



HPSA sCO₂ Power Systems

OEM Manufacturing

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Hanwha Today

TOP 7
 BUSINESS ENTERPRISE
 IN SOUTH KOREA

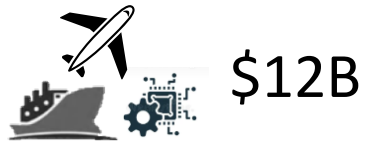
72
 YEARS OF HISTORY
 (FOUNDED IN 1952)

\$65^B
 TOTAL SALES

296
 FORTUNE
 Global



Business Portfolio



\$12B

Aerospace, Ocean & Mechatronics

- Hanwha Corporation
- Hanwha Aerospace
- Hanwha Systems
- Hanwha Defense
- Hanwha Vision
- Hanwha Precision Machinery
- Hanwha Solutions

+ Hanwha Ocean



\$27B

Energy & Materials

- Hanwha Power Systems**
- Hanwha Impact
- Hanwha Total Petrochemical
- Yeochun NCC
- Hanwha Energy
- Hanwha Engineering & Construction
- Hanwha City Development



\$24B

Finance

- Hanwha Life Insurance
- Hanwha General Insurance
- Hanwha Investment
& Securities
- Hanwha Asset Management
- Hanwha Saving Bank

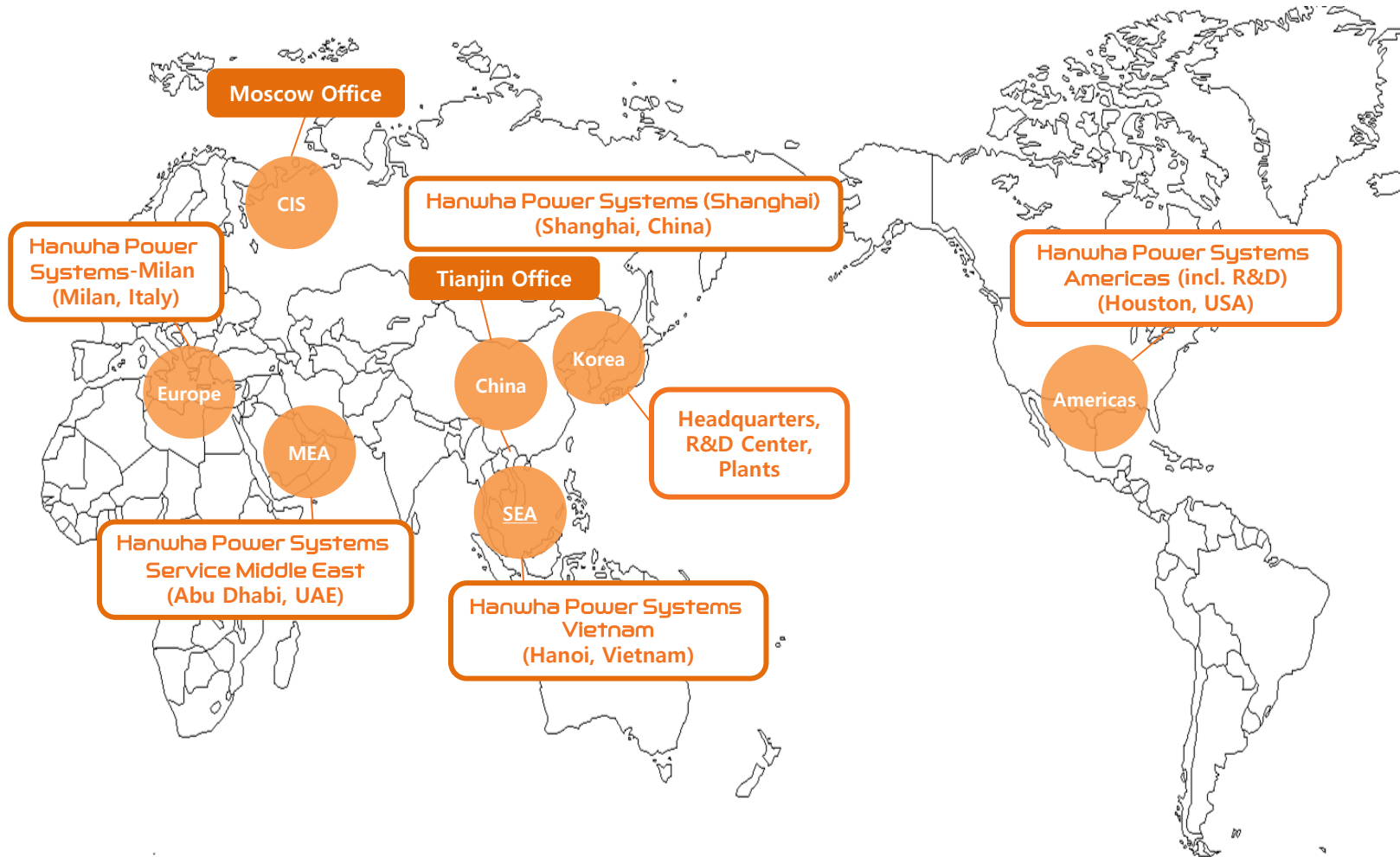


\$1B

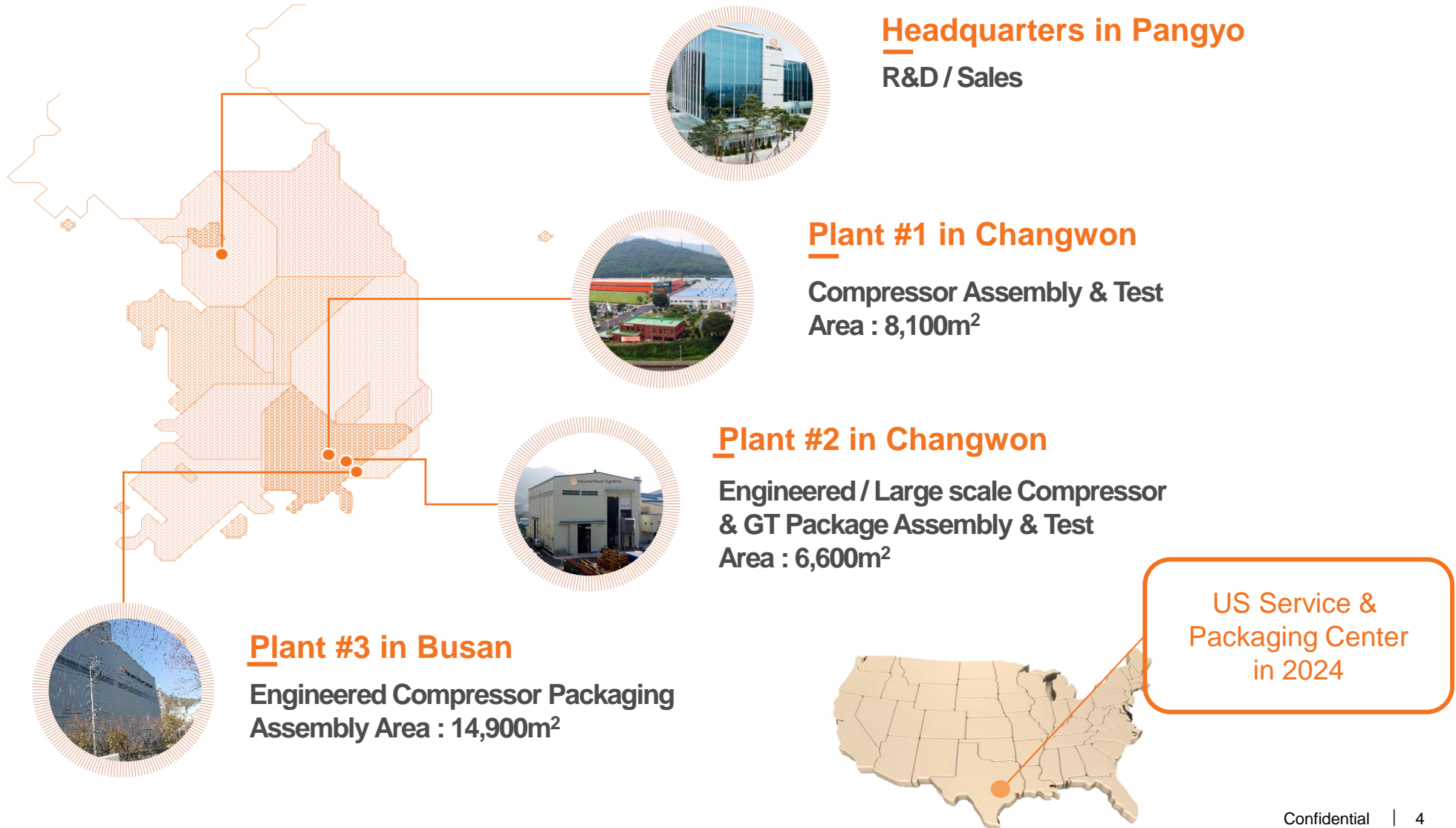
Retail & Services

- Hanwha Hotels & Resorts
- Hanwha Galleria
- Hanwha Galleria Timeworld
- Hanwha Estate
- Hanwha Station Development
- Hanwha Eagles

