ASE GROUP

TOGETHER WE CREATE TECHNOLOGY OF THE FUTURE

ASE ATEX ASE GROUP
BPR ASE GROUP
CAMINO PROJECT ASE GROUP
EKO-KONSULT ASE GROUP
PROJMORS ASE GROUP
SQUADRON ASE GROUP

30 years
market activity

16 innovative companies under one roof

400 specialized engineers

7 branches in the world

70 mln EUR
estimated annual turnover

Group mission

Our mission is **to provide safe technologies and solutions** for industry and economic infrastructure. Our many years of experience in the **OIL&GAS industry** provide a solid foundation for implementing this mission.

We operate in all important areas of energy transformation:

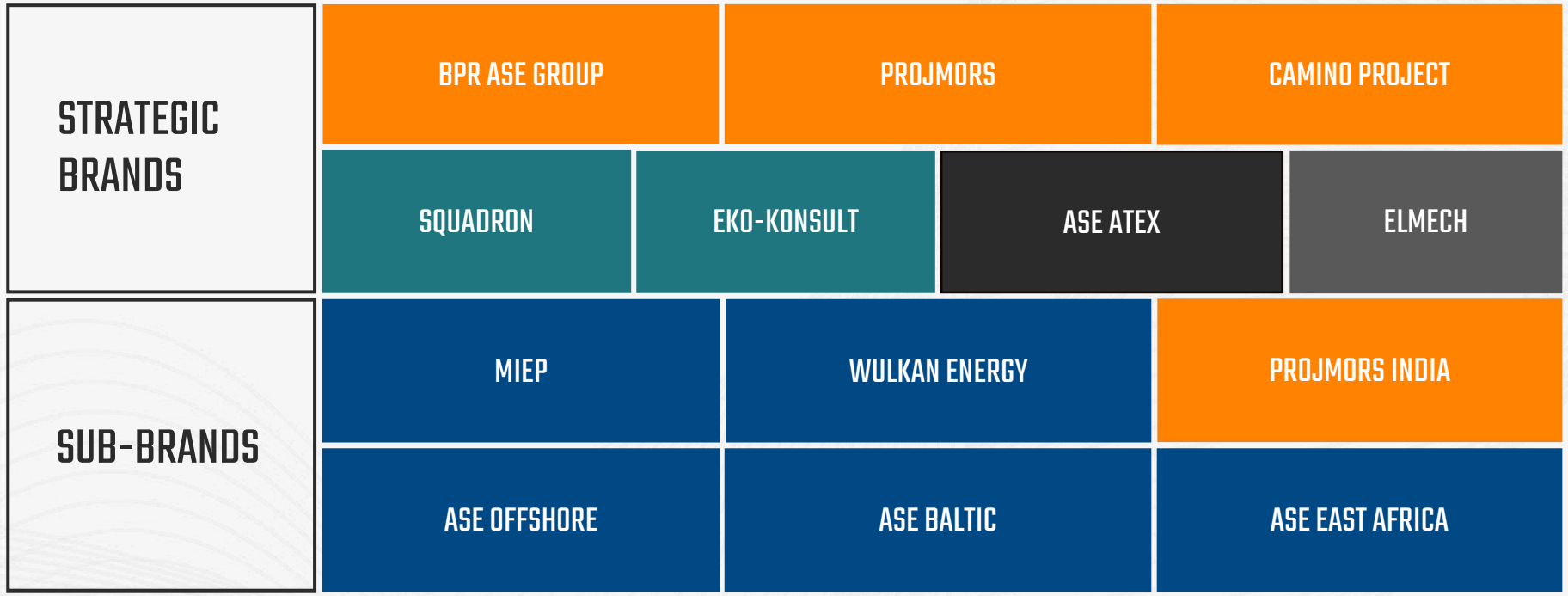
- Offshore wind farms
- Reducing emissions of heating
- Hydrogen
- Electrification of ports and adaptation to the electricity grid of the energy transformation
- Storage of electrical and thermal energy
- Nuclear energy technologies
- Modernization of the polish chemical, petrochemical and fuel industry

ISO 9001 CERTIFIED — QUALITY ASSURANCE MANAGEMENT SYSTEM

ISO 14001 CERTIFIED — ENVIRONMENTAL MANAGEMENT SYSTEM

ISO 45001 CERTIFIED — OCCUPATIONAL HEATH AND SAFETY

Functional structure



400 engineers

- Engineering / EPC
- Consulting & training
- Service outsourcing
- Producer
- Engineering integrator

Together we create technologies of the future

16 innovative companies under one roof

Zero emission fuels

Offshore wind energy

District heating

Energy consulting

Nuclear energy technology

Safety of industrial installations

Hydrogen technologies

Energy storage

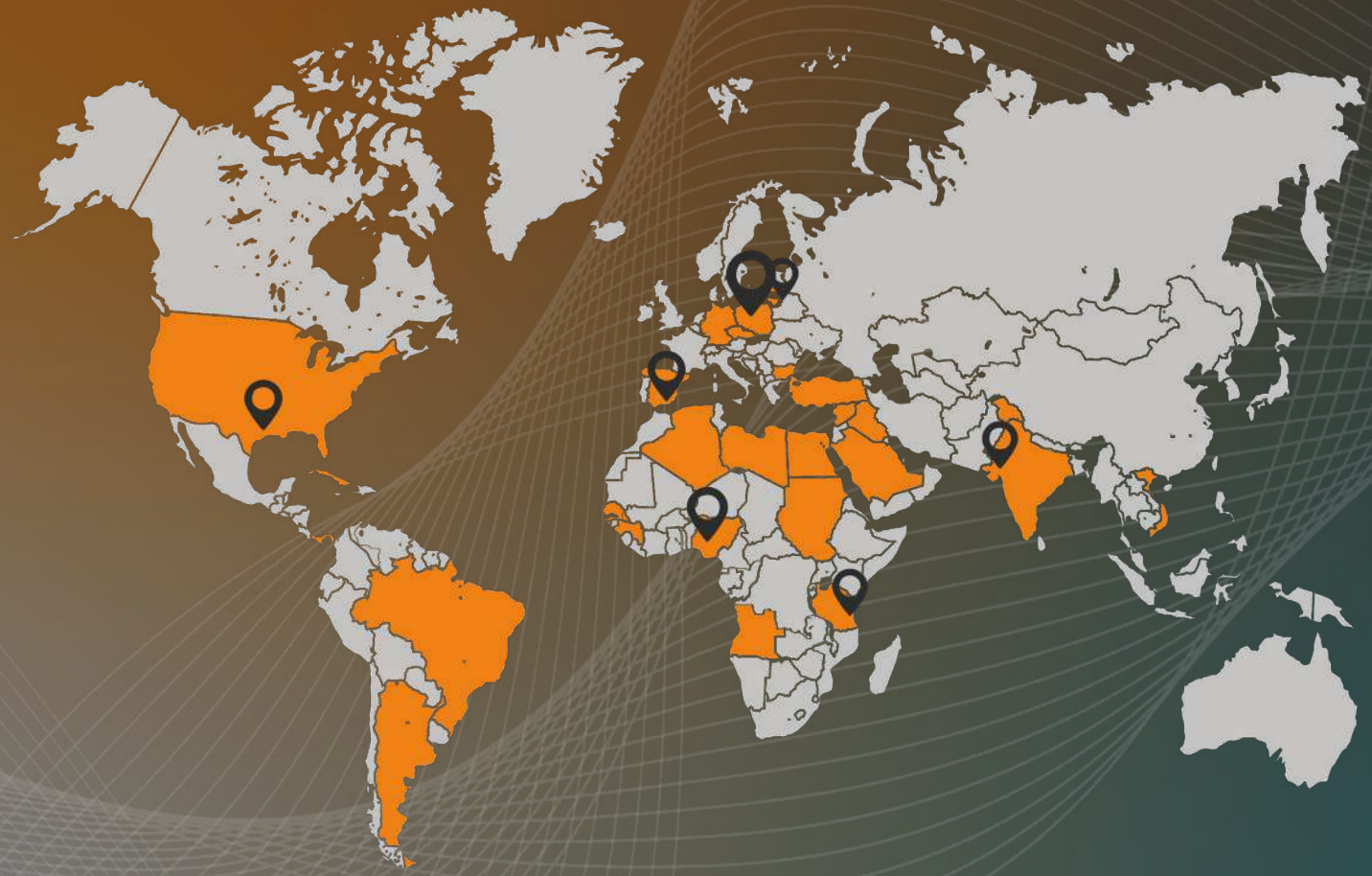
ASE GROUP Competencies

Comprehensive implementation of investment processes – ASE GROUP ensures compliance with standards, cost optimization and the highest safety standards.

