



Luminescent
Solar Power

New Solar Energy technology

24/7



Luminescent
Solar Power

TEAM

WE HAVE THE
SOLUTION

Combination of excellence:

Academy prof Carmel Rothchild
Technion
industry Doron Tamir one of the
biggest developer at big scale PV

03
PATENTS

05
YEARS OF R&D

Q1 2021
PILOT

MOST IMPORTANT SOLAR ENERGY
CONCEPT

2016 by OSA[®]
The Optical Society



PROF. CARMEL ROTHSCHILD
CTO
Inventor and scientific leader



MR. DORON TAMIR
CEO
Entrepreneur in solar energy
(100's MW developed & grid connected)

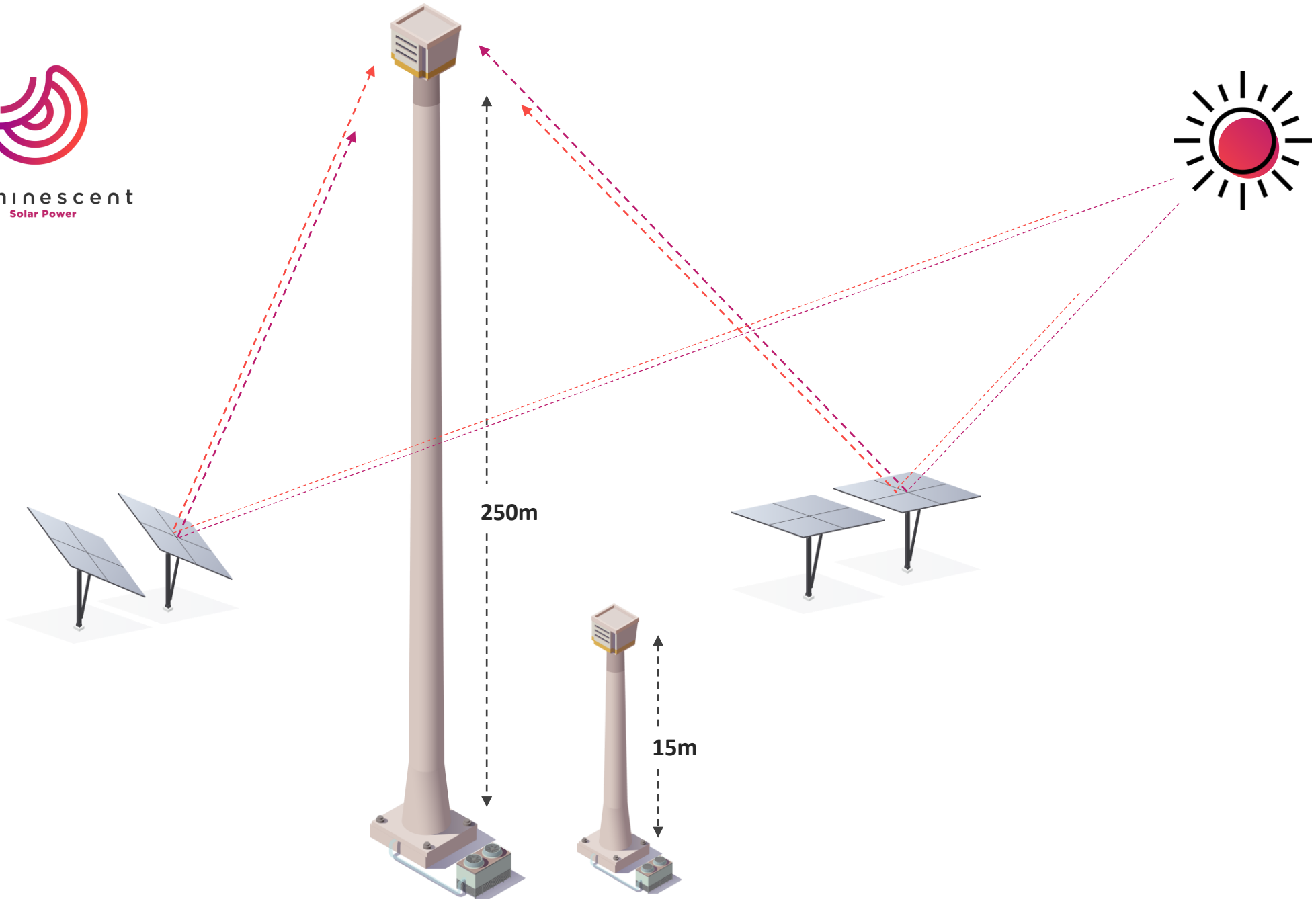


MR. Elkayam
COO
Coo 30 years of experience in design,
product management of complex systems at
forefront of technology

- world leader Image proccing
- Control system, wireless network communication 20- 40 years experts
- Expertise in a jet turbine, high energy, high pressures, high-temperature systems
- World leader design & production heliostats



