

# NE1 - 700MW CSP + 250MW PV Hybrid Project

# ABENGOA

ATA Webinar

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Solar Field Engineering



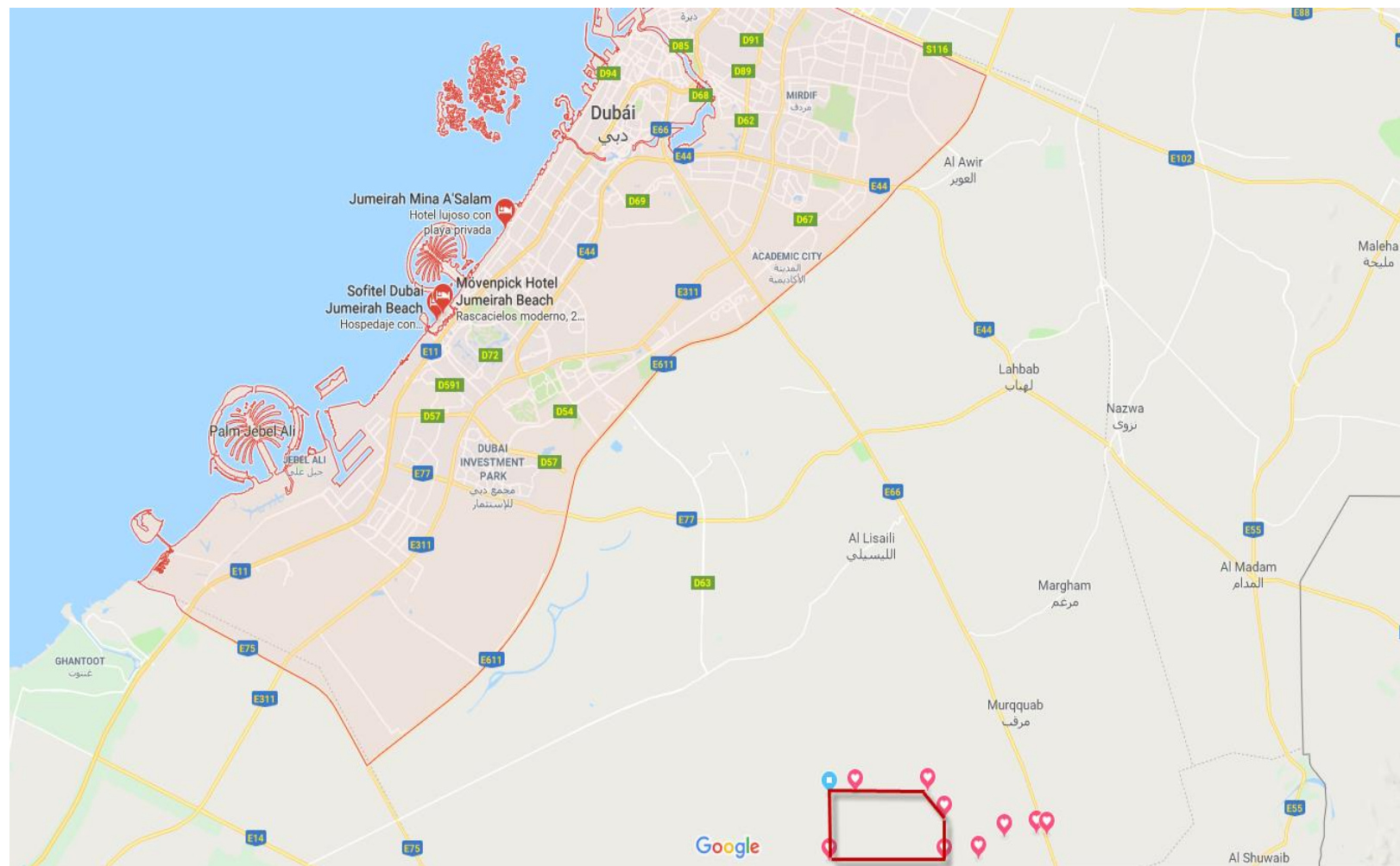
# Project Description

**Project:** Hybrid Plant Noor Energy 1-700 MW CSP (3x 200 MW Parabolic Trough + 100 MW Central Receiver) + 250 MW PV

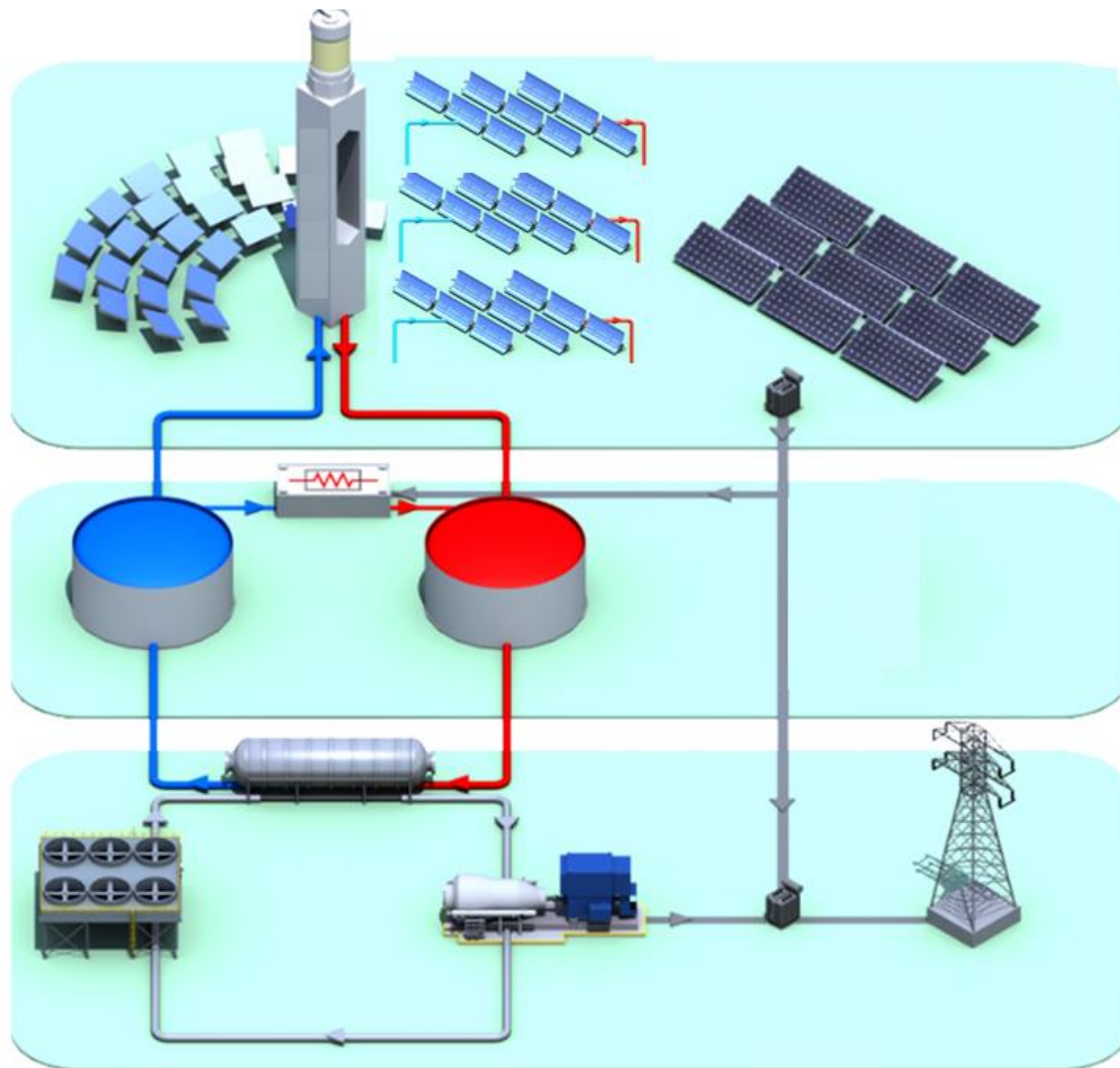
**Location:** Solar Park Mohammed Bin Rashid Al Maktoum, Dubai, UAE.

**EPC Constructor:** Shanghai Electric

**Abengoa:** Technology provider and PT solar field subcontractor



# Plant Concept



## CSP Plants + Molten Salt Storage

On-demand dispatchability -> baseload production and/or peak demand

## PV plants

Low cost renewable electricity without dispatchability.

Designed to increase production on sunny hours: 250 MW.

Off-grid PV: covering parasitics of CSP plants.

