



DIGITAL ICCI – 2020

DOOSAN – ISTANBUL WTE PROJESİ SUNUMU



PROFILE OF DOOSAN HEAVY INDUSTRIES AND CONSTRUCTION

In 1896, founding Chairman Seung-Jik Park opened Korea's first modern store, the original entity of Doosan Doosan further expanded its business to construction, food and beverages, machinery, media, cultural services and more in the 1960s.

Established in 1962 , Doosan Heavy Industries & Construction has evolved into a global power and water company with almost 60 years' experience.

Vision

Global Leader in Power & Water

- Provides power and water for the better lives of people
- Power & Water: Representing the main businesses

History

Doosan Heavy Industries & Construction was established in 1962

- Establishment Period (1962 ~ 1979): Erected national power industries
- State Ownership Period (1980 ~ 2000): Technical development and Growth
- After Privatization (2001 ~ present): Going global

General Information

Employees

- 14,108 (6,076 Koreans, 8,032 global staff)

Head Office

- Changwon, South Korea

Power

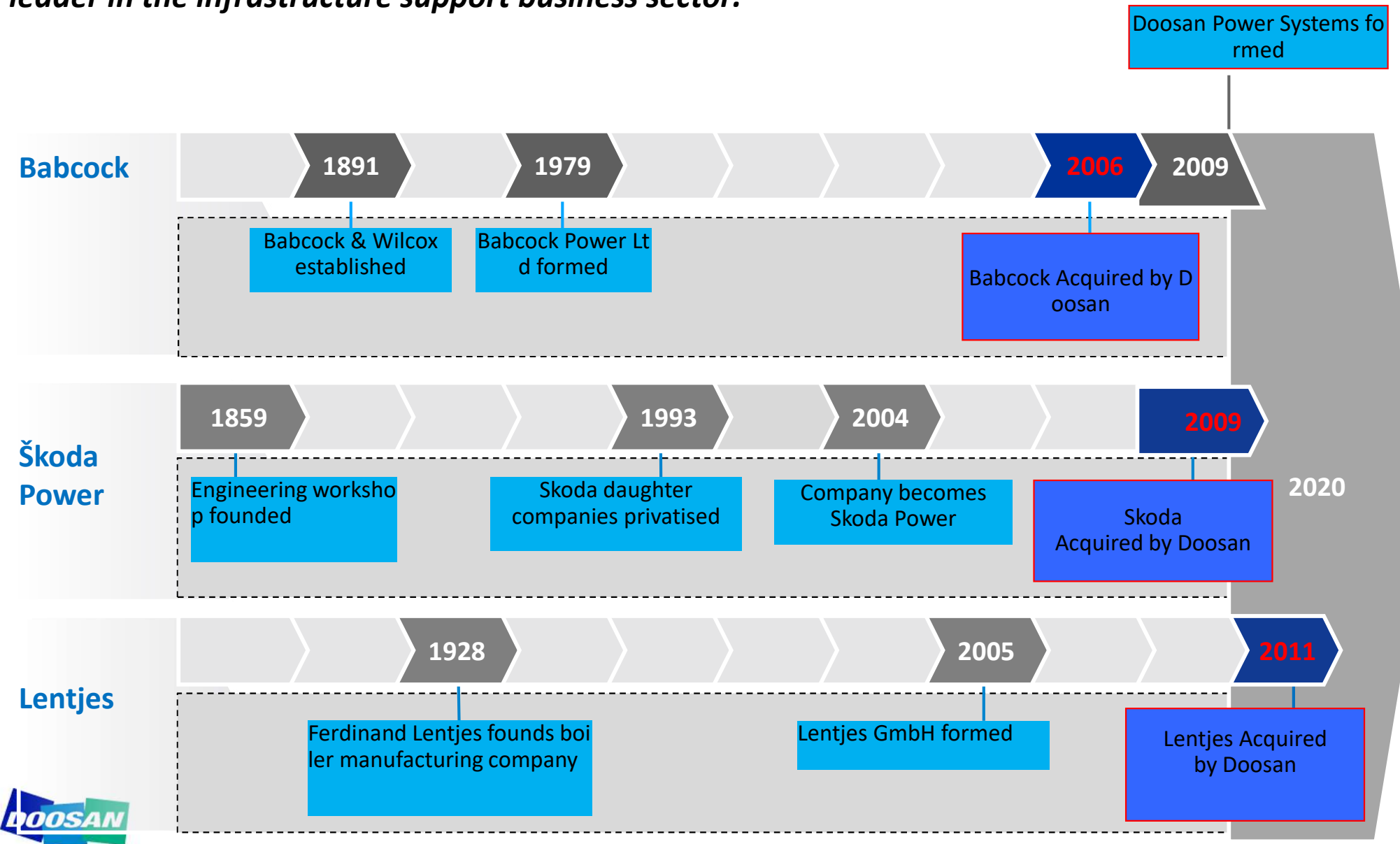


Water



OEM TECHNOLOGY BASED HERITAGE

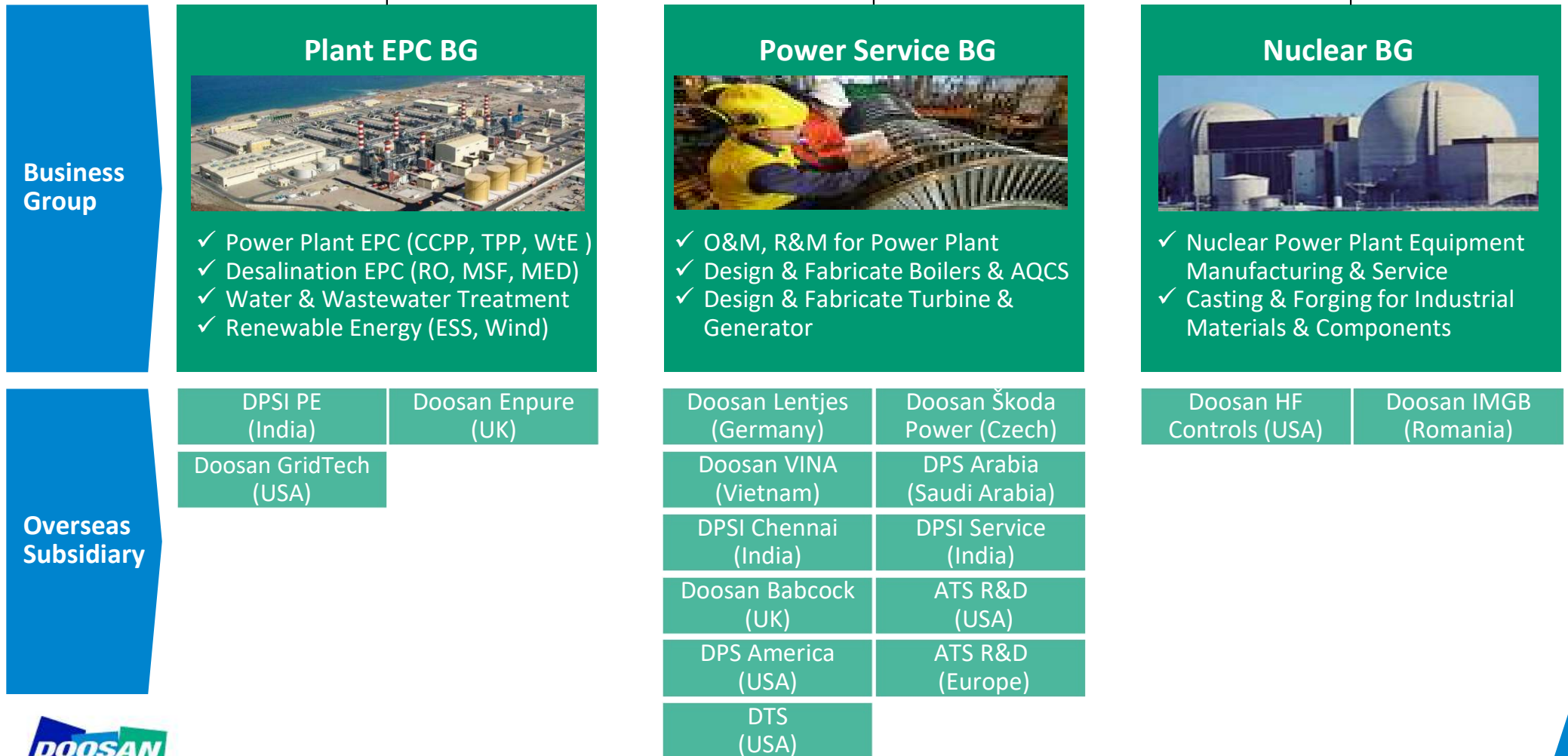
Doosan has carried out a series of M&A deals to successfully transform itself into a global leader in the infrastructure support business sector.