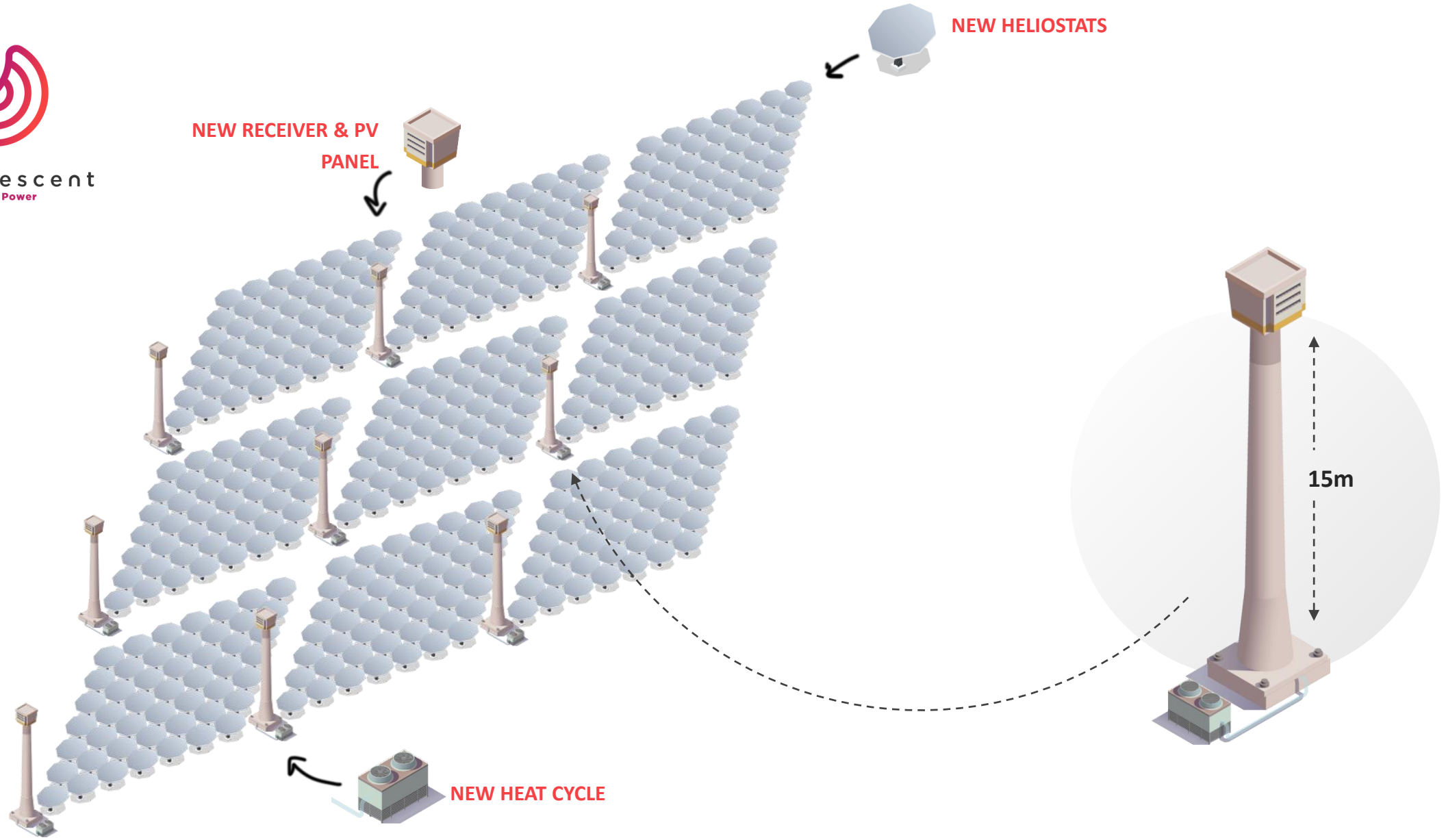
Luminescent
Solar Power





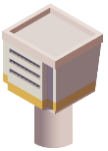


Luminescent
Solar Power





Luminescent technology HAS 4 COMPONENTS

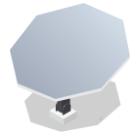


01

RECEIVER

500 Kw as our basic unit:

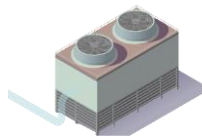
- 1.Our innovation receiver
- 2.Existing receiver



02

HELIOSTAT

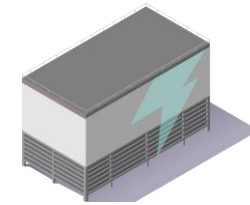
Our new heliostats will be ready for production in Q4 2021



03