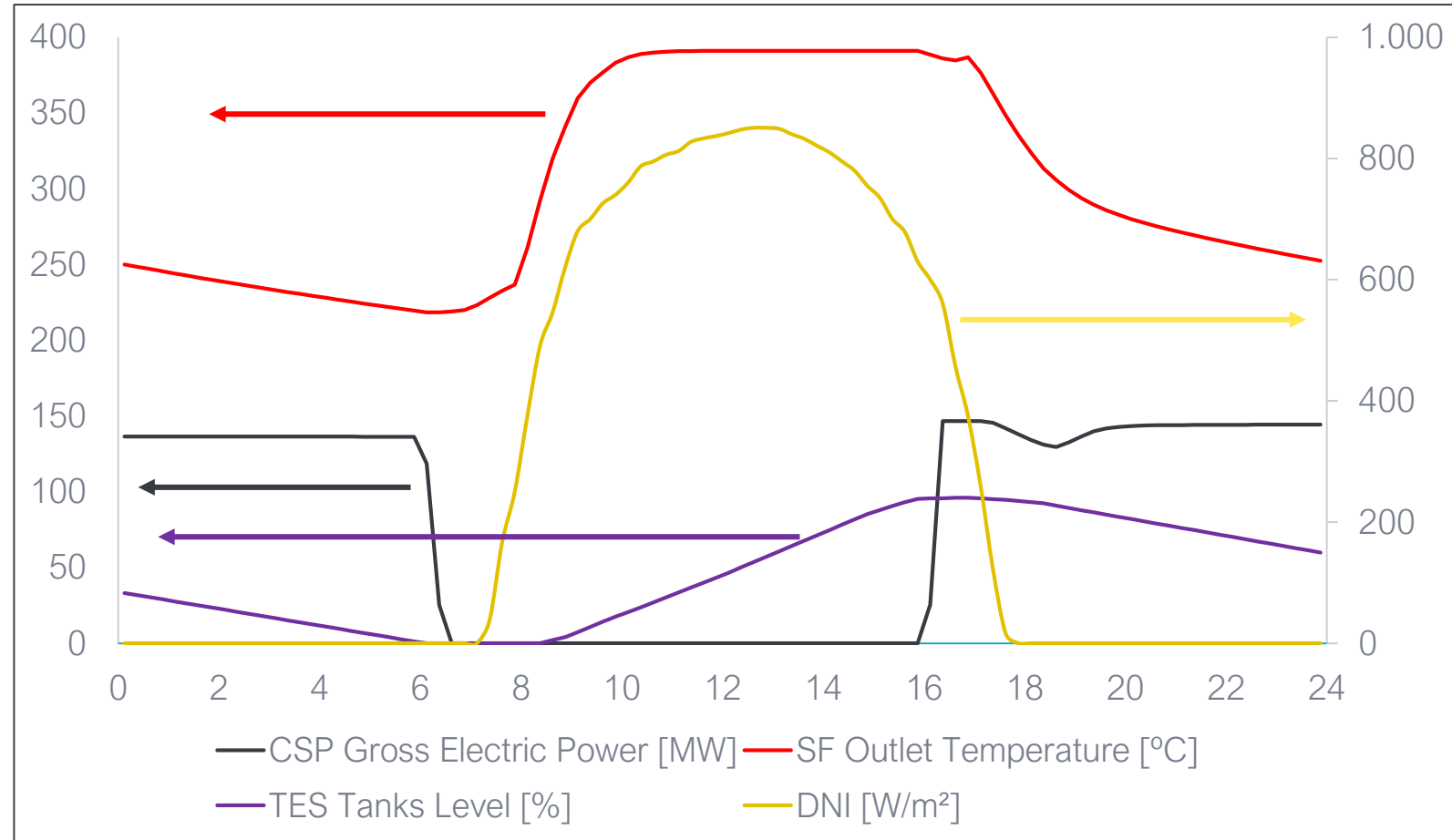
## Performance Model Tool

Taylor made software -> Design of algorithms for the Energy Management System



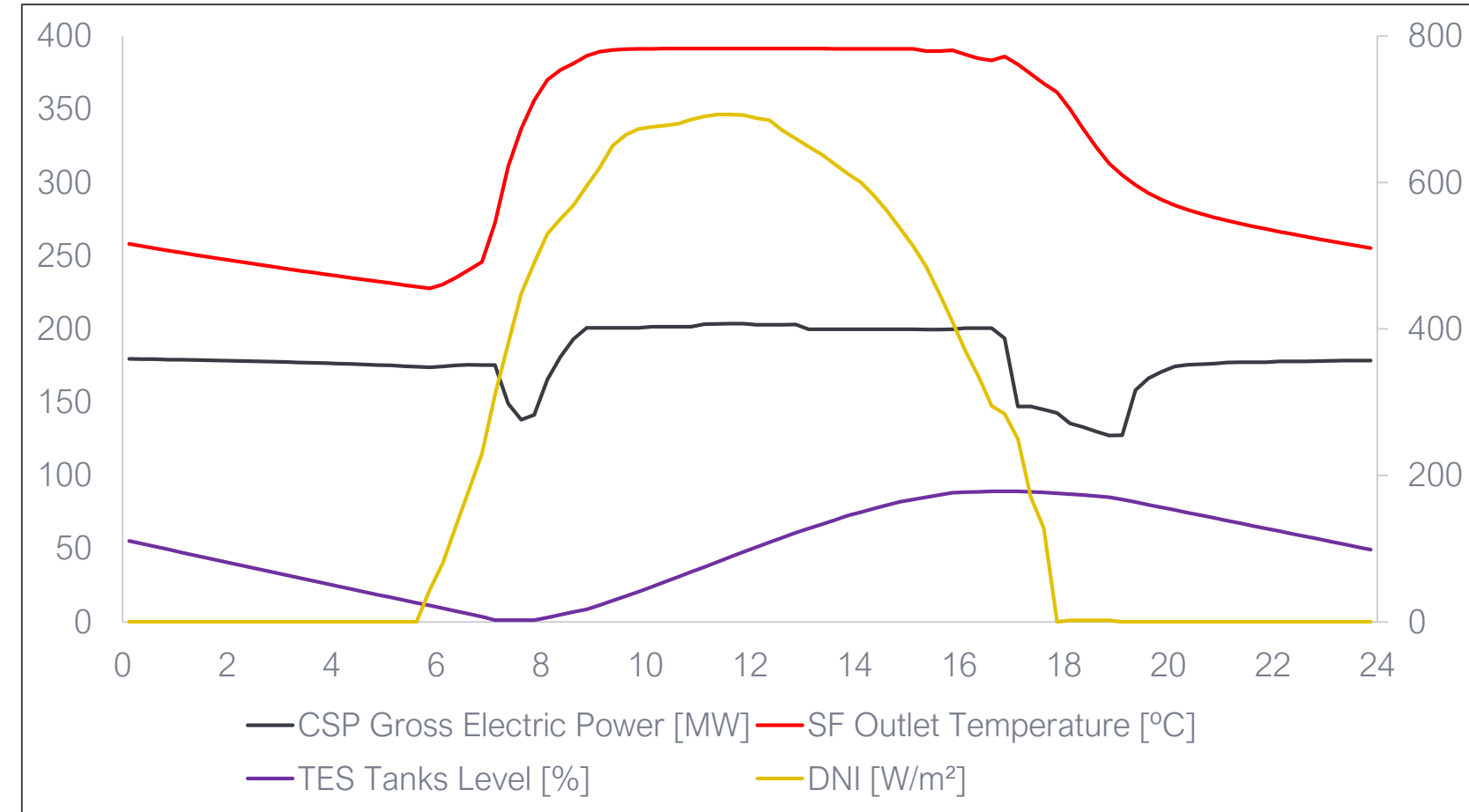


# Performance curves → PT plants



## Winter

CSP → peak demand



## Summer

CSP → Baseload production



# Solar Field Plot



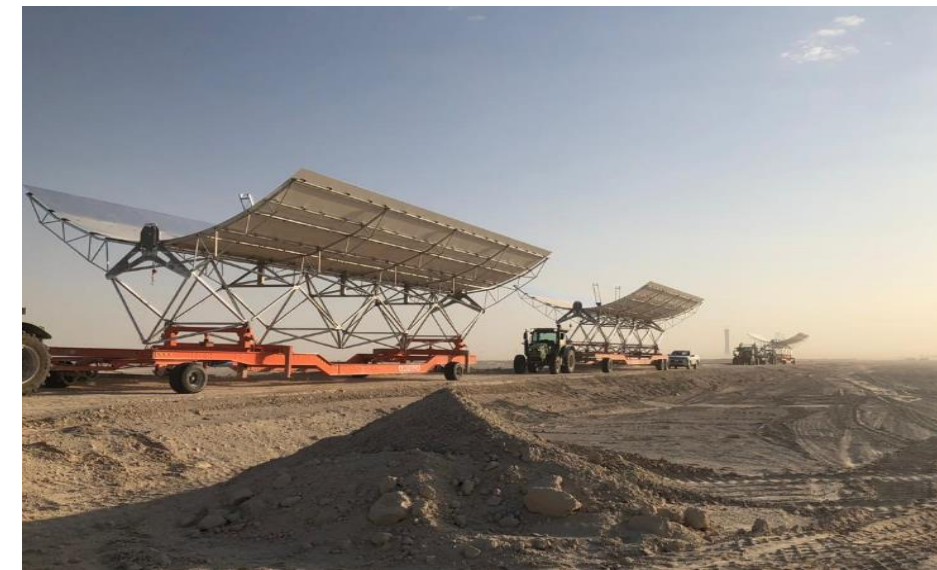


## Solar Field Main Features

Mirrors surface: > 8.000.000 m<sup>2</sup>

Steel structure: > 150.000 Tons

Receiver Tubes: > 250.000 units



Long Transport Time



## Workshop/Warehouse Main Features

Workforce: > 800 people (unskilled)  
20 hours/day with double shift      6 day/week  
Assembly > 200 collectors/month



Steel -> >500 trucks/month  
Mirrors -> >180 containers/month  
Average 30 trucks per day!

