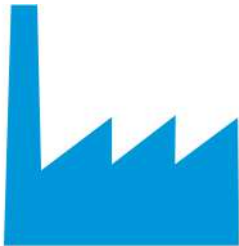


Major  
universities  
worldwide

# Our clients – a balanced portfolio



Public  
**1/3**



Industry  
**1/3**



Consulting firms  
**1/3**

# Our areas of expertise



Aquaculture and agriculture



Energy



Climate change



Coast and marine



Surface and ground water



Urban water



Industry



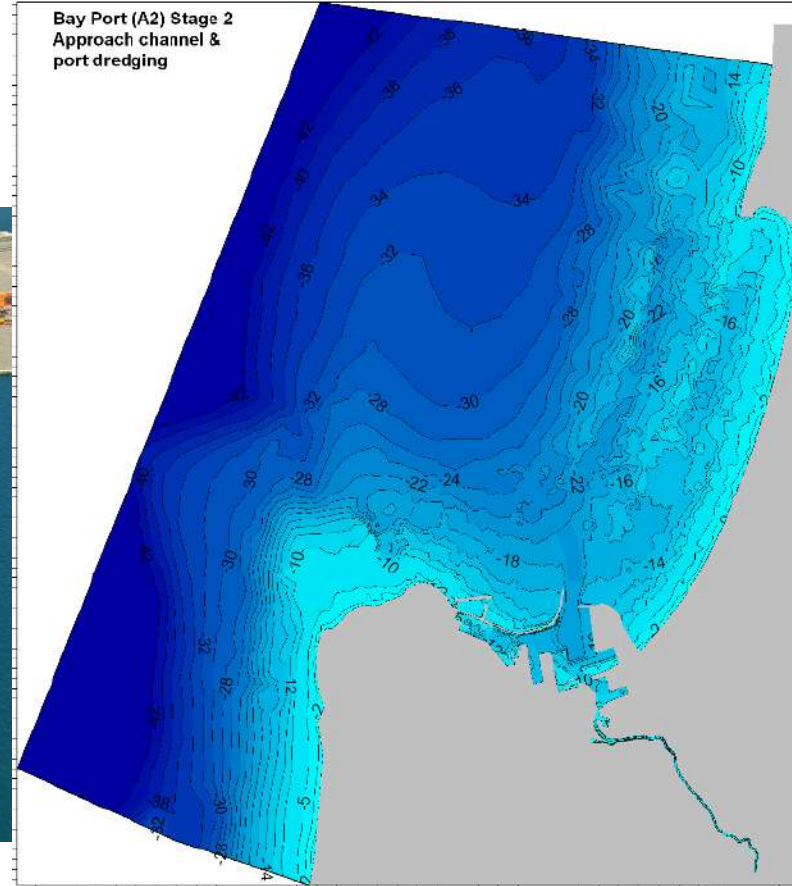
Environment and ecosystems



Product safety and environmental risk

**Our in-house facilities and tools:** physical scale model testing, laboratories, ballast water centres, survey and monitoring systems for field studies