HEAT ENGINE

Game changer heat engine - our first POC will be ready in Q1 2022



04

STORAGE

thermal storage several options, Lithium-ion, compressed-air.

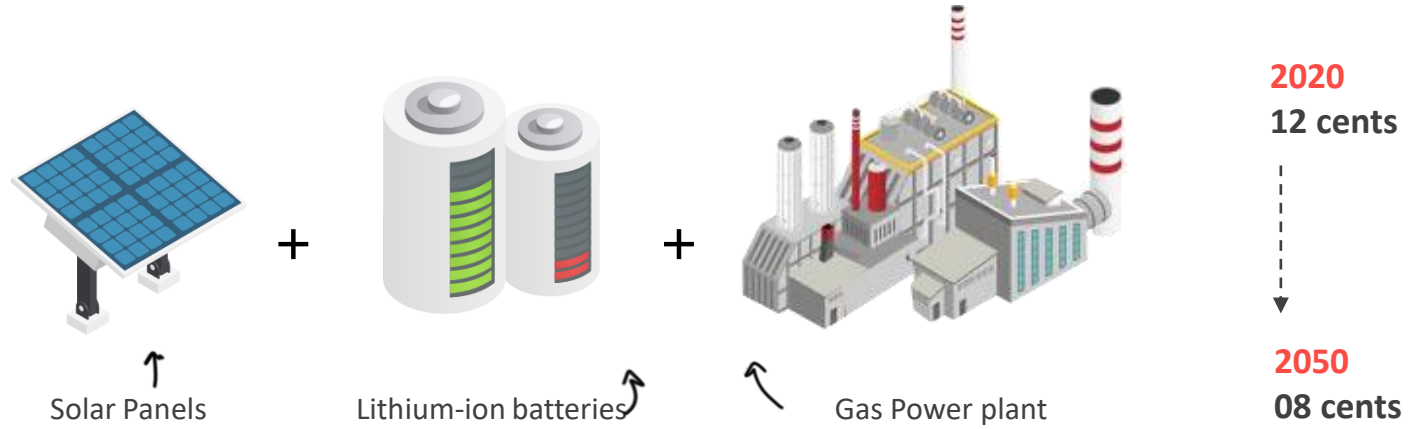
We intending to use MAN molten salt storage



Luminescent
Solar Power

80% renewable is estimated to cost
8 cents/KWh in 2050

**WE CAN DO IT AT 5
Cents/KWh IN
2025!**



Generation (PV and heat engine), storage (heat) and backup (same heat engine) all built into the Luminescent system