BUSINESS OVERVIEW

There are 3 business groups under Doosan Heavy Industries & Construction. Plant EPC, Power Service and Nuclear business groups are leading power and water business.

Doosan Heavy Industries & Construction



UNIQUE INTEGRATED OFFERING ACROSS FULL VALUE CHAIN



Notes:

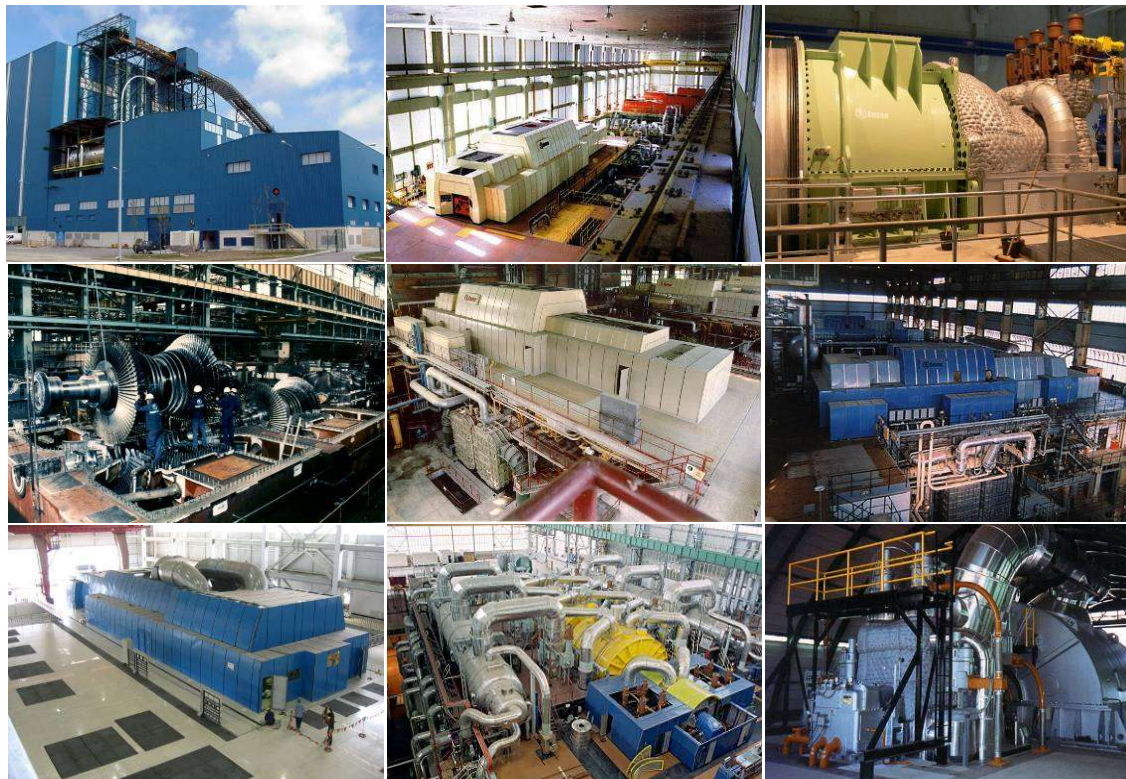
1. NSSS: Nuclear Steam Supply System

DOOSAN ŠKODA POWER

Steam turbine
&
Generator



Complete
machine hall



*New build
turbines
+
Modernization,
services*

Fossil fuel

Cogeneration

Combined cycle

Nuclear

Waste incineration

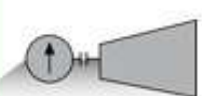
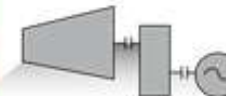
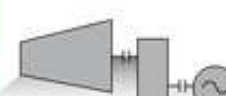
Biomass

