



# (IR 4.0) 3D PRINTING FOR SAND FILTER LATERALS

By: Rakan Banna

12/02/2020

# Agenda

1. Background
2. Current Challenges
3. Innovative Solution
4. Benefits

# What is the Major challenge for water facilities?



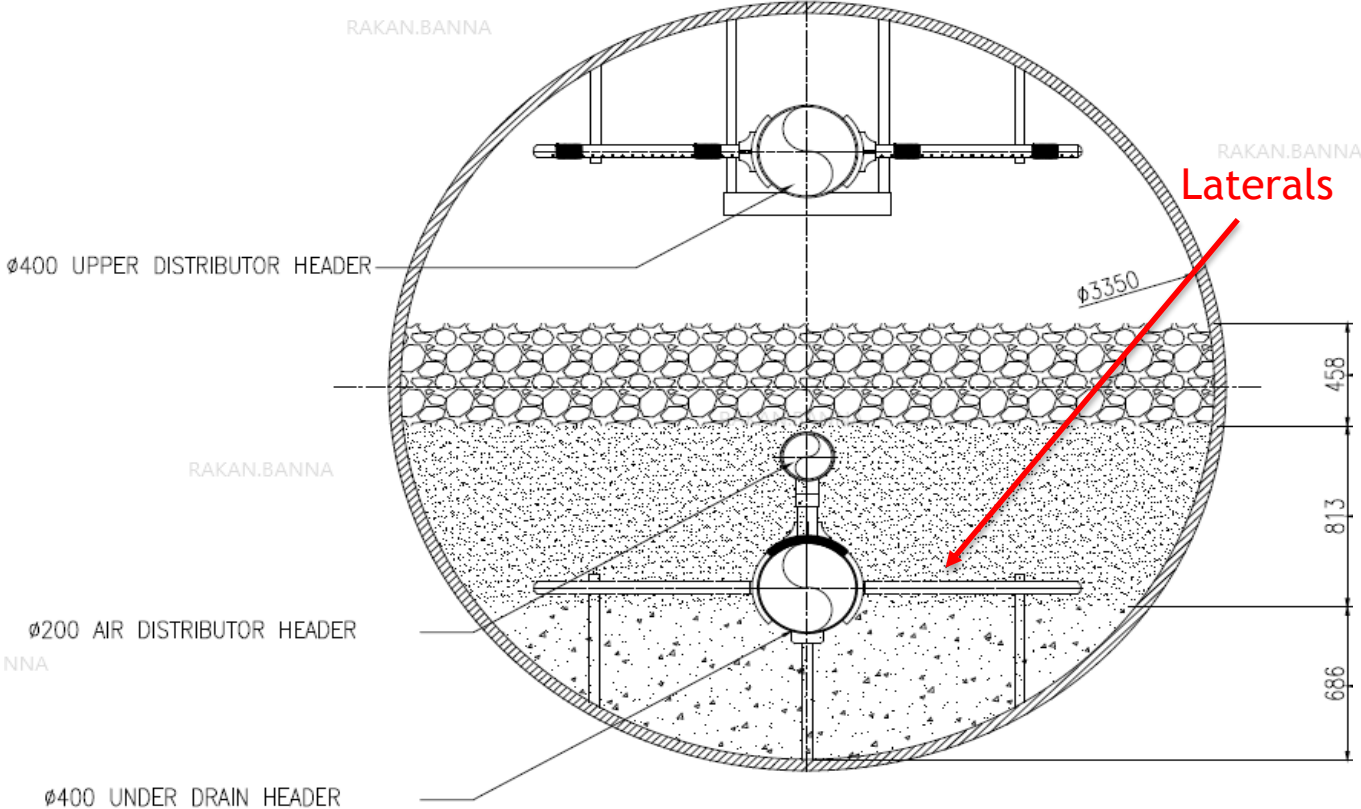
# Background

1

# World's Largest Water Treatment Facility

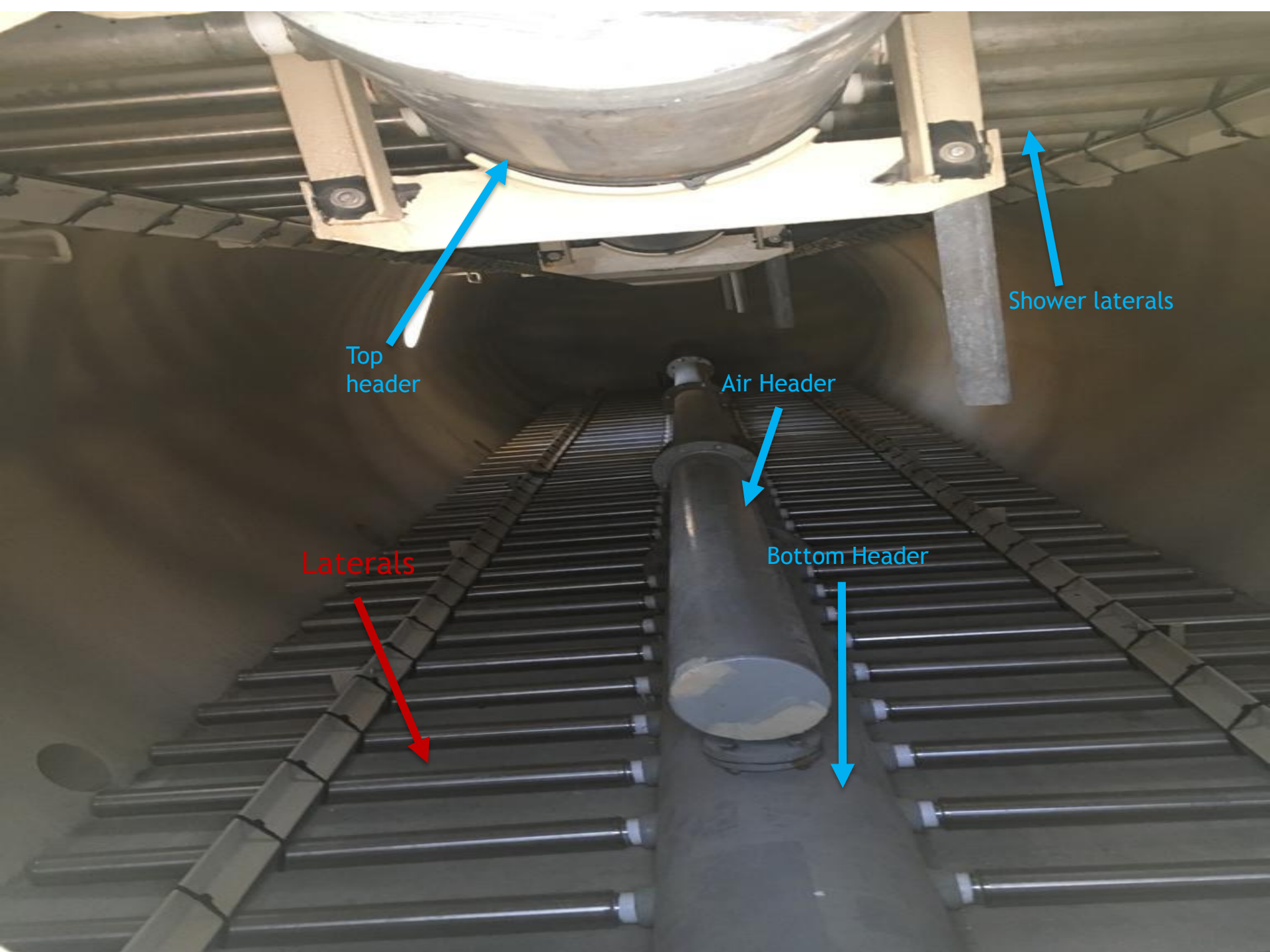