# Haifa Port Expansion EIA

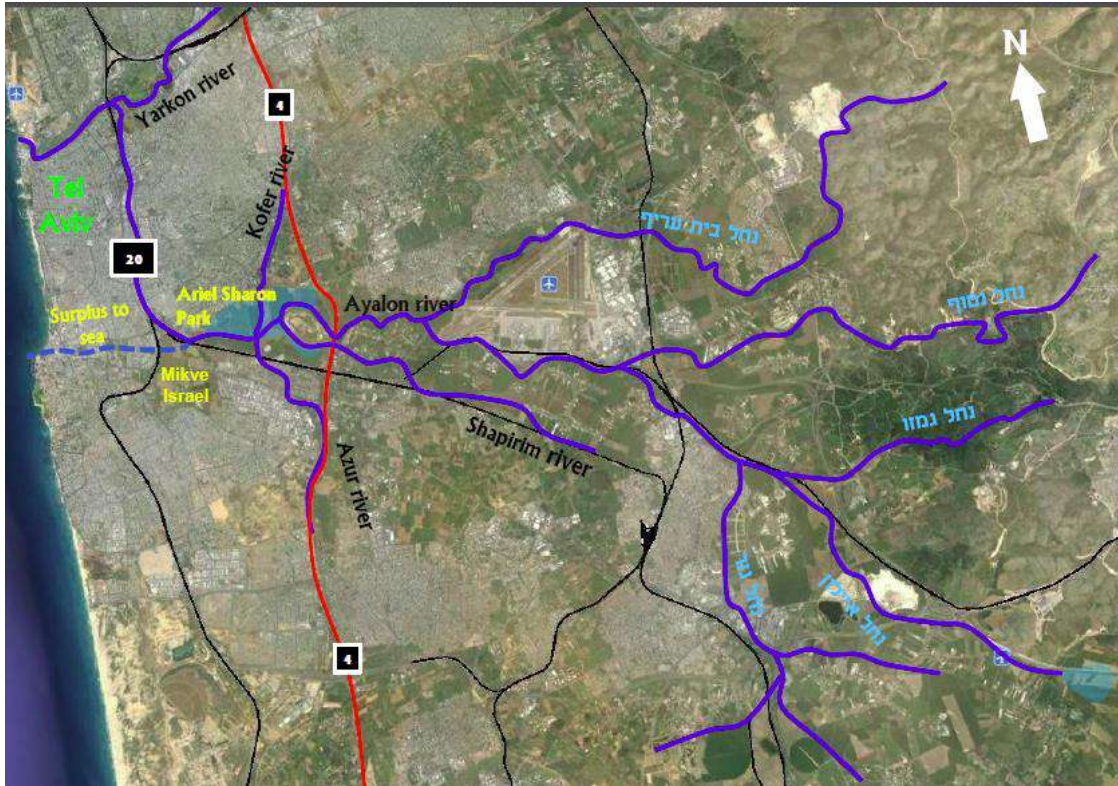








# Tel Aviv Flood Mitigation



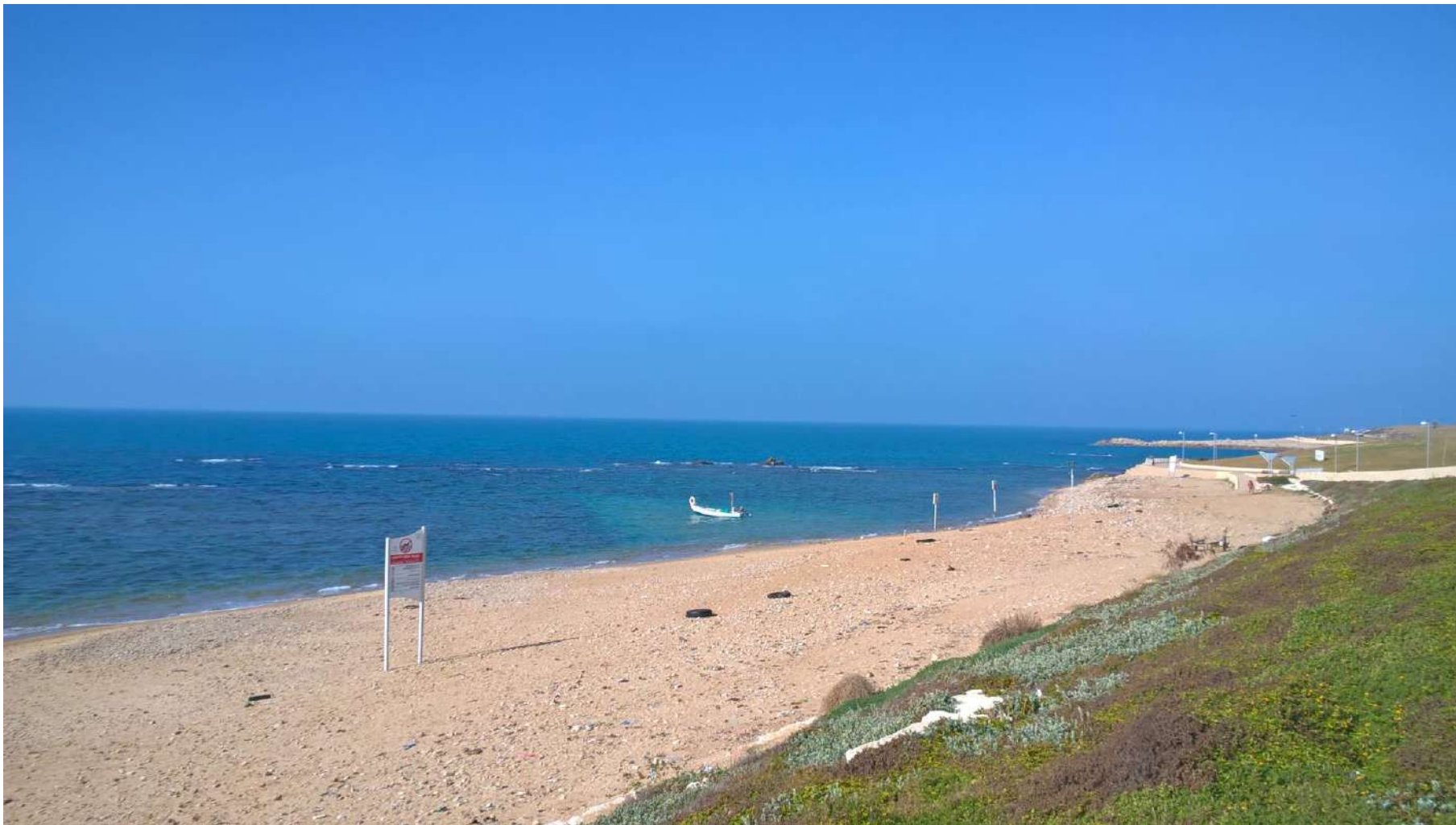
© DHI

## DHI:

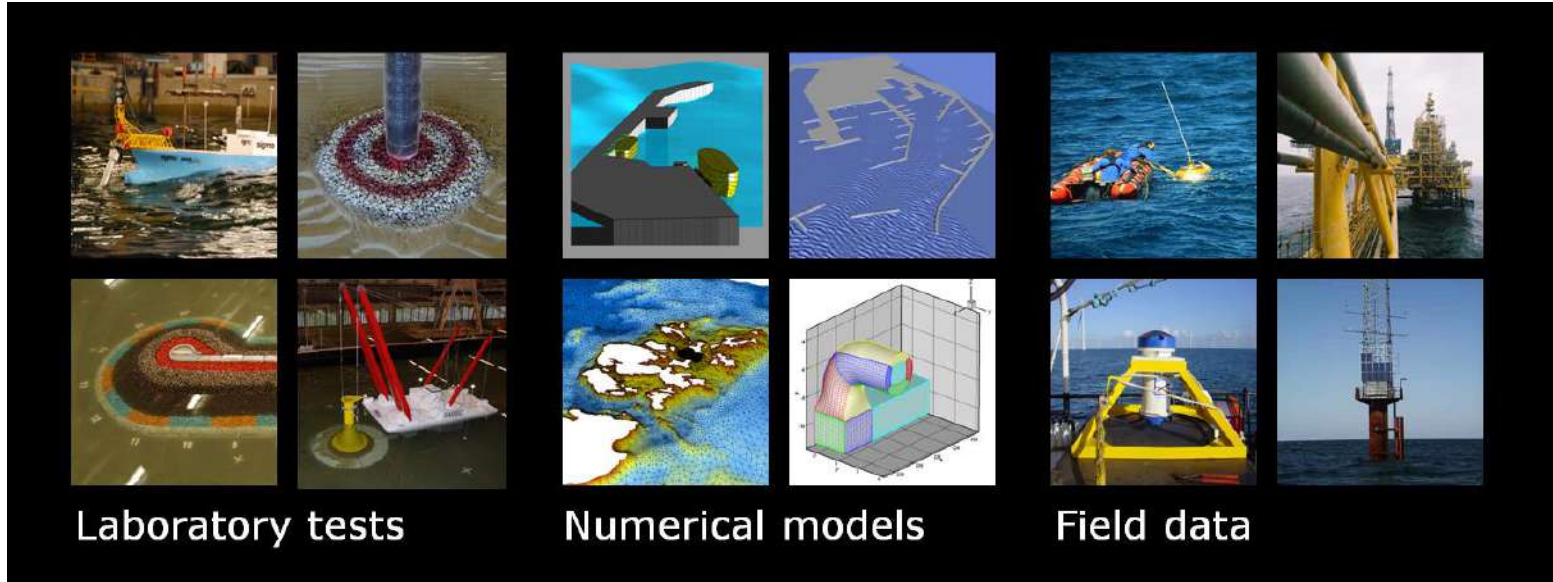
1. Marine Outfall Environmental Risk Assessment
2. Hydraulic Consultant







# DHI tools and technologies



# MIKE by DHI software for water environments

Modelling **packages** for cities, rivers, lakes, estuaries, bays, coastal areas, and seas.