Solar

STEAM TURBINE: DST FAMILY

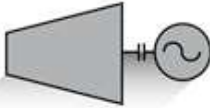
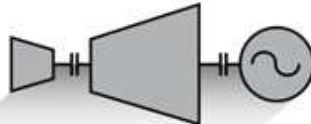
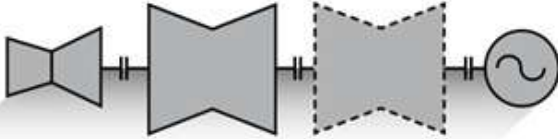
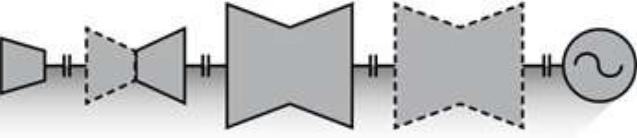
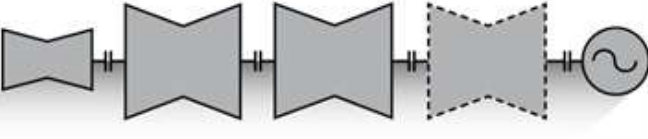
1. Industrial steam turbines (DST-V, DST-G)

- High efficiency
- High reliability
- Easy operation & maintenance
- Short installation
- Compact and robust solution

Industrial ST	Application	Speed (RPM)	Model category	Model series	Configuration & Type		Original name according to Škoda MTD
	Mechanical driver	Variable speed	DST-V				
	Industrial	> 6,500	DST-G	DST-G10		Single casing with gearbox	MTD10 plus MTD20
		from 4,000 to 6,500		DST-G20		Single casing with gearbox	MTD25 plus MTD30

STEAM TURBINE: DST FAMILY

2. Steam turbines Power Generation (DST-S, DST-N)

Power Generation ST	Application	Speed (RPM)	Model category	Model name	Configuration & Type		Original name according to Škoda MTD
	Utility (Excl. Nuclear)	3000/3600	DST-S	DST-S10		Single casing Single-flow	MTD40
				DST-S10		Double casing Single-flow	MTD50
				DST-S20		HIP combined + double flow LP(s)	MTD60
				DST-S30		HP + IP + double flow LP(s)	MTD70
Nuclear	1500/1800 3000/3600	DST-N	DST-N		Full/Half speed	MTD80	

DOOSAN SKODA STEAM TURBINES FOR MUNICIPAL WASTE



- Designed to meet the challenge of variable heating rates from the waste incineration process.
- Today's incineration plants are built to handle large quantities of waste – 3.000 t/d waste
- Tailored to the specific steam parameters of the incineration technology in operation.