30 years of activity in the market industry

- Concepts and permission to publish
- Executive designs
- Environmental impact assessments
- Fire and Ex consultancy
- Investor supervision
- Production (energy storage)
- Supply and construction
- Installation and service warranty

Our locations



POLAND

ASE GROUP Sp z o.o.
Narwicka 6, 80-557
Gdańsk

LITHUANIA

UAB „Automatikos sistemų inžinerija“
J. Basanavičiaus 26-15,
LT-89217, Mažeikiai, Lietuva

SPAIN

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Seville, Andalusia 41020

INDIA

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Opp. Kashav baug,

Mansi Circle Road, Vastrapur,
Ahmedabad 380015,
+918905998918

NIGERIA

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Uwadiae Street, Off Etete,
G.R.A Benin City
+234 703 616 6631

TANZANIA

Dar Es Salam, P.Box 63065
+255 789 033 298


BPR
ASE GROUP

BPR ASE GROUP

Engineering and implementation of investment projects

We support our clients at every stage of the investment process: from technology selection through feasibility study, program and spatial concept, budgeting, construction designs, executive designs, completion of deliveries, construction and assembly works, start-ups and final acceptance of the investment.

OVER
50 years
experience and continuous operation

OVER 5 000
cross-industry projects

EPC projects
experience in turnkey projects

Investment supervision
with comprehensive support for foreign investors

Energy Design Stages

From concept to final acceptance – we design, build and implement modern technologies, providing full support at every stage of the investment.

5 000 multi-discipline installation projects


Executive designs


Administrative permits


Program concepts - spatial


Feasibility study


Selection and integration of technologies


Procurement

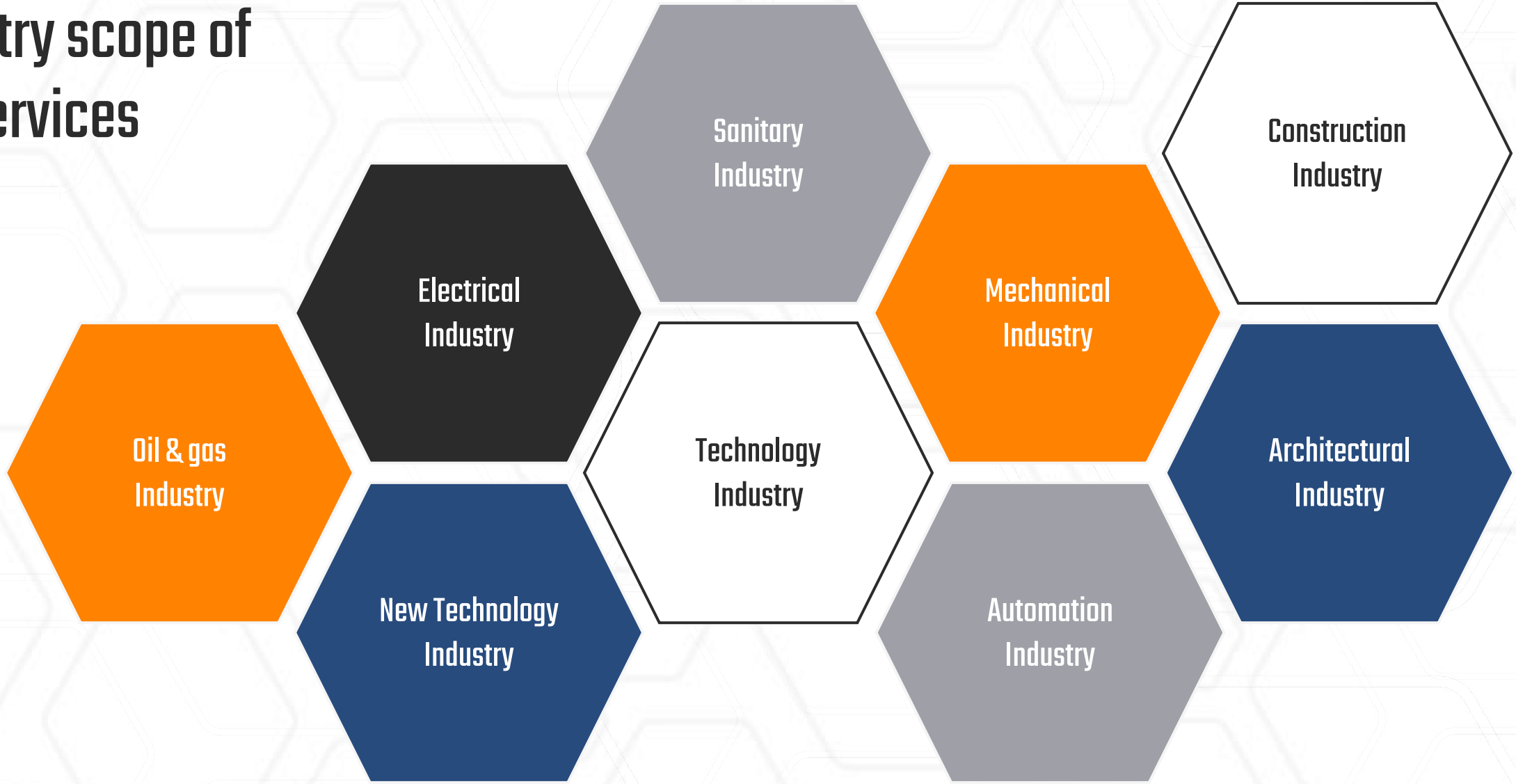

Turnkey project


Full warranty service


Functional tests


Start-up and commissioning

Industry scope of our services



DRW III

Implementation in the "EPC" formula
Modernization of the DRW III installation in order to increase the yield of high-margin products

BPR ASE GROUP

Glycol, Trzebinia

Hydrogen production installation

Design and construction of a turnkey propylene glycol (1.2-MPG) production plant from 99.5% distilled glycerin conversion with a capacity of 30,000 tons per year.

The project also includes Auxiliary Plants, such as a Glycerine Purification Plant, a Hydrogen Production Plant and additional infrastructure, which provides comprehensive support for efficient production.