**Professional** engineering software packages for free-surface flows

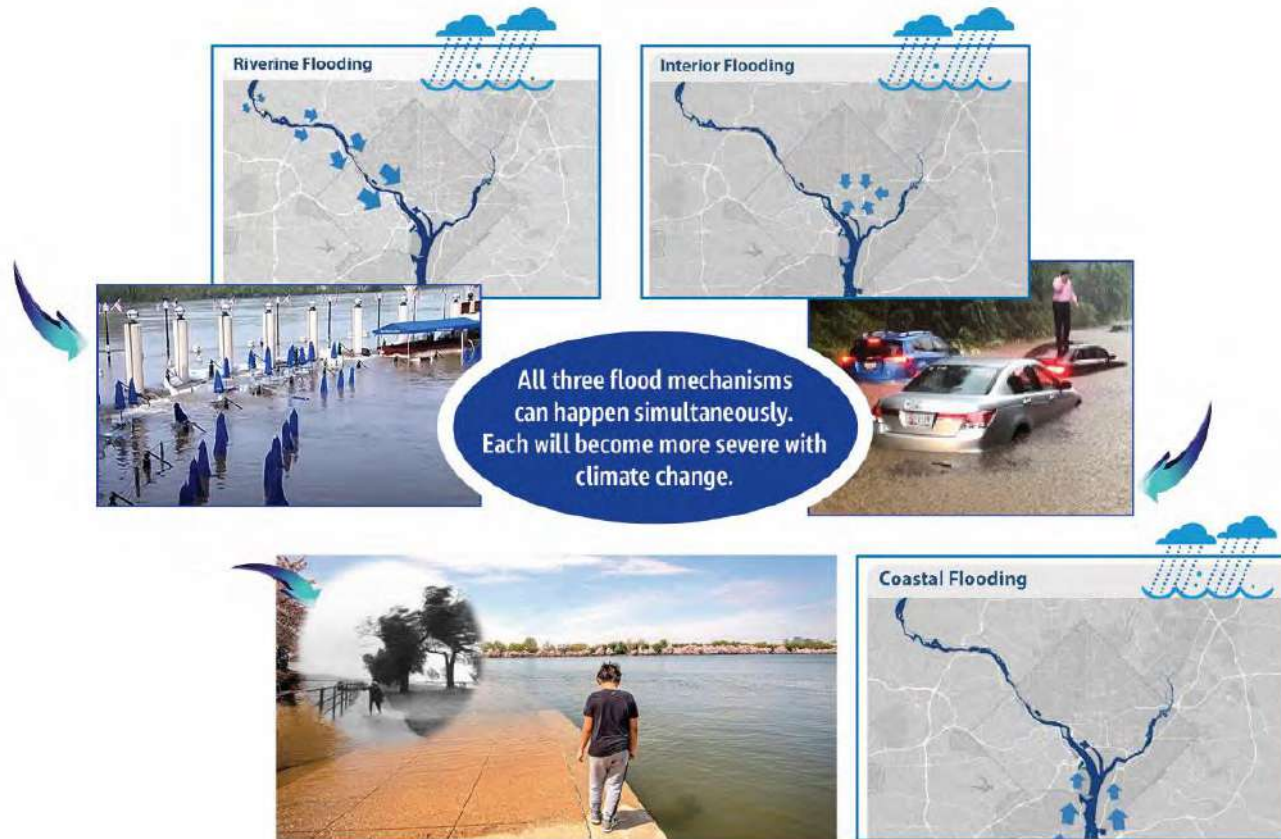
The gold **standard** for modelling of all water environments