# Sand Filter Process Description



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Top header

Air Header

Shower laterals

Laterals

Bottom Header

# Current Challenges

2



# 1. Corrosion and Harsh Environment



## 2. Sand Filter Media Passing



### 3. Treated Seawater Quality Specification for Oil Fields



## 4. Repair Cost



## 5. Equipment Downtime



## 6. High Grade Metallic Materials



# Innovative Solution

3

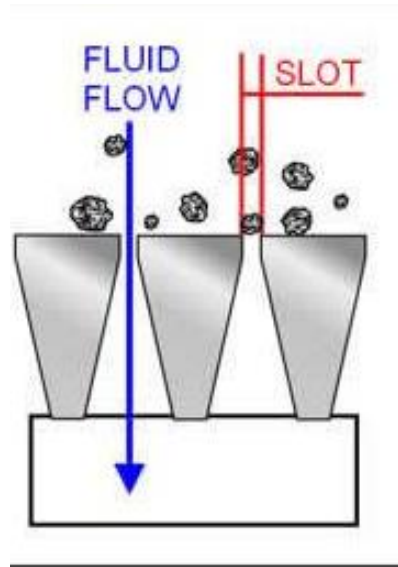
**WHY ?**



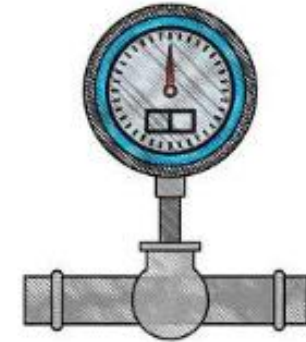
# Idea Development



Metrology Assessment



Design Specifications



Process Parameter

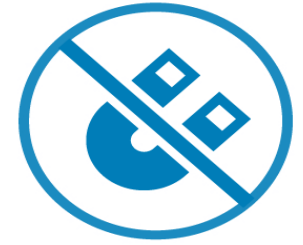


Technical Evaluation

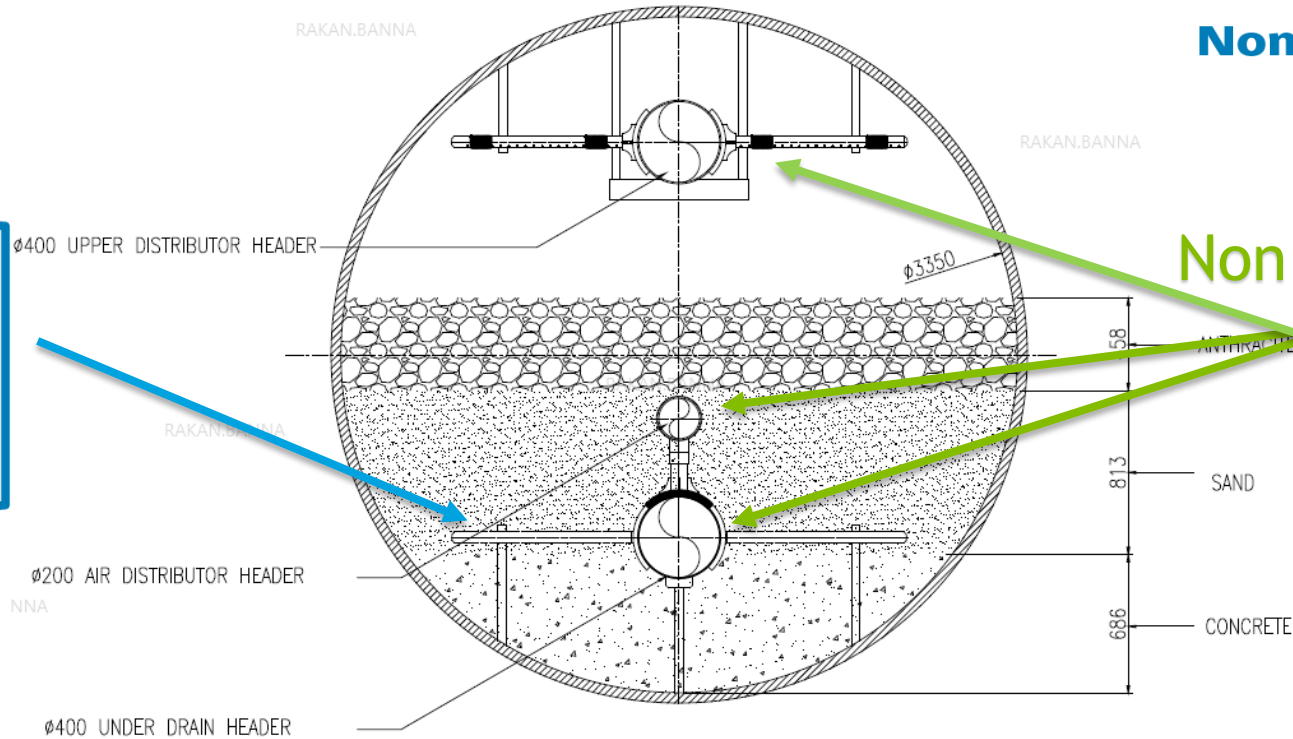
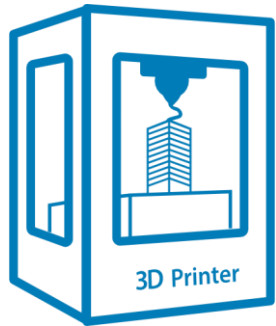