> Innovative technology
> for sustainable production

Glycol, Trzebinia | Glycol installation

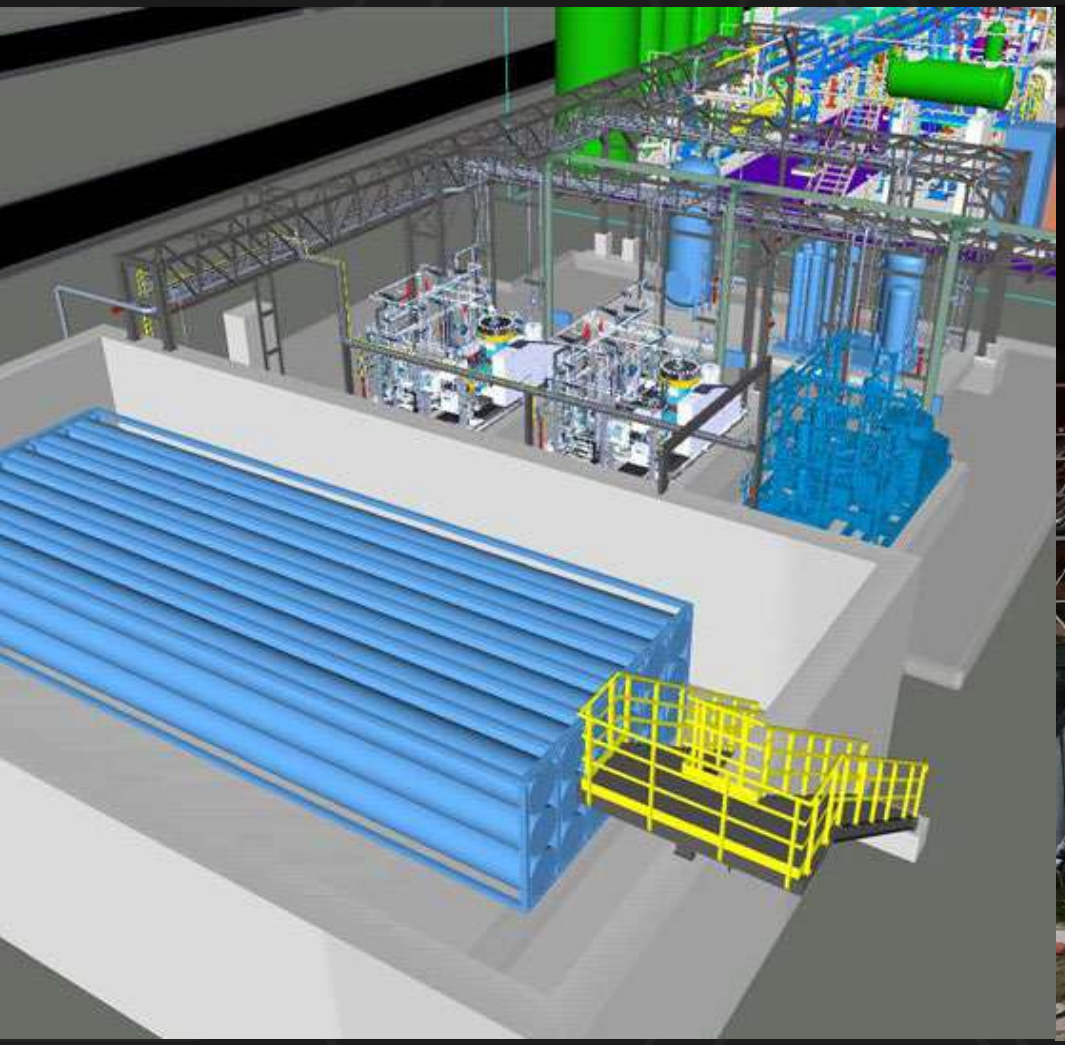
H2 PLANT Trzebinia H2 i PSA+

Design, delivery and construction of a turnkey installation (EPC) for the production of propylene glycol together with auxiliary installations, i.e. Glycerine Treatment Plant, Hydrogen Production Plant, Sewage Treatment Plant and Additional Infrastructure.

> The first in Poland and the largest in Europe installation for the production of ecological propylene glycol

Production of 30 thousand tons of ecological glycol per year - as much as 10 thousand tons more than in the case of the only installation of this type in Europe, located in Belgium.

H2 PLANT Trzebinia H2 i PSA+



CSD i HPU (PSA+), Gdańsk

Design, delivery, and participation in the commissioning of the Hydrogen Purification Unit (HPU) and the purified hydrogen pipeline up to the CSD installation boundary in Gdańsk, as part of the "PURE H2" project.Scope of the project includes:

- Hydrogen purification station;
- Refueling infrastructure (CSD operation station) located in the municipality of Pruszcz Gdański;
- Pipelines for supplying purified hydrogen, as well as pipelines for potable water and sanitary sewage transmission.

HVO plant modeling

In response to the growing importance of renewable energy sources, our portfolio includes the modeling of vegetable oil and post-frying oil (UCO) hydrogenation plants. This process allows the production of a new generation of biofuels - diesel, aviation kerosene and so-called wild kerosene.

Main applications of hydrogen in enterprises

Automotive

Hydrogen co-combustion

Ammonia and methanol production

AUTOMOTIVE

We successfully implement projects for public and private clients in the field of hydrogen production for the refueling of buses, passenger cars and forklifts. Design and construction of an installation based on electrolysis technology, including compression, storage, and distribution systems;

- Design and construction of hydrogen purification installations to quality 5.0
- Design and construction of HRS stations (Hydrogen Refueling Stations).