Hanwha Power Systems Global Network



● Hanwha Power Systems Plant Overview



Engineered Compressor & Power Generation Package Plant

- HPS have built and been operating the assembly and testing plant for the large size engineered compressors and gas turbine package solution businesses since 2010.



Production Capacity

85 units of compressors per year

Production Model

Compressor Packages

Gas Turbine Packages

Resource

Area : 6,600 m²

Crane : 2 x 50 ton (Crane Height : 21 m / Roof Height 31 m)

Grid Electricity : 22.9 KV, 20 MW for Motor Driver

Shop Driver : Motor for Test with 19 MVA inverter

Gas Line : 12,000 m³/h with Booster Comp.

Cooling Tower : 10,000 RT

Computerized Data Acquisition System and HMI

Test Capacity

To run LM2500 (32 MW) load test (w/ Load Bank)

Compressor Test to Inverter Capacity (19 MVA)

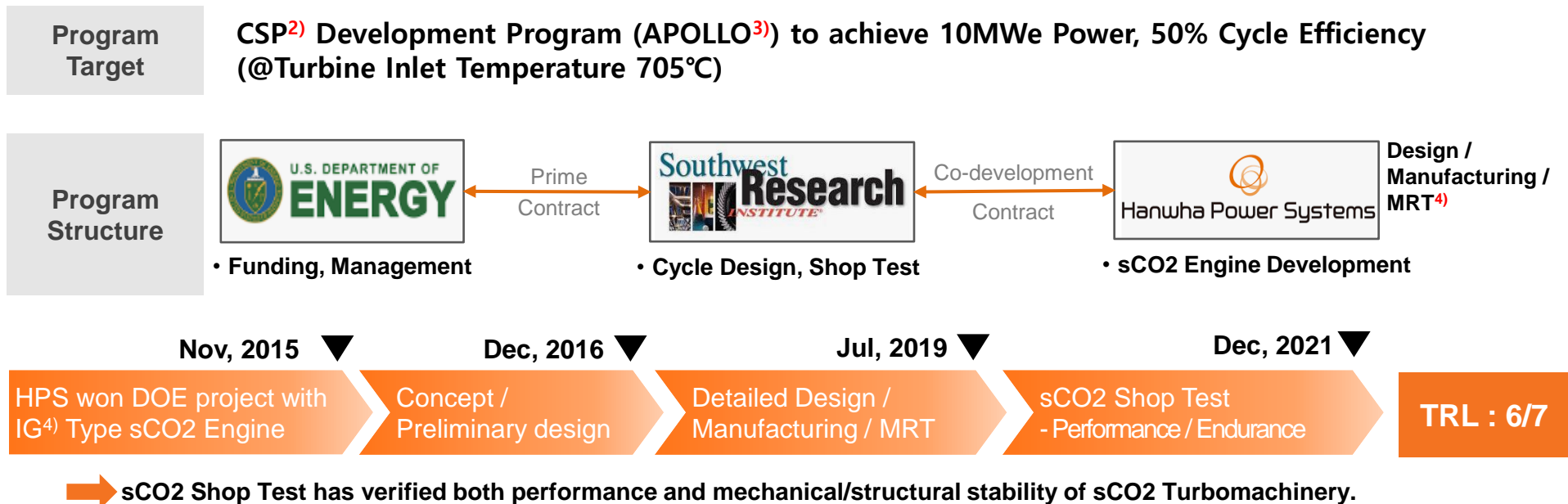
Closed Loop Testing with mixed gas

Engineered Compressors & Power Generation Package Plant

- Large scale packages can be shipped easily through a wide industrial road toward Masan Port or a barge port nearby.



HPS has successfully developed sCO2 Power System through US DOE¹⁾ program



HPS executed a contract with Heliogen for the world first 5MW sCO2 Dec 2021

- Based on the successful outcome of DOE sCO2 project, Heliogen released PO for supply of sCO2 Power Block.