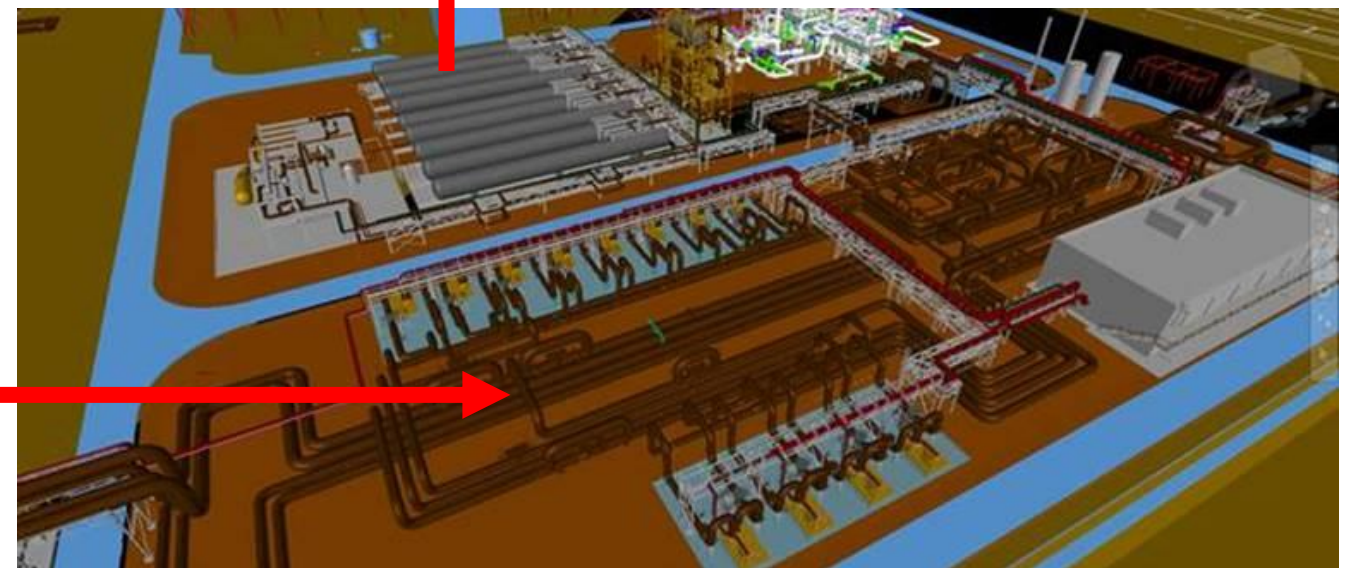
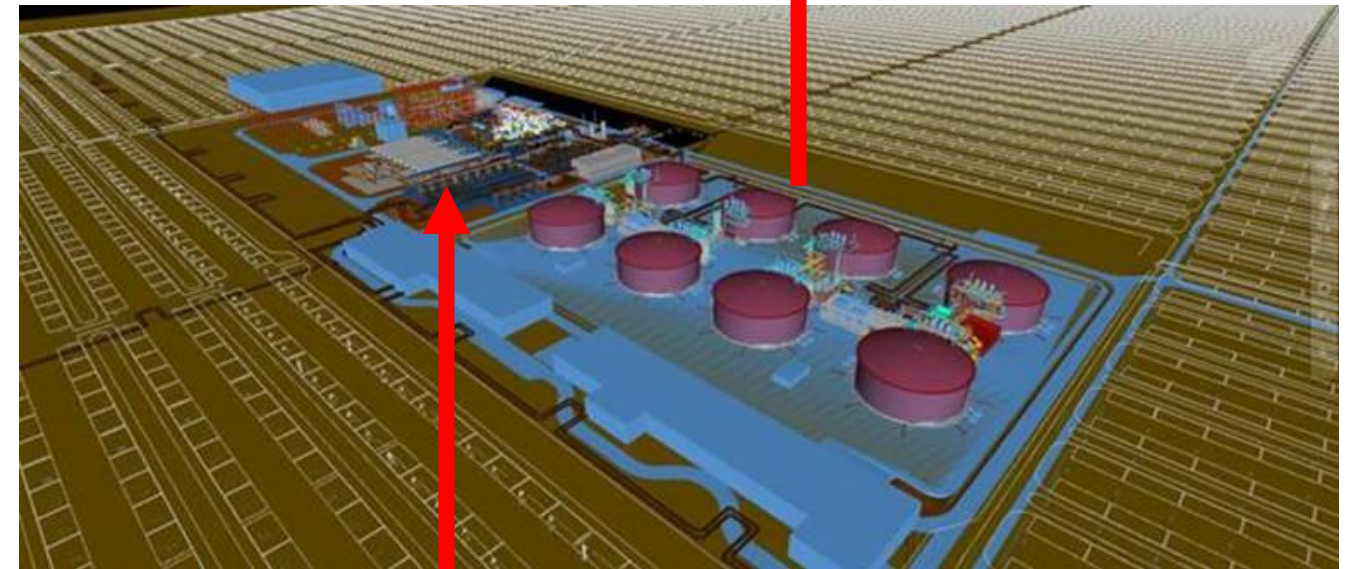
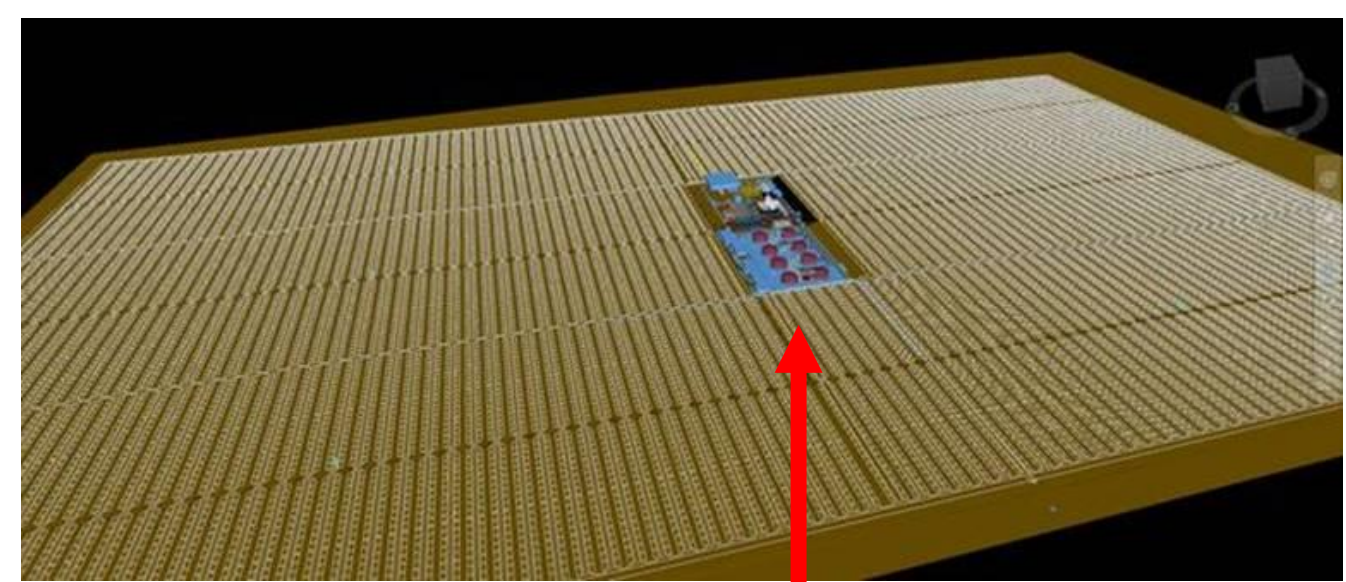
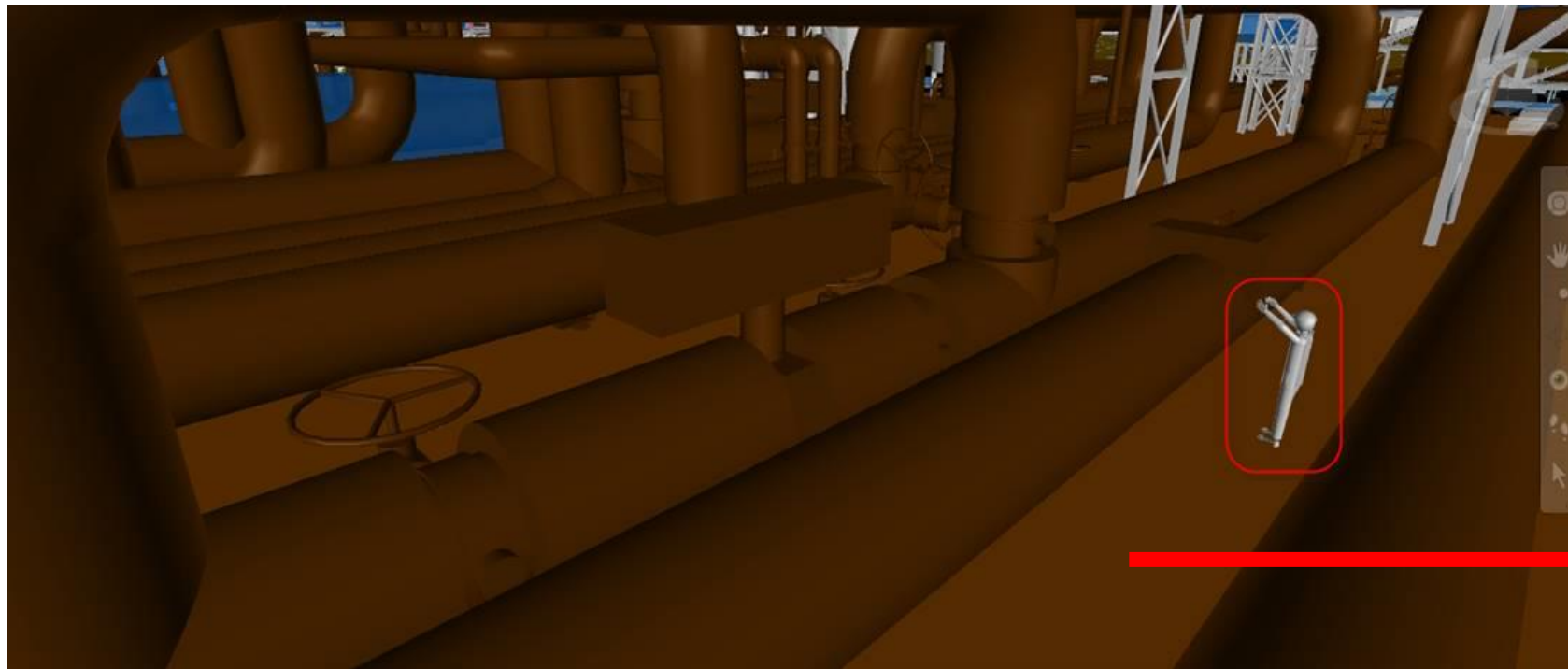
Incoming registration, traceability  
and quality control





## 3D Modelling

- Pipes up to 1,6 meters diameter
- > 195 km of high temperature piping
- > 3.400 Km wiring
- > 55.000 Tons HTF





# Overflow Tanks -> 9 units/plant



Mechanical design  
Civil design  
Logistics

