DESOLINATION

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Presentation structure

- Project Summary
- Objectives & expected impact
- Scope
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- Options for exploitation/collaboration/follow-up activities

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Project summary

Funding source	H2020 project in collaboration with Gulf Cooperation Council
Budget	14.5 M€ project cost, 10 M€ provided by the EU commission
Duration	48 months (June 2021 – May 2025)
Start TRL	5
End TRL	7

Objectives & expected impact

- DESOLINATION **will develop and demonstrate a 2 MW power cycle based on CO_2 blends and coupled with desalination process**
  - Demonstrate the CO_2 blends concept in Saudi Arabia and at relevant size;
  - Increase the thermal-to-electric conversion efficiency with respect to both conventional steam cycle and pure sCO2 cycle;
  - Reduce the power block specific costs with respect to both conventional steam cycle and pure sCO2 cycle;

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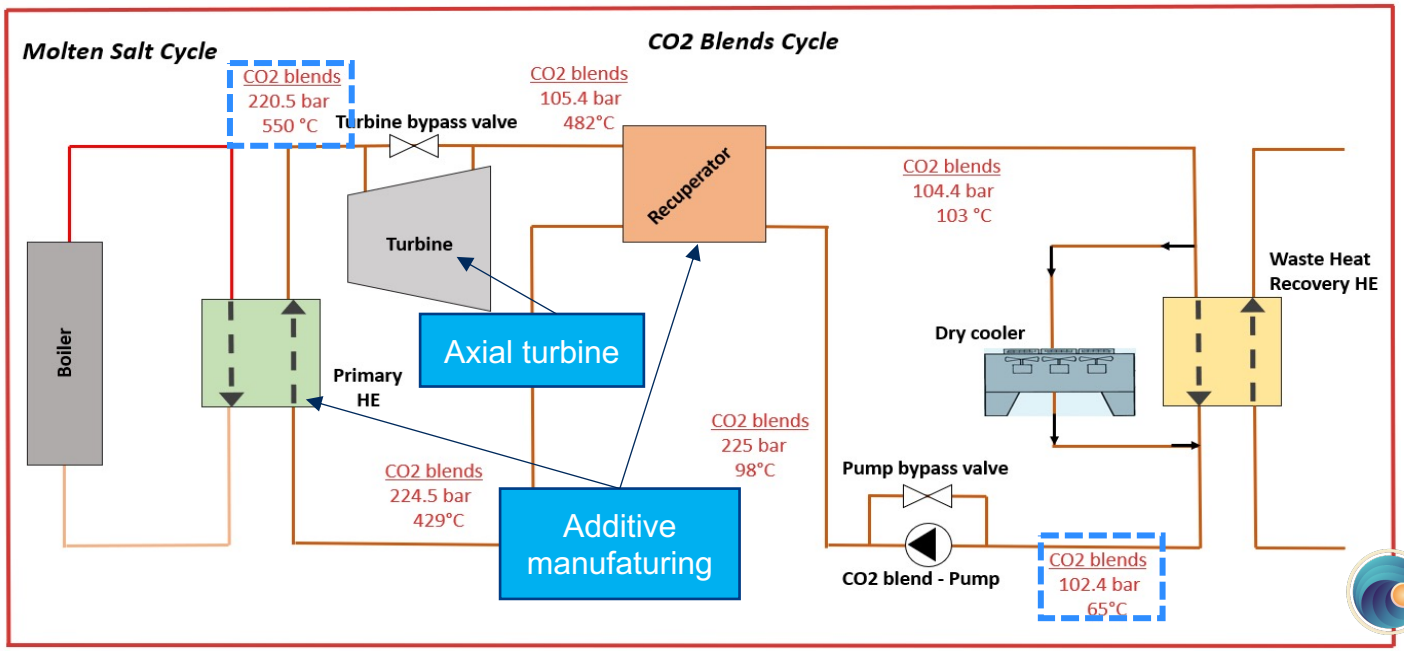
Scope – the demo concept



Demonstration for >2000 hrs
Design efficiency >30%

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Main results/outcomes

- Identify the CO_2 blend which optimizes the cycle within the operating temperature range;
- Select the most suitable material for the considered working fluid and the operating conditions;
- Determine the optimal heat exchanger design with the innovative manufacturing procedure;
- Design a 100 MW cycle for CSP applications;

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Options for exploitation/ collaboration/ follow-up activities

- Modelling: Benchmark cycle design and performance;
- Material compatibility testing: identify the most suitable material for the innovative blend;
- Heat transfer measurement: determine the heat transfer properties of the innovative blend;
- Demo plant: synergies for the demonstration might be considered and explored

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Contacts

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