ISTANBUL WTE PLANT

Istanbul Metropolitan Municipality WtE Project – 85MW STG

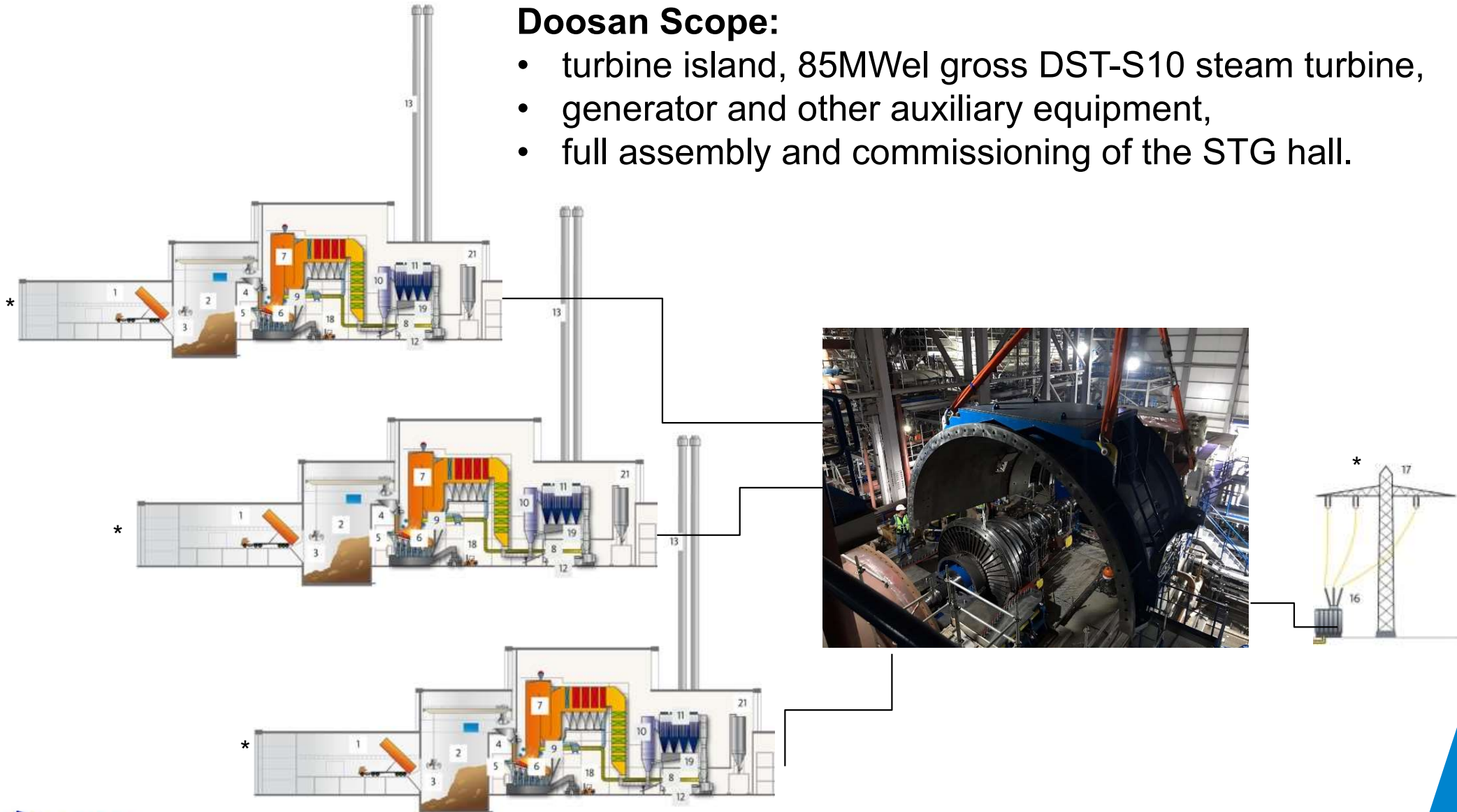
- Hitachi Zosen Inova & Makyol Consortium is the EPC.
- Europe's largest energy-from-waste plant for municipal solid waste is to be built in Istanbul.
- The planned COD date is end of 2020.



CONFIGURATION

Doosan Scope:

- turbine island, 85MWel gross DST-S10 steam turbine,
- generator and other auxiliary equipment,
- full assembly and commissioning of the STG hall.