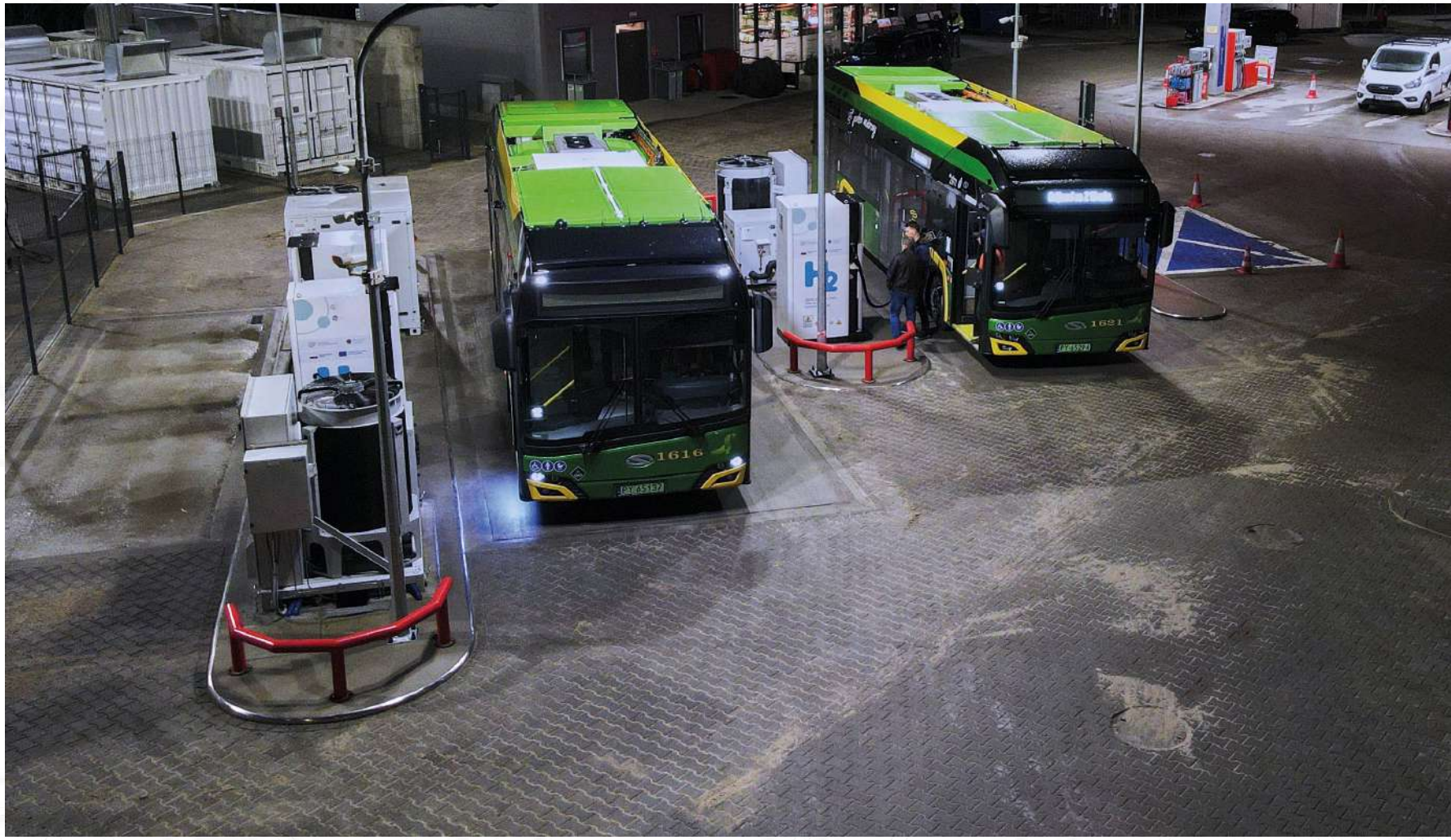
HRS Poznań & HRS Katowice

Two hydrogen refueling stations (HRS) for buses and passenger cars in Poznań and Katowice, including the delivery of battery-powered vehicles – EP project + supervision. Projects at the final stage of implementation (Poznań – test filling of buses that are already running around the city has begun; Katowice – preparation for technological start-ups).

In the project operation phase:

- Refueling of approximately 34 buses and 5 passenger cars per day in Poznań (demand of approximately 1050 kg of hydrogen/day);
- In Katowice, refueling of 20 buses and 5 passenger cars per day is planned (approx. 630 kg of hydrogen/day).

HRS Poznań & HRS Katowice

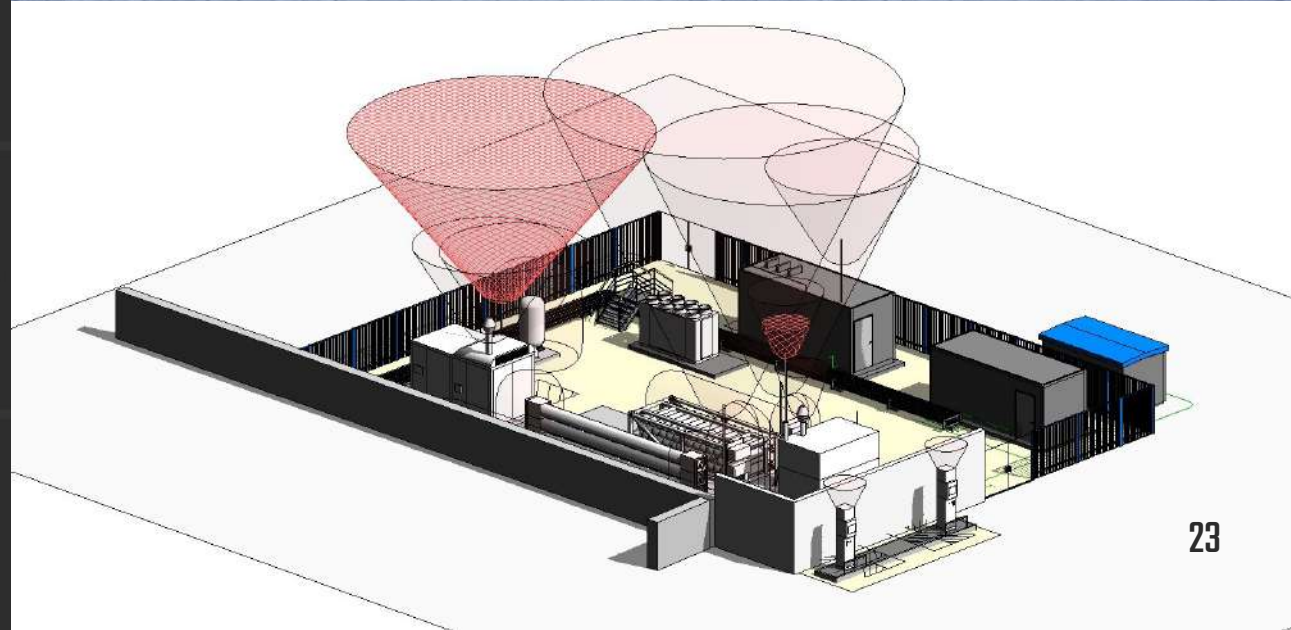


Solbet - Green Hydrogen Plant

Green hydrogen production facility based on electrolysis technology with compression, storage and distribution (passenger cars and forklifts) – EPC project for a private client - Solbet company. Commissioned in October 2023.

BPR ASE GROUP was responsible for:

- basic, executive and as-built designs
- completion and implementation of all deliveries necessary to complete the scope of the task
- carrying out construction and assembly works
- carrying out the start-up of the hydrogen production unit together with the refueling station for forklifts and passenger cars and participating in its start-up.



Solbet – Green Hydrogen Plant


WYTWÓRNIA
ZIELONEGO WODORU
SOLBET

Hydrogen co-combustion

We can both replace natural gas with hydrogen and create a mixture for co-combustion - thanks to this process we gain greater energy independence and reduce the carbon footprint of the company.

> The calorific value of hydrogen is more than twice that of natural gas in kWh/kg

Most steam boilers are adapted to co-combustion of up to 10-15% hydrogen in a mixture with natural gas, however there are also burners available on the market prepared for 100% cooperation with hydrogen.

Ammonia and methanol production

As BPR ASE GROUP, we cooperate with the largest suppliers of this technology in the world and we also conduct development projects with recognized companies to implement hydrogen in the production of ammonia and methanol.

Increase in Ammonia Demand

We are seeing a dynamic growth in interest in ammonia, especially in the energy and transport sectors. Thanks to its unique properties, ammonia is becoming the most cost-effective liquid energy carrier for long-term storage and transport on a global scale.