An extensive and **global** user community

**Local** support by experts



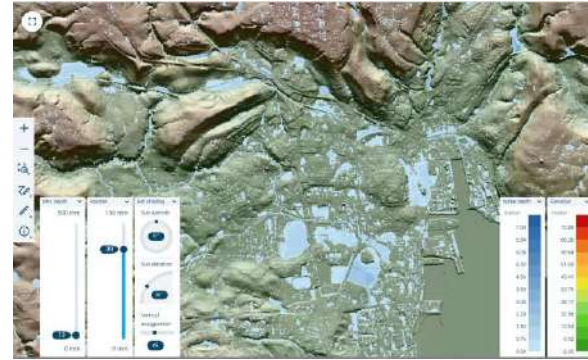
# The three flood mechanisms



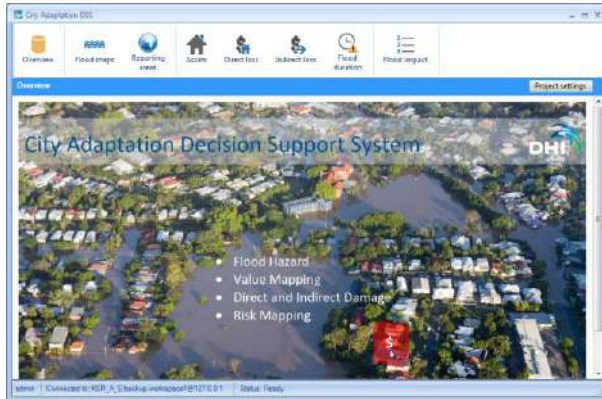
# Interior flooding - the DHI urban flood tools