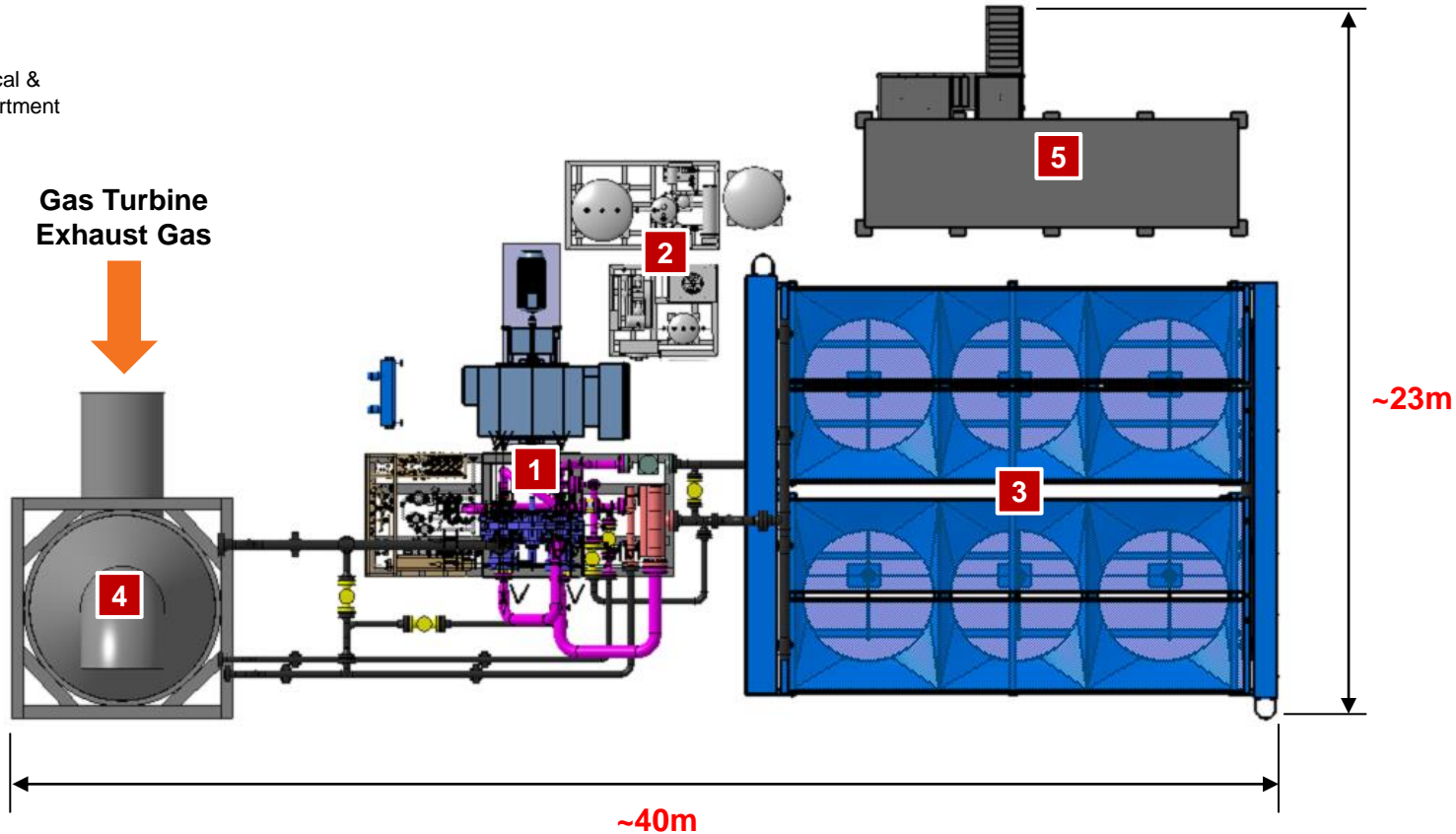
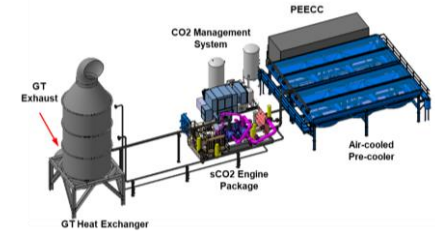
4. sCO2 Power System WHR Application

Hanwha sCO2 Power System Construction

- sCO2 WHR Power System consists of **five modules** and the **interconnecting piping and valves**.