Benefits for Maritime Transport

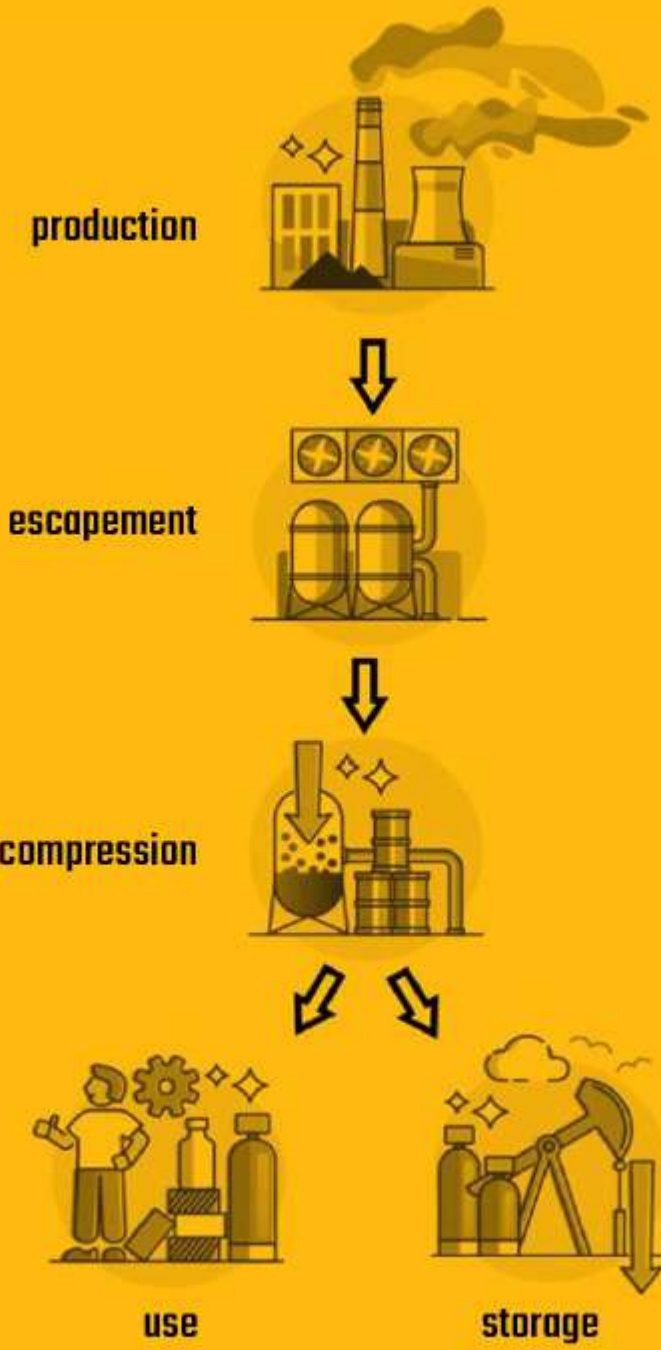
Ammonia, as an attractive alternative in maritime transport, offers sustainable solutions for **reducing emissions and improving** environmental performance. Due to its **ease of transport and storage**, it is an ideal candidate for the fuels of the future in green energy.

CO_2 capture

We are participating in the first CO_2 capture projects in Poland for the production of methanol based on green hydrogen, both on a pilot scale and in large-scale Feasibility Studies.

> CCS TECHNOLOGY (Carbon Capture and Storage) involves capturing CO_2 produced from the combustion of fossil fuels using various methods, liquefying it, transporting it to a storage site and injecting it into an isolated geological formation for permanent storage

On the other hand, there is CCU (Carbon Capture and Usage) technology, which involves storing or liquefying carbon dioxide, which allows it to be reused.



BPR ASE GROUP

High-temperature heat storage

Heat storage was originally created by combining CSP (Concentrated Solar Power) installed in countries with high temperatures.

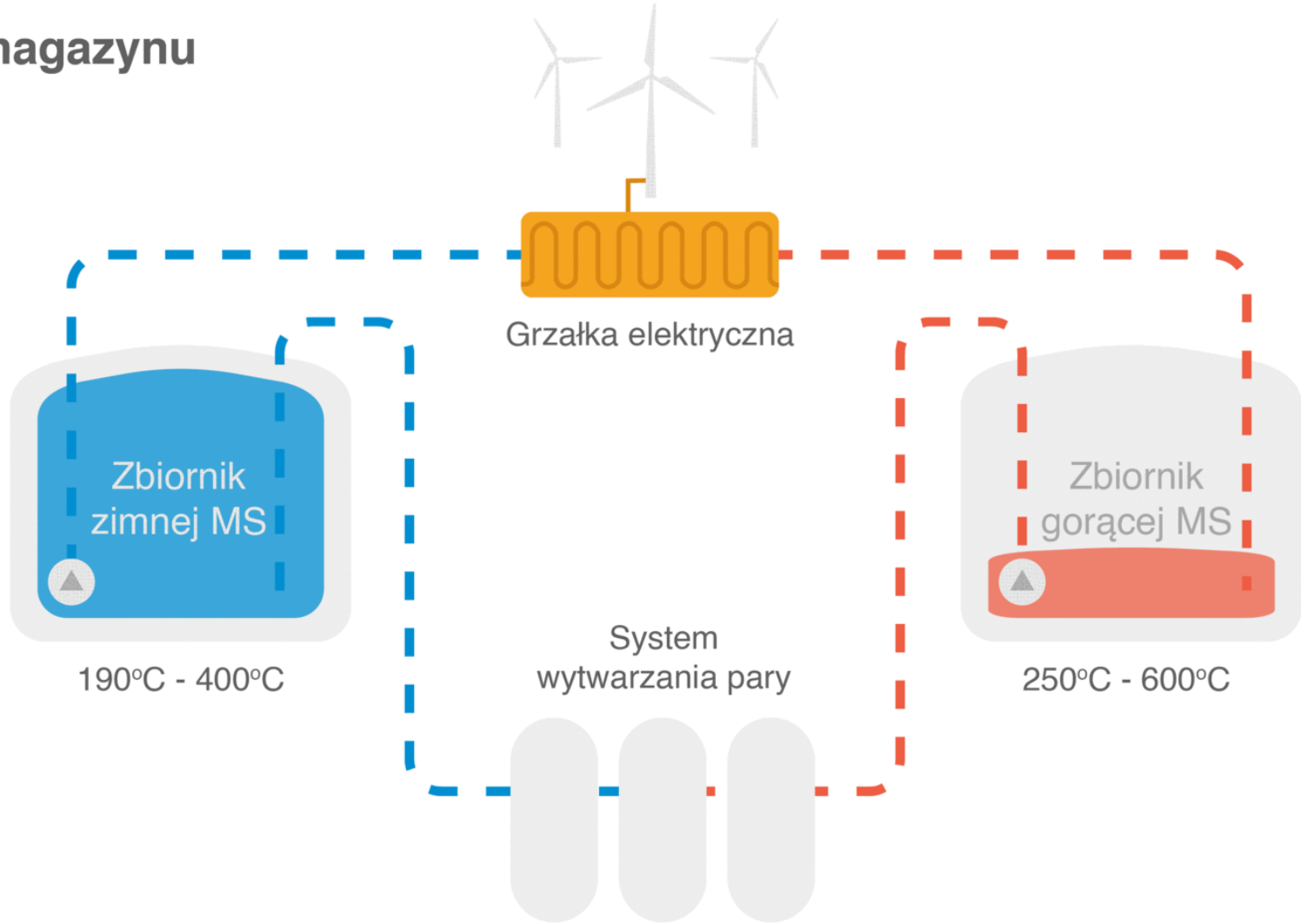
Currently, CSP are not necessary as salt storage, because they can be heated using a resistive electric heater.

Together with RPow Consulting, we participate in the implementation of concepts and feasibility studies for Polish entrepreneurs who want to invest in high-temperature heat storage (TES).

PARTNERSHIP WITH THE COMPANY:

