



**RELIABLE DATA CENTER PARTNER**





**SAR has been providing technical facility maintenance services for over 20 years.**

**In 2018, SAR joined the ENGIE group.**





# ENGIE SAR – A RELIABLE DATA CENTER PARTNER

- Technical maintenance services guaranteeing uninterrupted functionality of all technical infrastructure, as per SLA
- Implementation of innovative and energy-efficient cooling and power systems
- PUE optimization
- Audits and technical appraisals based on Uptime and EPI standards,
- Possibility of co-financing for investments and reducing customer's CAPEX costs



Project development



Financing



Engineering & construction



Operations & maintenance



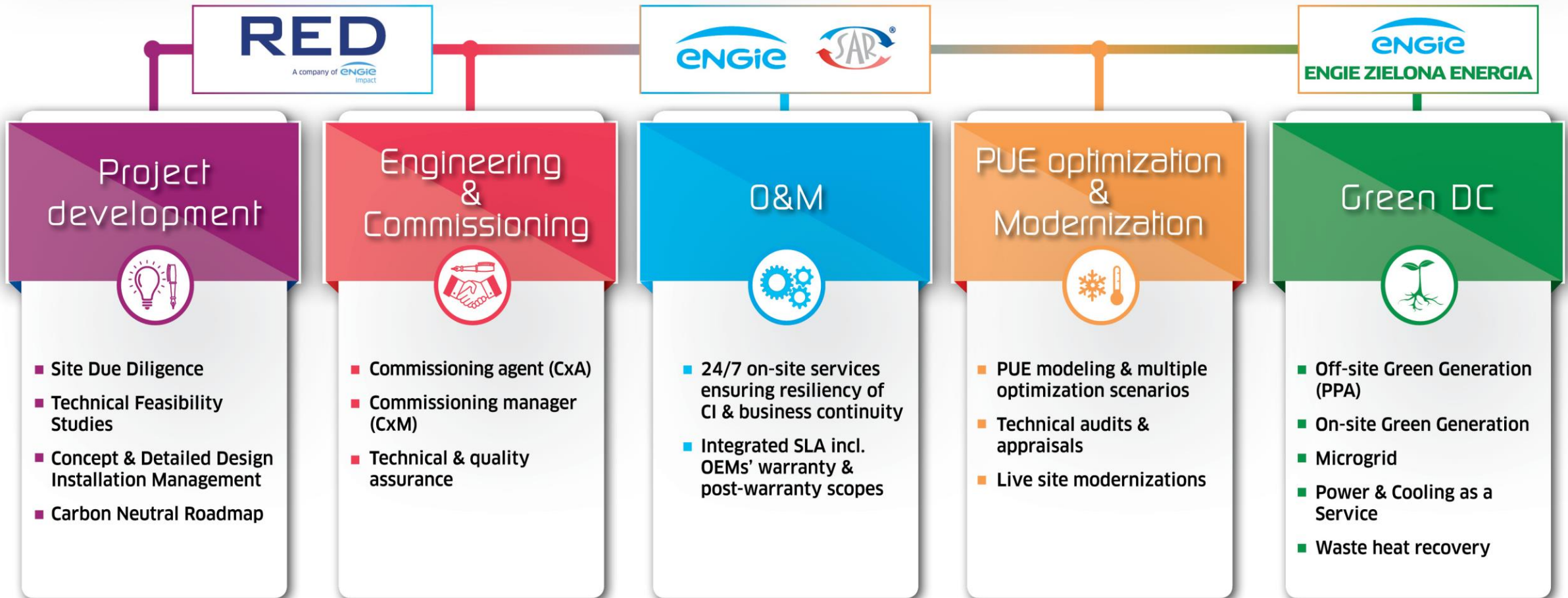
Energy Supply



Refitting



# Data Center life-cycle services of ENGIE





# INTERNATIONAL POTENTIAL OF ENGIE GROUP IN THE AREA OF DATA CENTER



Security



Functional Safety



Performance



People competences



Energy efficiency



Data Center Community of Practice



Red Engineering

**500 MW**

designed and built in 2019

**1 200 employees**

dedicated to Data Center facilities

**15**

Certification of Data Center sites by the Uptime Institute®

**14**

Experts with Uptime Institute® Accredited Designer certificates







# **SERVICE & MAINTENANCE**



# SERVICE & MAINTENANCE NUMBERS

ENGIE SAR is a professional service maintenance company specializing in the implementation of highly advanced services, ensuring the highest service standards in over 300 facilities with a total cubic capacity exceeding **2,000,000 m<sup>3</sup>**. The scope of ENGIE SAR maintenance services includes technical systems and installations in **banking facilities, state administration, data centers, hospital facilities, offices, production plants and shopping centers.**



NO. OF FACILITIES UNDER ENGIE SAR MAINTENANCE

> 300

ENGINEERS

> 30

SITE TECHNICIANS (DC AREA)

> 120  
(>60)

MOBILE INTERVENTION TECHNICIANS

19

EMPLOYEES WITH F-GAS PERSONAL CERTIFICATES

> 30

SERVICE CERTIFICATES AUTHORIZED BY ORIGINAL EQUIPMENT MANUFACTURERS (OEMs)

> 300

ENGINEERS WITH UNLIMITED CONSTRUCTION LICENSE TO SUPERVISE CONSTRUCTION WORKS

> 10

# SERVICE & MAINTENANCE NUMBERS

## HOSPITAL AREA

No. of serviced medical facilities

> 30

Total area of serviced facilities

> 300,000 m<sup>2</sup>

No. of operating rooms in serviced facilities

> 100

No. of patient beds

> 5,000

Total cooling capacity of water chillers

> 8 MW

## DATA CENTER AREA

No. of Data Centers/server rooms

> 70

Total cooling capacity of chillers working for DC facilities:

> 17MW

No. of water/glycol precision air-conditioning units:

> 275

Total power of precision air-conditioning units supplied with water/glycol:

>19 MW

No. of DX precision air-conditioning units

> 300

Total power of DX precision air-conditioning units:

> 13MW

No. of UPS units and generator sets in DCs:

> 150/>40

## COMFORT AREA

Total area of serviced facilities

> 550,000 m<sup>2</sup>

Total cooling capacity of chilled water units

> 18 MW

No. of VRF systems

> 250

No. of VRF indoor units

> 4,500

No. of air handling units

> 500





# **INSTALLATIONS AND INVESTMENTS**





## COMPREHENSIVE (D)-B-O-M PROJECTS AND TECHNICAL CONSULTANCY

- Construction of new systems, modernization, upgrades or repairs of existing systems (SLA-governed service)
- Start-ups and commissioning of HVAC&R, automatic control and electrical power systems
- Vetting third-party projects and installation designs / drawings
- Technical advisory services

## ENGIE SAR SPECIALIZES IN MOST DEMANDING HVAC&R PROJECTS, INCL.:

- Energy saving water chiller systems (incl. freecooling) with PUE optimization
- Complex DX systems
- High-efficiency ventilation systems
- SLA-governed HPAC systems for data centers, server rooms for new and continuously operating facilities
- HPAC systems for operating rooms and clean rooms
- Total comfort AC systems, incl. a unique underfloor air distribution Flexible Space System (FSS) dedicated to open space areas
- Modernization of water chillers with application of a natural cooling agent (Propane R 290) (first such modernization in Poland)