Specialist Consultant

# Innovative Solution



**100%  
Non-Metallic**

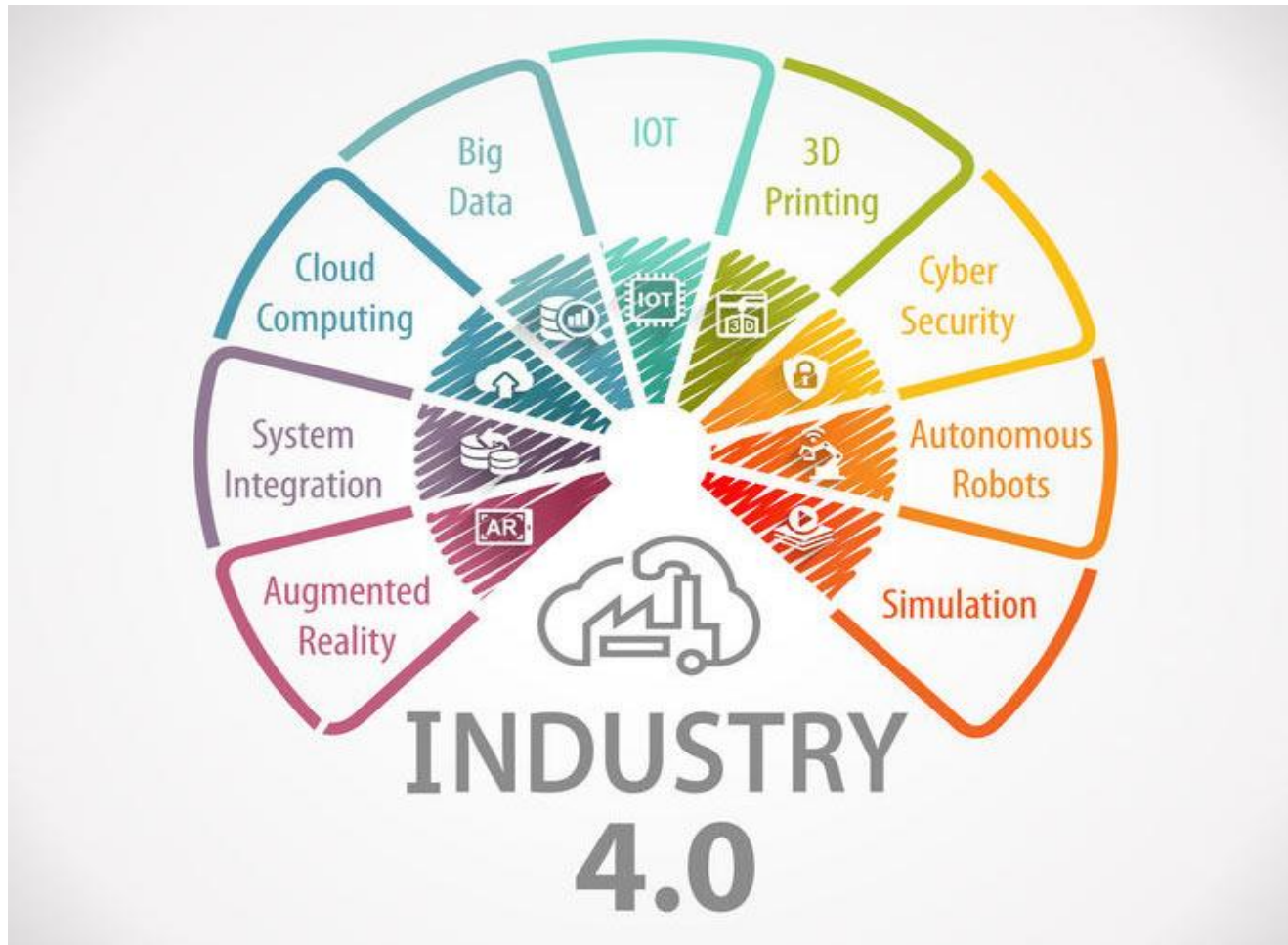


**Non Metallic**

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# IR 4.0 - Additive Manufacturing



# Benefits

4

Reduce maintenance time and cost by 60% with potential of T&I interval increase





4IR

FOURTH INDUSTRIAL  
REVOLUTION

Expanding Nonmetallic  
deployment and corrosion  
free system





# Meeting Seawater Quality Specification for Oil Reservoir Fields



Through **iktva** we  
have increased  
suppliers' exports by

50%

ساهمنا عن طريق  
**اكتفاء** في زيادة صادرات  
مورديننا بنسبة

50%

Always Ask Why?

The Sky is the limit

Thank you



أرامكو السعودية  
saudi aramco