RPOW CONSULTING

Ładowanie magazynu



TES Business Goal

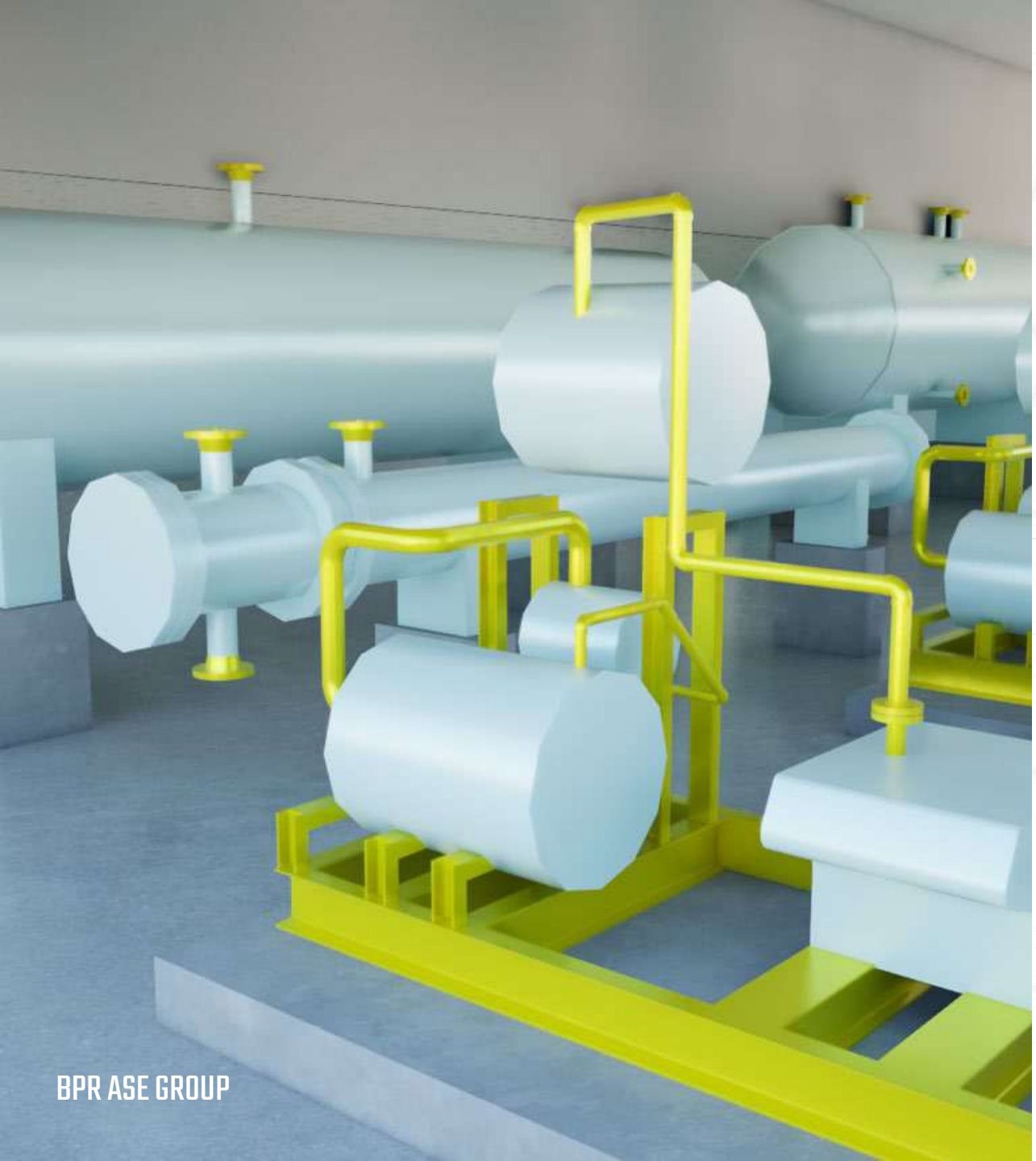
In order for the TES to generate savings, it should be charged using cheap electricity, e.g. from own RES resources or during the available off-peak rate.

The TES is discharged when there is a demand for high-temperature heat, e.g. in the form of saturated or superheated steam.

The steam can be used for own needs, for sale, or to power a steam turbine to produce electricity.

The TES installation can also be used to significantly accelerate the start-up of a steam turbine.

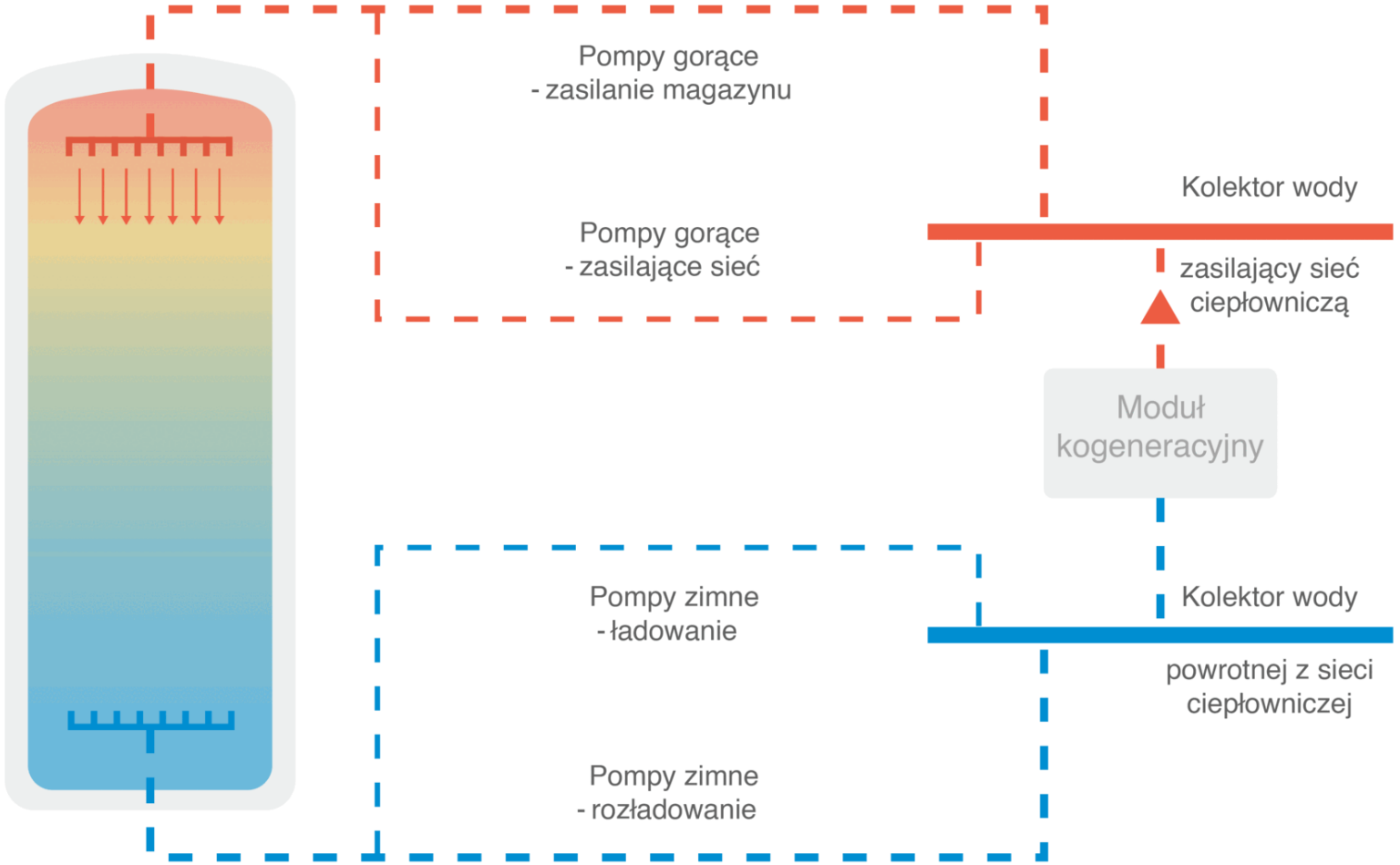
> The optimal use of the molten salt storage facility occurs when there is a significant demand for steam, or steam and electricity in a combined system