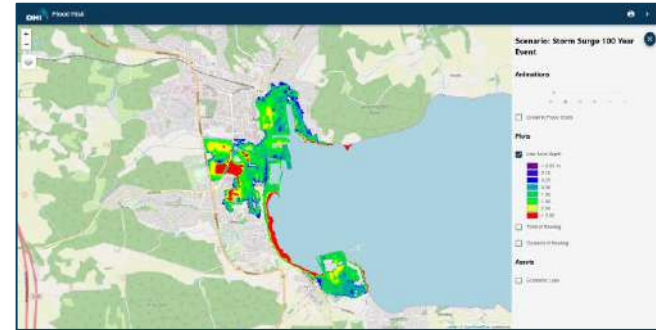
MIKE+



Screening



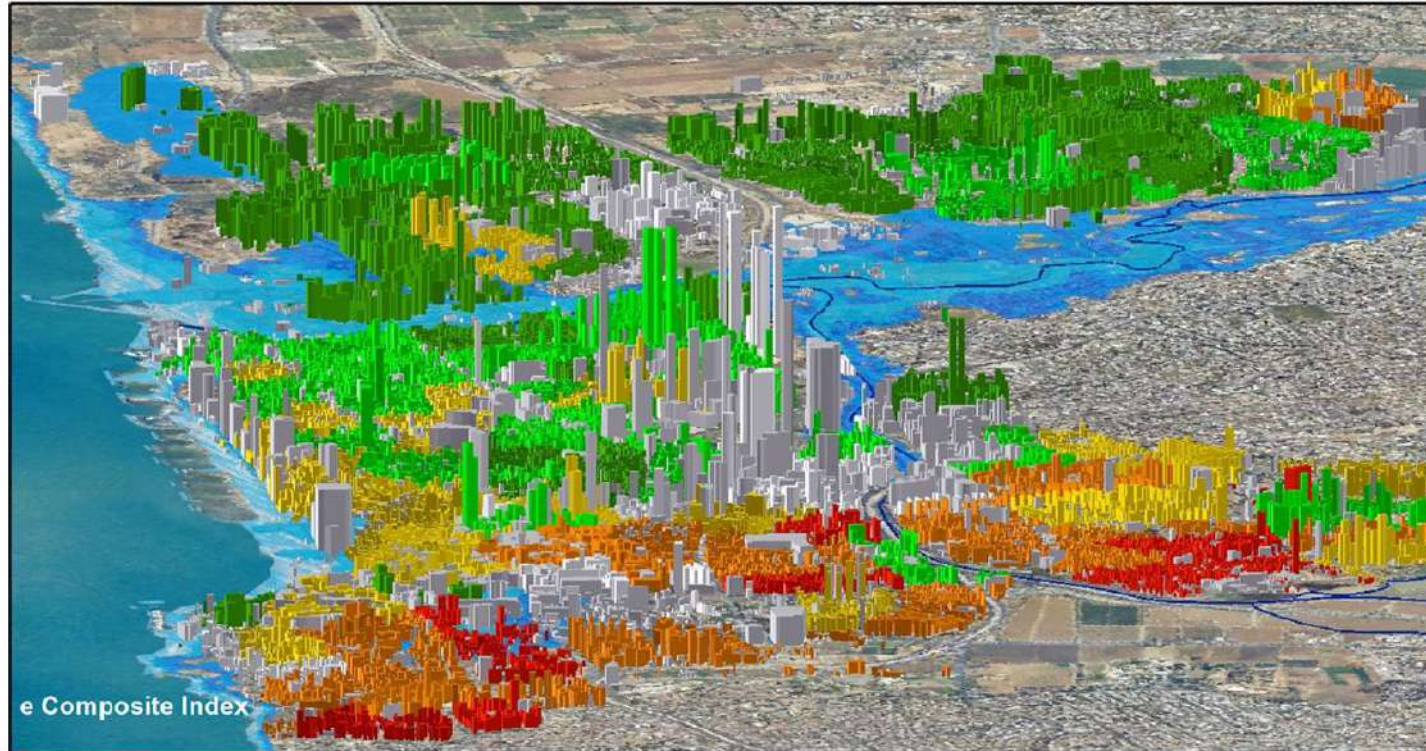
RISKS



Early Warning – realtime and forecast



# Flooding threats in Israel



Indicator Vulnerability Score: ■ Non Residential ■ 1 ■ 2 ■ 3 ■ 4 ■ 5  No Data  
Inundation increments: ■ 2 m SLR ■ 2 m SLR + 4 m Tsunami ■ LECZ

# Flooding threats in Israel



e Composite Index

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# Flooding solutions in Israel



- Optimization of the reservoirs in the Ga'aton basin with the three detention reservoirs.

# DHI experience in the Mediterranean area

- DHI's experience for flood risk prevention and management
- Examples primarily from Italy
- Presentation by Andrea Crosta

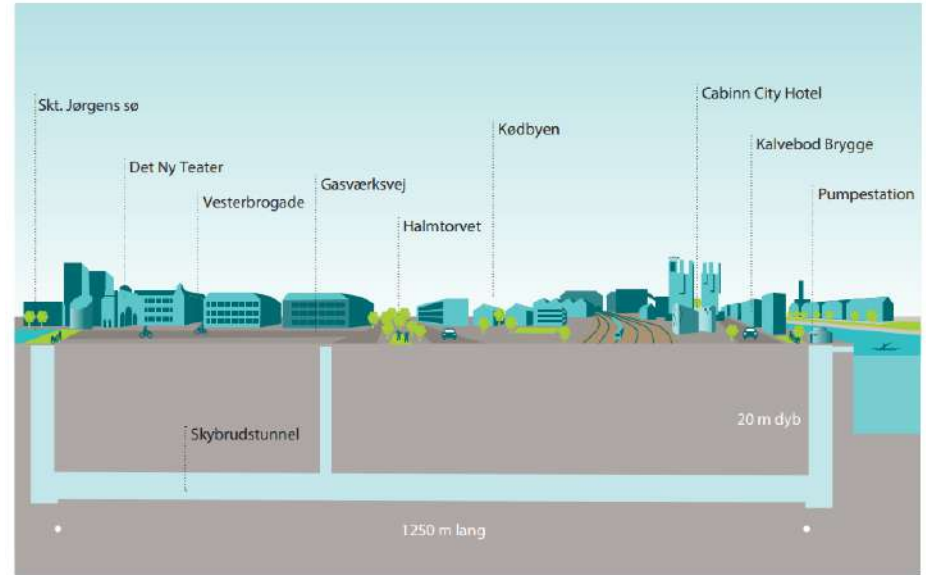
# Visit to DHI's laboratories

- Tour by Karsten Lindegård Jensen

# Copenhagen – Tunnel from Vesterbro to Kalvebod Brygge



This 2½-meter tall plexiglass model is a true copy of the planned pumping station by Kalvebod Brygge in Copenhagen. The purpose of the model is to test that the pumps will work as intended, when the pumping station is constructed in its full size.



## Physical model of Kalvebod Brygge pumping station

: [Avanceret model tester pumper til Kalvebod Brygge Skybrudstunnel - YouTube](#)