

Japan – Bulgaria Business Forum 2025

Toshiba's Footprint and Achievement in Bulgaria

Toshiba Energy Systems and Solutions Corporation

25th of June 2025

TOSHIBA

Agenda

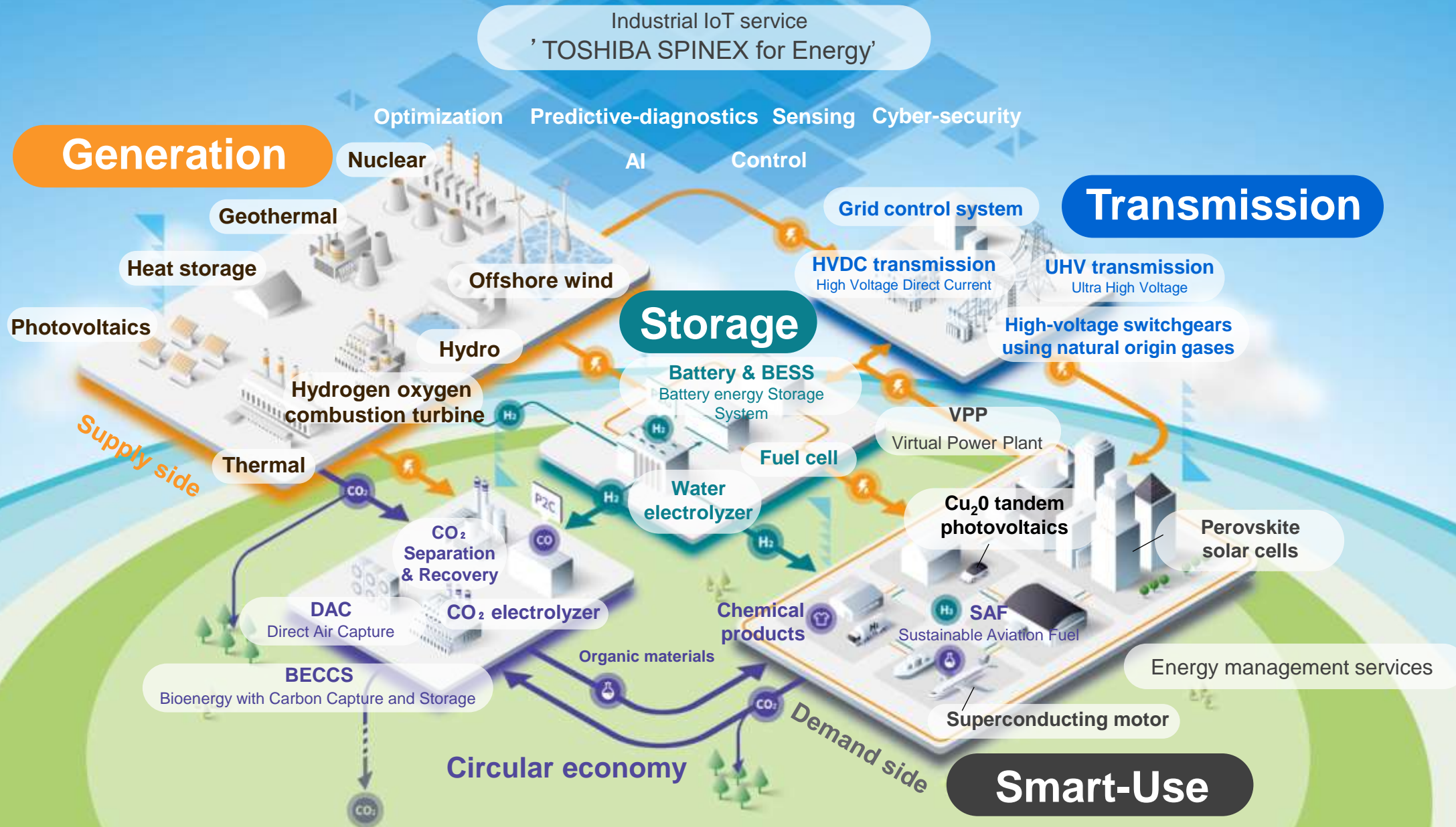
- 01 Business Domain
- 02 Toshiba's Footprint in Bulgaria
- 03 Experience in Bulgaria

Toward the realization of sustainable society



Overview of our contributions to carbon-neutral society

Confidential



Toshiba's References in Balkans

Visegrad HPP

Bosnia and Herzegovina

3 x 111 MW Hydro Turbines & Generators (1989)

Bajina Basta PSHPP

Serbia

2 x 315 MW Pump Turbines & Generator Motors (1982)
1st Rehabilitation project (2004)
2nd Rehabilitation project (ongoing)

Srpska Distribution Network

Bosnia and Herzegovina

Rehabilitation of the distribution network and expansion of the existing AMM system (2022)

Montenegro - Italy HVDC

Montenegro

1000W ± 500kV Interconnector between Italy and Montenegro, Terna (2019)