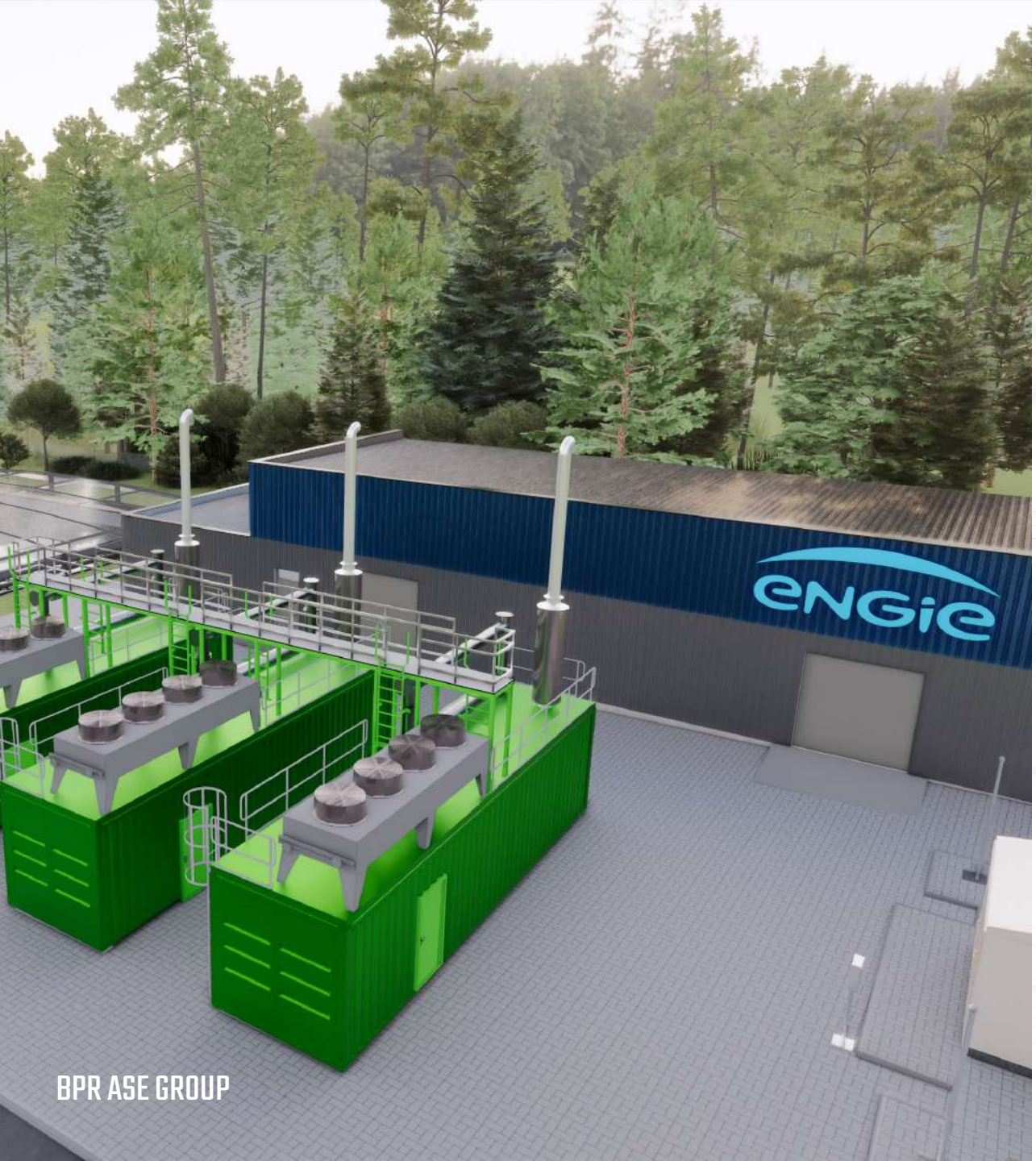


Heat pumps

- Integration of heat pumps with low-temperature storage (up to 98°C)
- Installation of high-power heat pumps in the MW range and with high temperature parameters (up to 200°C)
- Integration with existing heating installations, including heating networks
- Integration of heat pump installations with cogeneration units.

Ładowanie magazynu





Project for ENGIE EC Słupsk

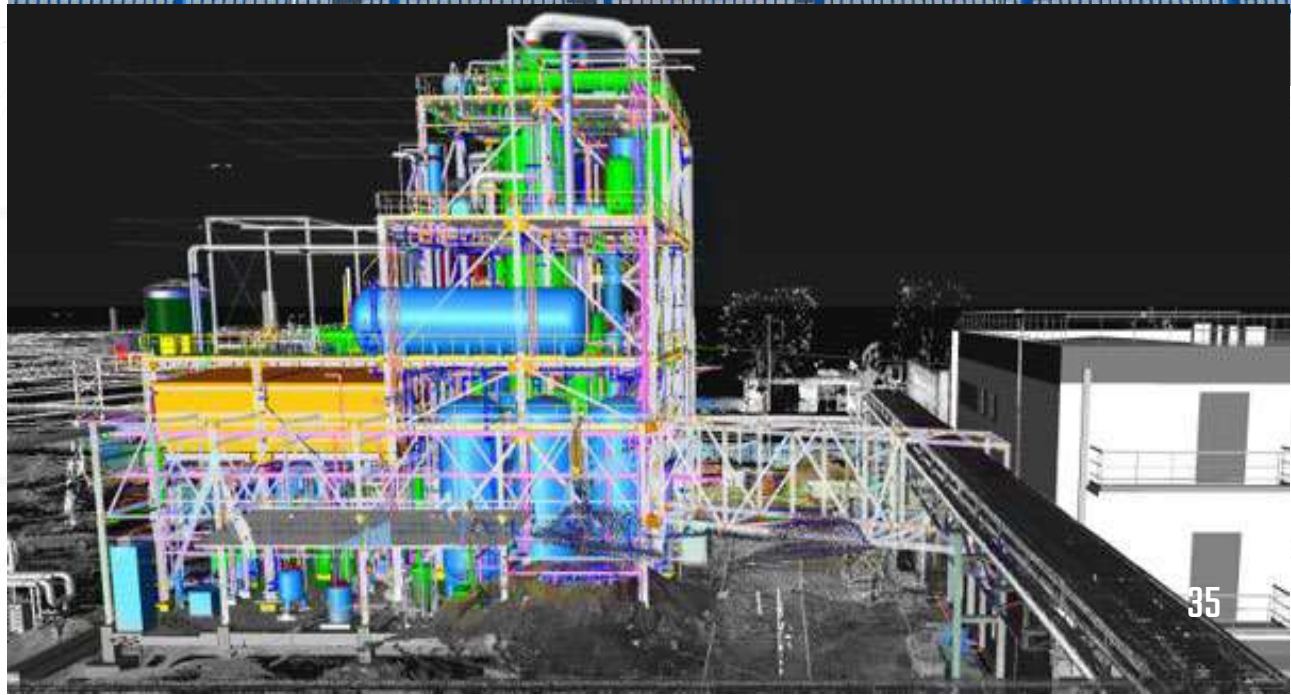
We are currently the General Contractor of an investment carried out for ENGIE EC Słupsk, consisting in the design and construction (EPC formula) of a heat pump with a capacity of approx. 7 MWt cooperating with three cogeneration engines, each with a capacity of 1 MWt.

> Currently, we have completed the basic designs, construction design and technical designs. At this moment, we are at the stage of obtaining a building permit decision

We design in BIM system

(Building Information Modeling)

BIM is a comprehensive information management in design. With a 3D model in the cloud, we provide control throughout the entire design cycle – from planning to construction and operation.




PROJMORS
ASE GROUP

PROJMORS ASE GROUP

We design a new reality

We specialize in technical consulting, investor supervision, project management and investments in hydrotechnical construction, including offshore wind energy.