2025
05 Cents



New SOLAR TECHNOLOGY

40% efficiency, double than PV

New heat engine 1000 Kw 40%
efficiency low cost

High field efficiency, double than
CSP

Cheap storage (thermal or
compressed air) **we can use also
Lithium ion**

24/7 till 7000 operating hours a
year

Full hybrid 8760 hours with
biomass or other source, no need
to extra capex



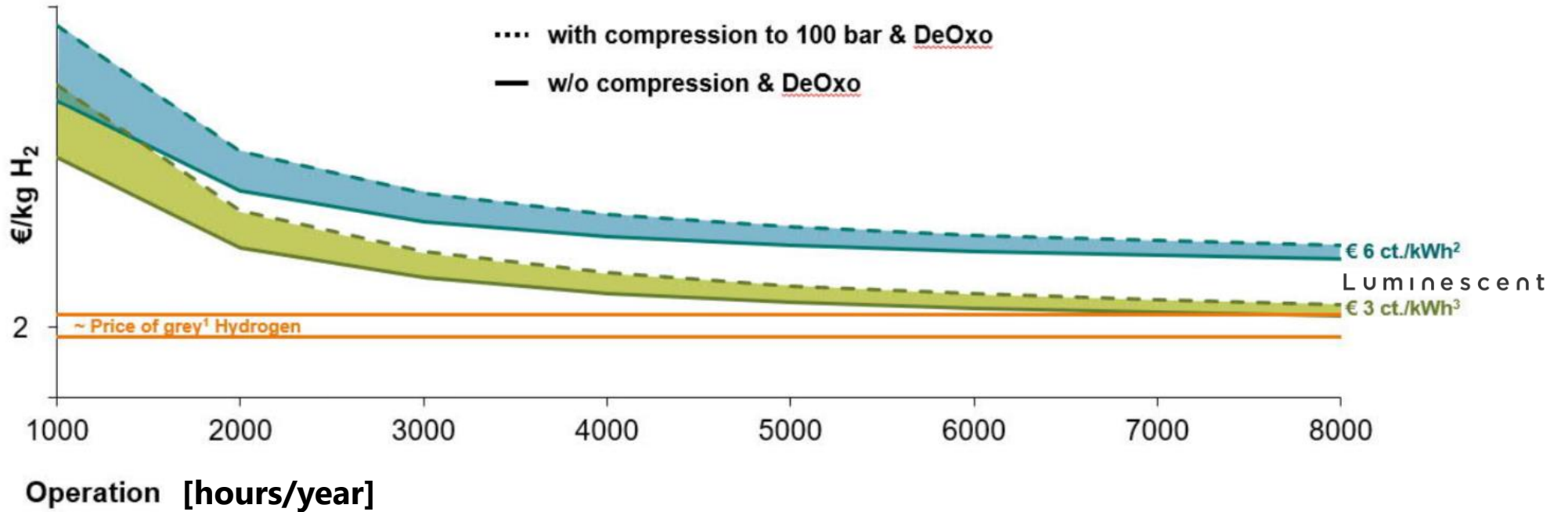
Luminescent
Solar Power

HYDROGEN PRODUCTION COST

With electrolysis will decrease over the next years

SIEMENS

Ingenuity for life





Luminescent
Solar Power

WE CAN PRODUCE 24 / 7 / 365 GREEN ELECTRICITY

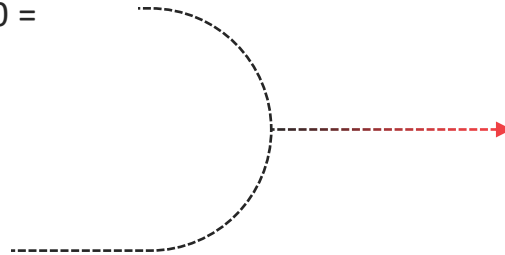
As well as production of hydrogen on site as a seasonal storage



LUMINESCENT
 $80\% \times 50\% \times 2200 =$
880



PV
 $20\% \times 1750 =$
350



LUMINESCENT / PV
More Efficient by
X 2.5

No need for Hydrogen transportation



Luminescent
Solar Power

IMAGINE

DeserTech 03.