Paroseni TPP

Romania

Rehabilitation of 1 x 176,7 MVA Turbine Generator, DCS Control Systems (2007)

Brazi Vest Substation

Romania

420kV Gas-Insulated Switchgear (2006)

Maritsa East 2 TPP

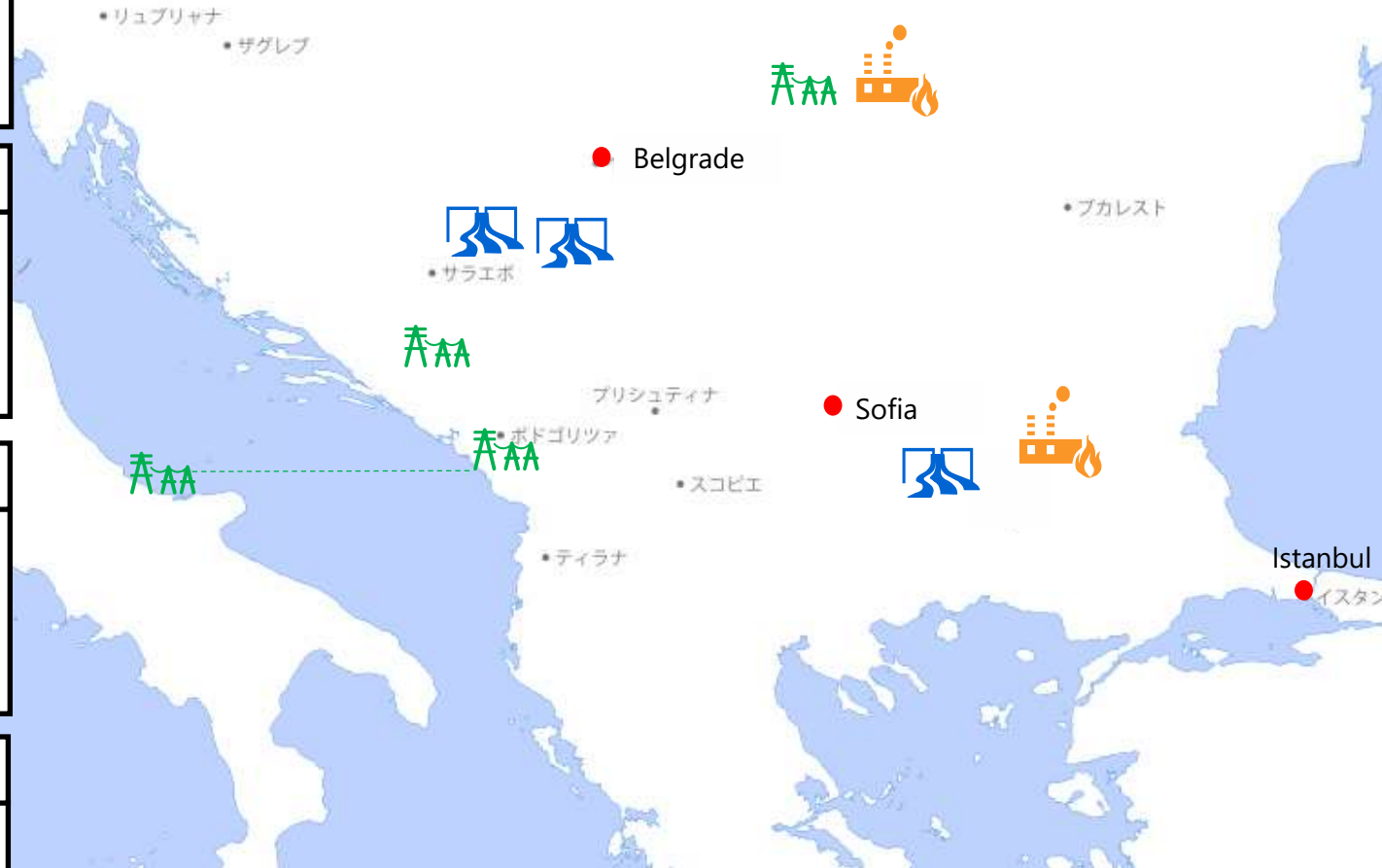
Bulgaria

Rehabilitation/Replacement of
3 x 177 MW Steam Turbines
4 x 180 MVA Turbine Generators
4 x 225 MW Steam Turbines
(2007-2014)