- 1** sCO2 Engine Package
- 2** CO2 Management System
- 3** Air-cooled Pre-cooler
- 4** GT Heat Exchanger
- 5** PEECC*

※ Packaged **E**lectrical &
Electronic **C**ompartment
Container



< 5MWe class sCO2 WHR Power System Layout >

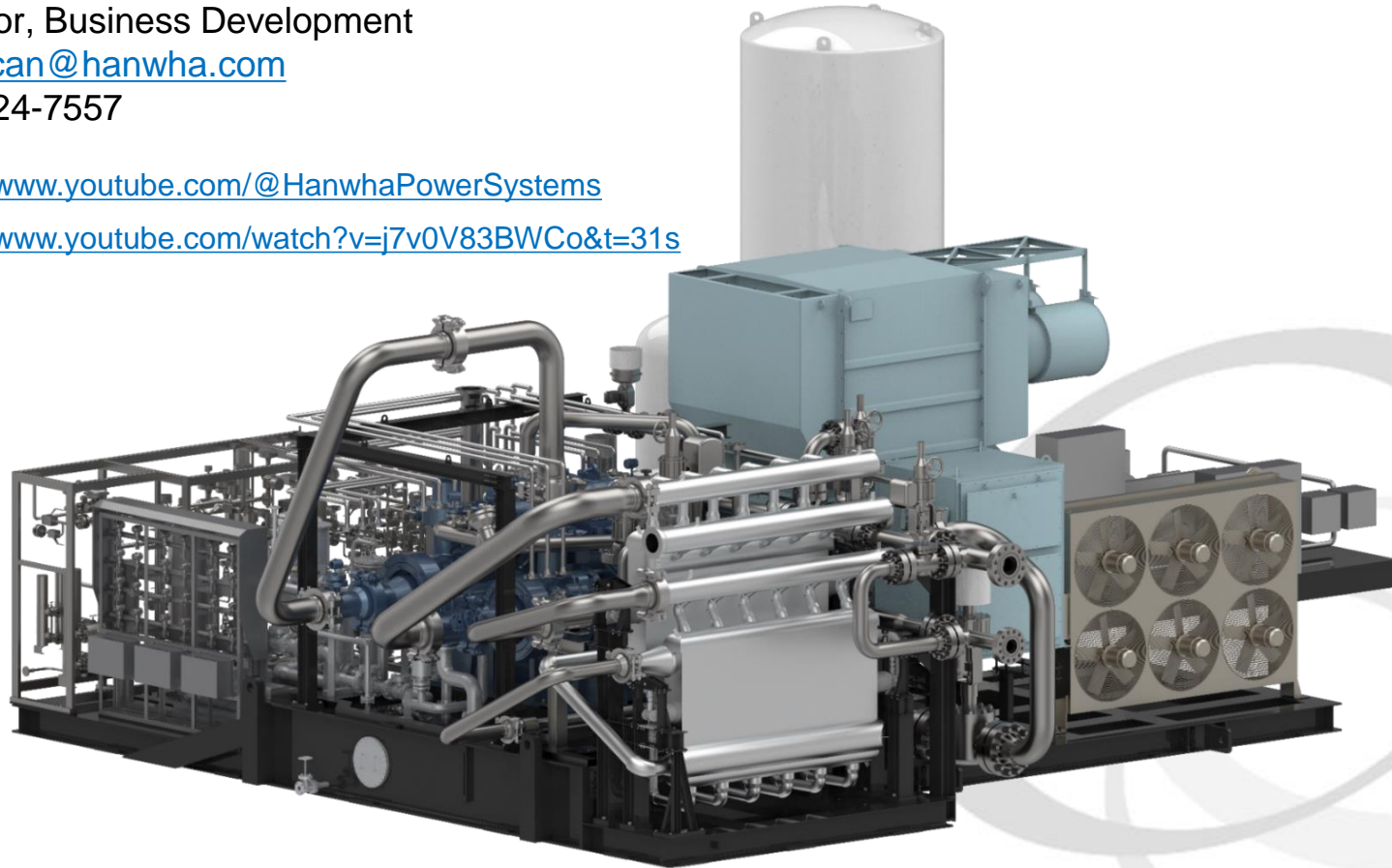
Discussion – Q & A



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<https://www.youtube.com/@HanwhaPowerSystems>

<https://www.youtube.com/watch?v=j7v0V83BWCo&t=31s>



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