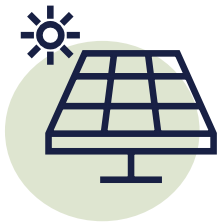
We can supply all the electricity that Europe needs

- We can build 24/7/365 green electricity in Morocco
- DNI 2500
- All we need to have another line between Morocco and Spain off 10 miles
- No needs for complex transportation of hydrogen just production on site



Project configuration

Power generation & hydrogen production



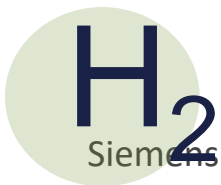
PV plant: 100MWp (phase I)

Location: 14 km southeast of Córdoba

Electricity generation: 197 GWh/year

LCOE: 2,5 c/kWh

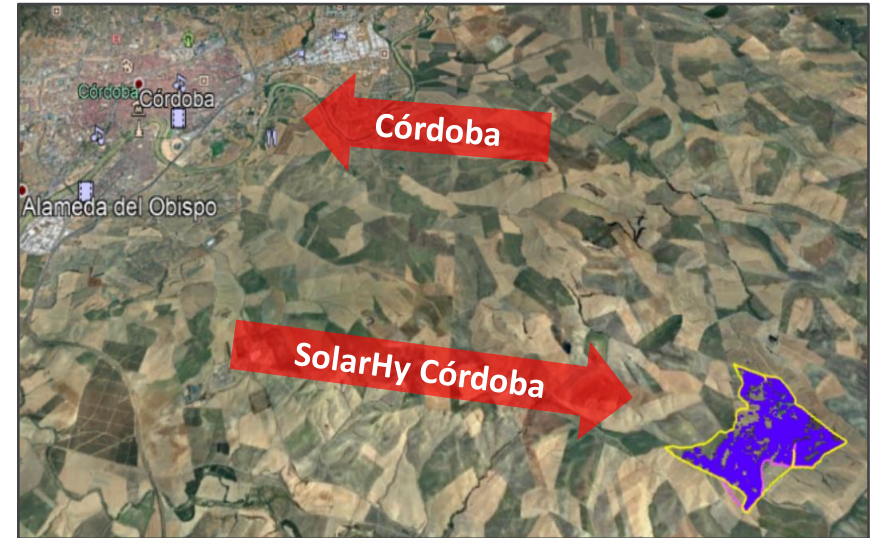
No grid connection: hydrogen is generated exclusively from solar power, no impact on the national grid



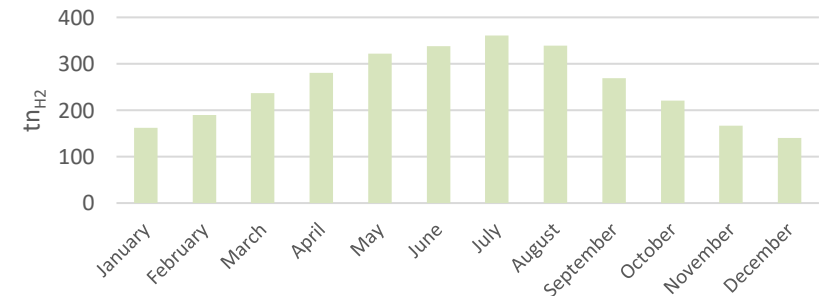
Hydrogen production: 3.000 t/year (phase I)

Electrolyser: Silyzer 300 (55 MW) from Siemens Energy

Products: 10% of hydrogen will be **compressed** and the other 90% will be converted into **e-methanol** by combining H₂ with CO₂