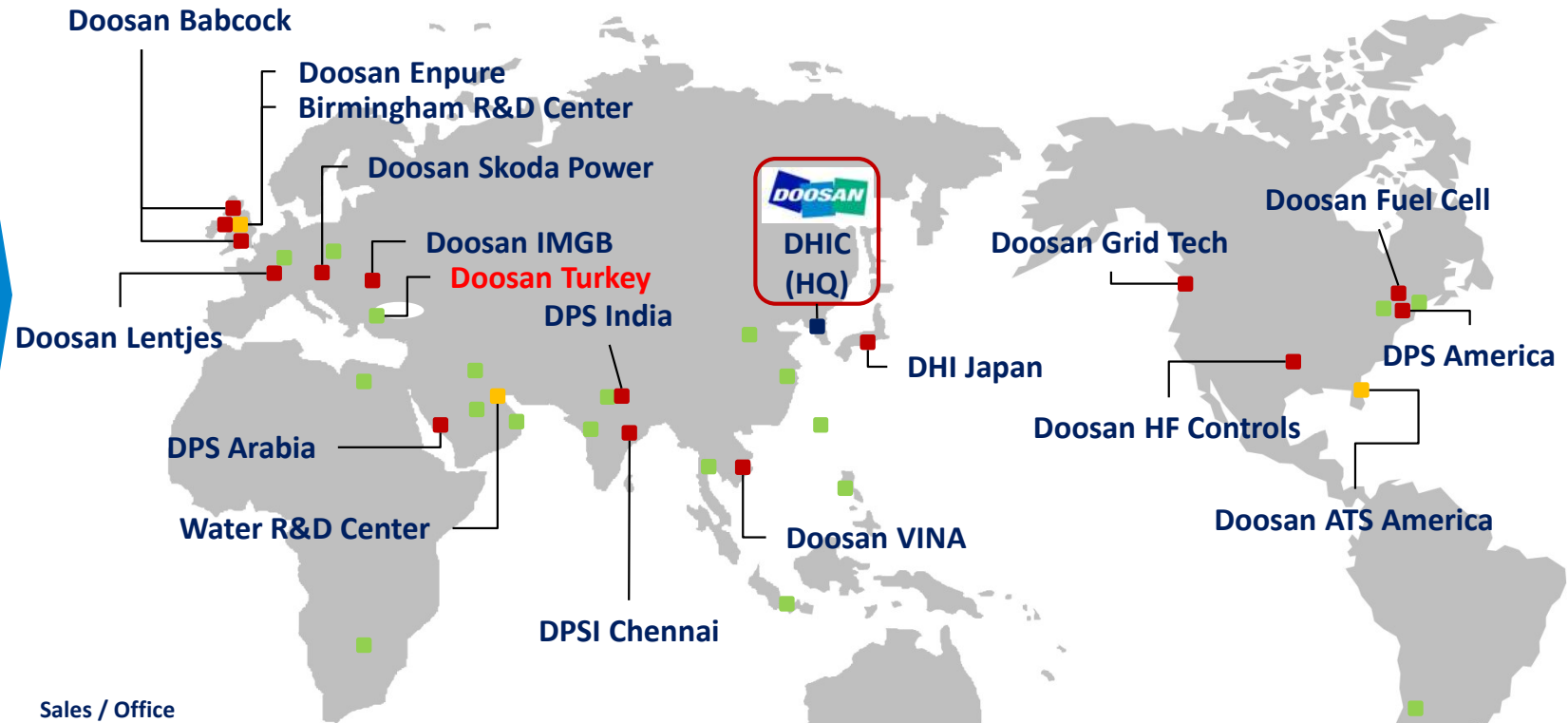
SUPPORTING GLOBAL NETWORK

Doosan has strategically established global networks of marketing, engineering, manufacturing and service with strategic investments to be a global leader in power and water

16 Overseas Subsidiaries

5 R&D Centers

23 Overseas Branches



- Sales / Office
- R&D Center
- Subsidiary

Sales / Office

- East Asia : China(Shanghai / Beijing), India(New Delhi / Mumbai), Japan
- SE Asia : Indonesia, Vietnam, Philippines, Taiwan, Thailand
- N/S America : USA(Pittsburgh / Newington), Chile
- Middle East : Saudi Arabia, UAE(Dubai / Abu Dhabi), Kuwait
- Europe : UK, Germany, Poland, Czech, Turkey
- Africa : South Africa, Egypt



MANUFACTURING CAPABILITY

Changwon Plant, Korea

Manufacturing Capacity

Boiler	8.1 GW/Yr
Steam Turbine	9.3 GW/Yr
Generator	9.0 GW/Yr
NSSS	3.5 GW/Yr



VINA Plant, Vietnam



Chennai Plant, India



Plzen Plant, Czech

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