Chaira PSHPP

Bulgaria

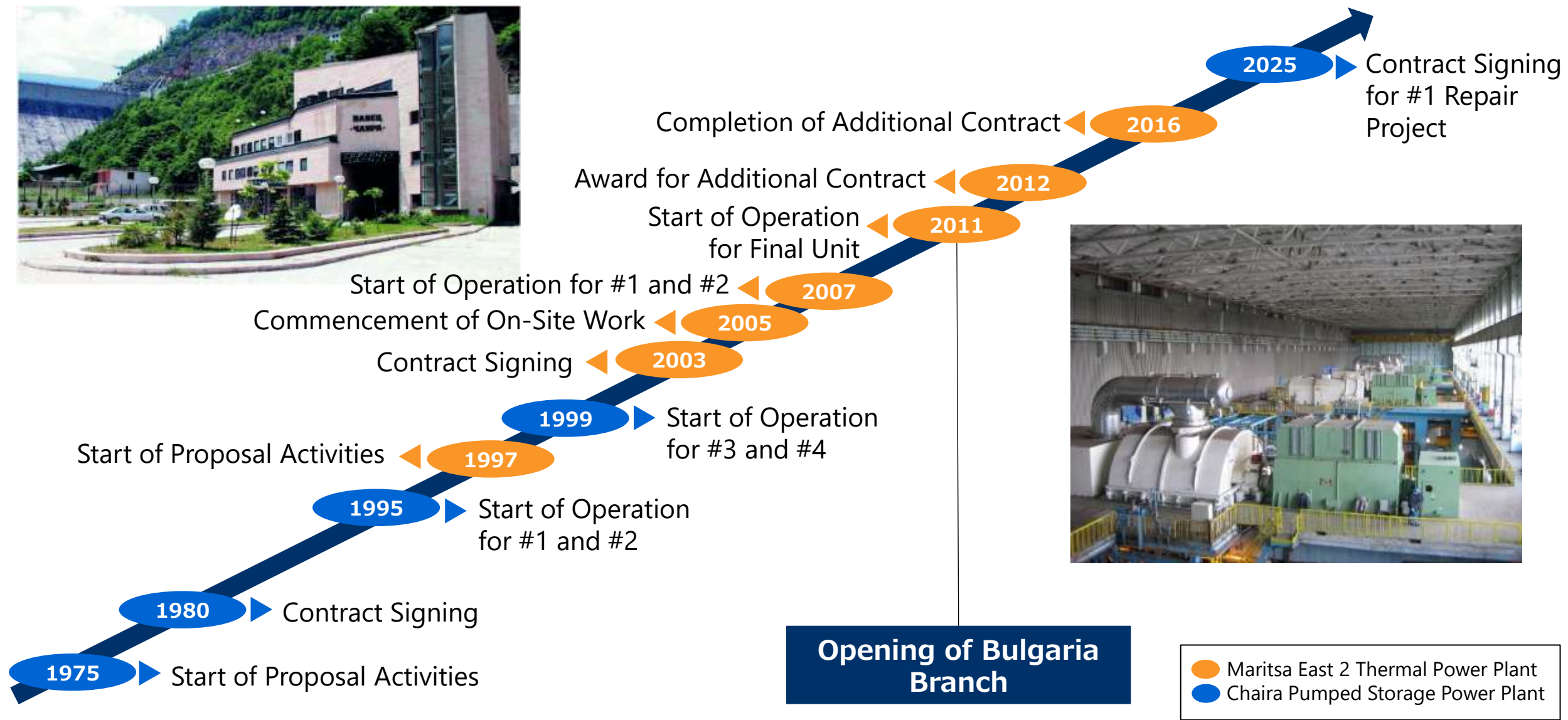
4 x 216 MW Pump Turbines & Generator Motors (1993-1999)



● Branch
(Source: GSI Japan)

Our footprint in Bulgaria

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Chaira Pumped Storage Power Plant Construction Project

Project Overview

- NATIONAL ELECTRIC COMPANY
- Output : 4 x 216MW
- Maximum head : 701m
(World's highest head at that time)
- Contracted in 1980
- COD : 1# 1994 / #2 1995 / #3 1999 / #4 1999

Key Highlights

- First pump-turbine applying real-head model tests to solve runner vibration issues
- Technical transfer & local manufacturing for pumped turbine and generator
- Due to political & economical circumstances, the construction schedule experienced significant delays and spanned nearly 20 years.



Maritsa East 2 Thermal Power Plant Modernization Project

Project Overview

- Maritsa East 2 TPP EAD
- Output : 4 x 177MW、4×225MW
- A modernization project for the Balkans' largest TPP built in the 1960s–80s (Non-Toshiba machine)
- Contracted in 2003
- Collaboration with Mitsui and IHI with JBIC finance
- Project Period : 2003 - 2016

Key Highlights

- After COD, Toshiba has been providing the technical supports to ME2 under framework agreement.
- Struggled to understand Bulgarian legal framework and required documentations to obtain the permits
 - Required extensive discussions with ME2, beyond initial expectations



Chaira Pumped Storage Power Plant Unit-1 Repair Project

Key Highlights

- Contracted in Jan 2025
(The prime contractor is Bulgaria Branch.)
- MOU between MoE and METI in Sep 2024
 - A successful case realized through public-private collaboration
- Technical collaboration with NEK and MoE
- This repair work is significantly complex and requires exceptional engineering capabilities.
 - Strong Bulgarian expectations for Japanese technology and quality



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