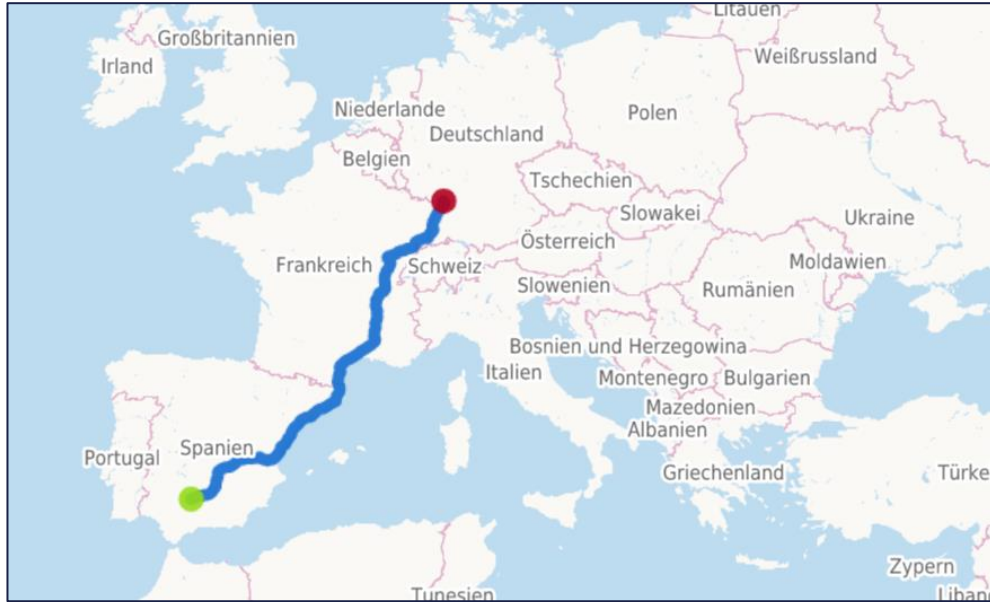


Layout of the 200MWp PV plant



Annual hydrogen production (100MW PV plant, 55MW electrolyzer).

Transport & Off-take

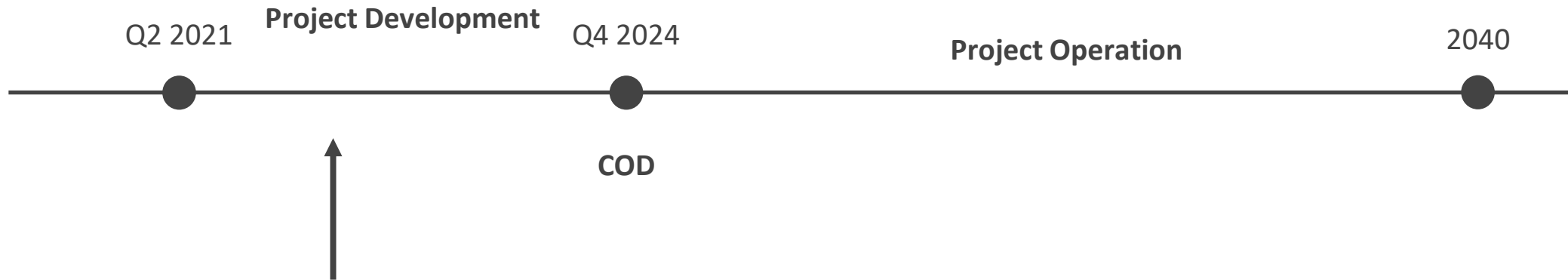


A large refinery in the South of Germany will be the offtaker

- Compressed hydrogen (gaseous) and e-methanol (liquid) will be transported from Córdoba to Karlsruhe (Germany) by **truck** and/or **cargo train**.
- The project will test new technology **H₂ Blue Sorbent** → would allow transporting up to 7 times more hydrogen with the same volume and pressure.
- **Strategic location** with a direct train connection and proximity to the existing Spanish gas transmission system and the future hydrogen transport infrastructure.
- The requirements for rail transport are currently being evaluated with **DB Cargo BTT**



Timeline & Financing



Financing

- Financing (debt and equity) will be structured and organised by Viridi and Green Enesys.
- Viridi has submitted a project sketch for an EU grant
- Final decision on selected projects is expected for early 2022.



Luminescent
Solar Power

DEVELOPMENT

ROAD MAP

Q1 2022

POC 15kW heat-engine

Q4 2022

Pilot 500kW full system

Q4 2023

Prototype- 1 mW commercial
pilot