77 years
experience and continuous operation

Over 325
completed projects in 2017-2024

63 permits
for construction in offshore areas 2019-2024

22 000
completed projects

120 engineers
with many years of experience

PROJMORS

Main areas of activity

HYDROTECHNICAL OBJECTS

- Ports
- Terminals
- Quays
- Breakwaters

OFFSHORE WIND ENERGY

We are currently participating in all offshore wind farm projects in the Baltic Sea

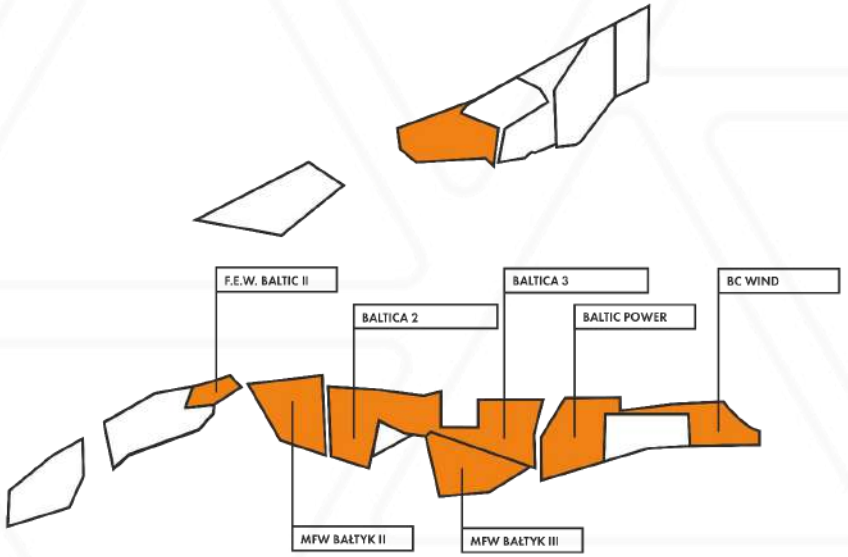
MILITARY FACILITIES

- Aircraft Maintenance Hangars
- Military Projects
- Headquarters Building
- Tank Garages

We are contributing to the development of Offshore Wind Energy

PROJMORS is the first project office in Poland to obtain construction permits for Offshore Wind Farms:

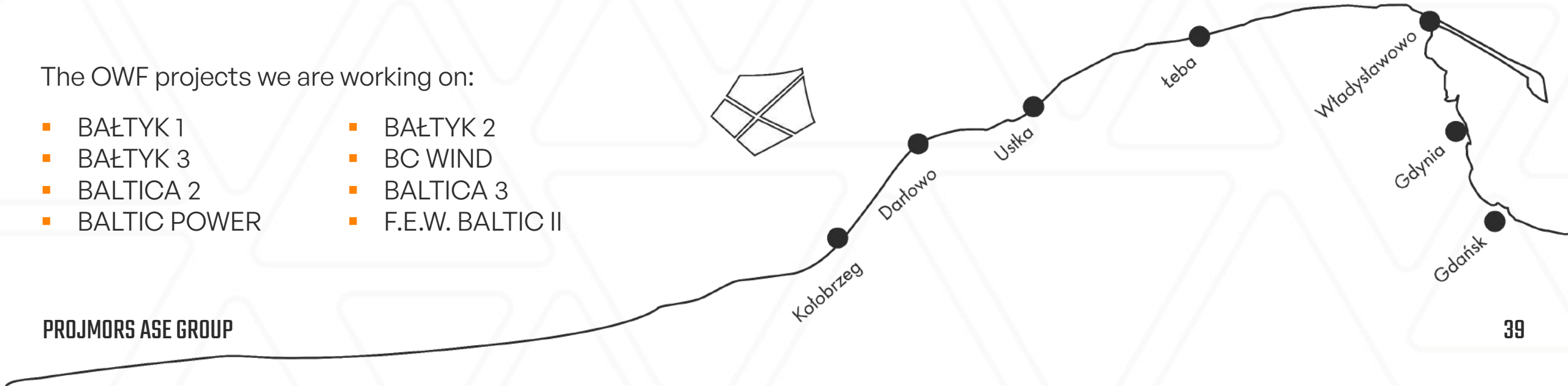
- **BALTIC POWER in 2023,**
- **BAŁTYK 2 in 2024,**
- **BAŁTYK 2 and BAŁTYK 3 in 2024.**



We are currently involved in eight offshore wind farm projects in the Baltic Sea, located between 20 and 80 kilometers from the coastline.

The OWF projects we are working on:

- BAŁTYK 1
- BAŁTYK 3
- BALTICA 2
- BALTIC POWER
- BAŁTYK 2
- BC WIND
- BALTICA 3
- F.E.W. BALTIC II



Market development - Polish Baltic and offshore wind farms

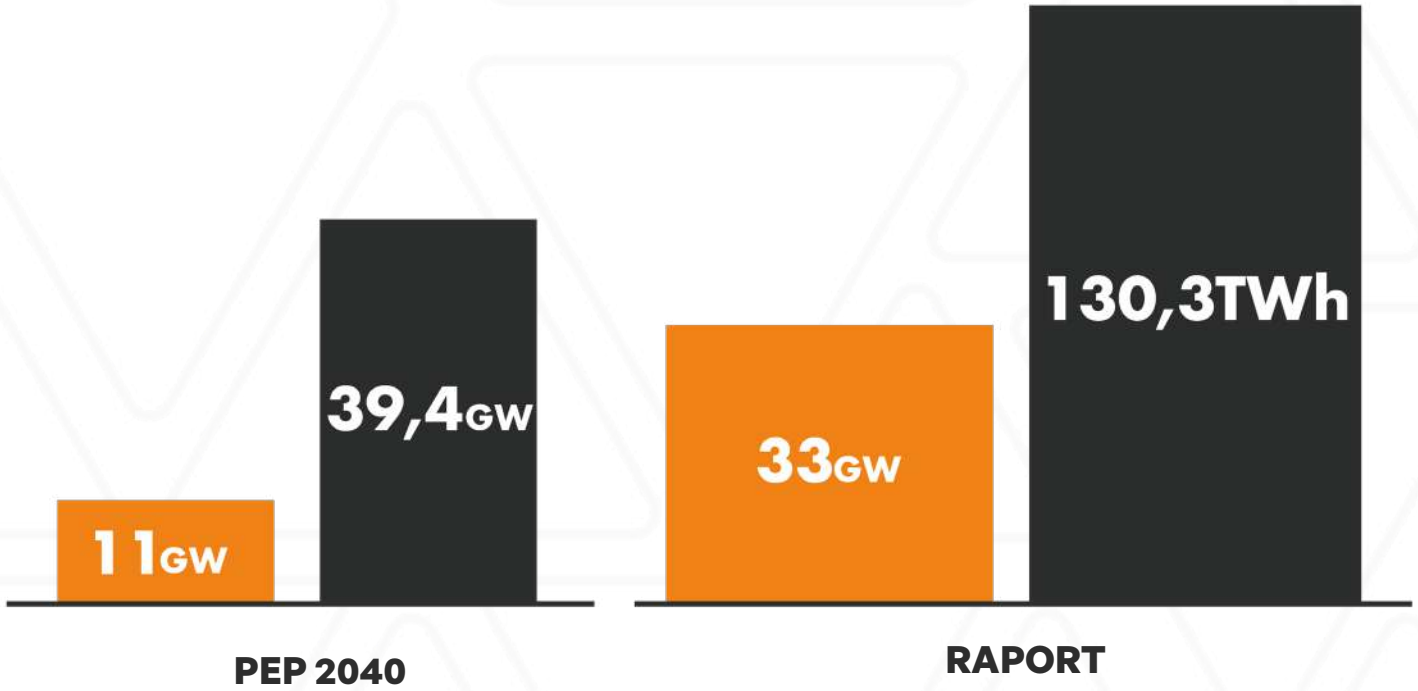
Current Areas - Phases I i II

15,3 GW **60,6 TWh**

New Areas - Phase III

17,7 GW **70,7 TWh**

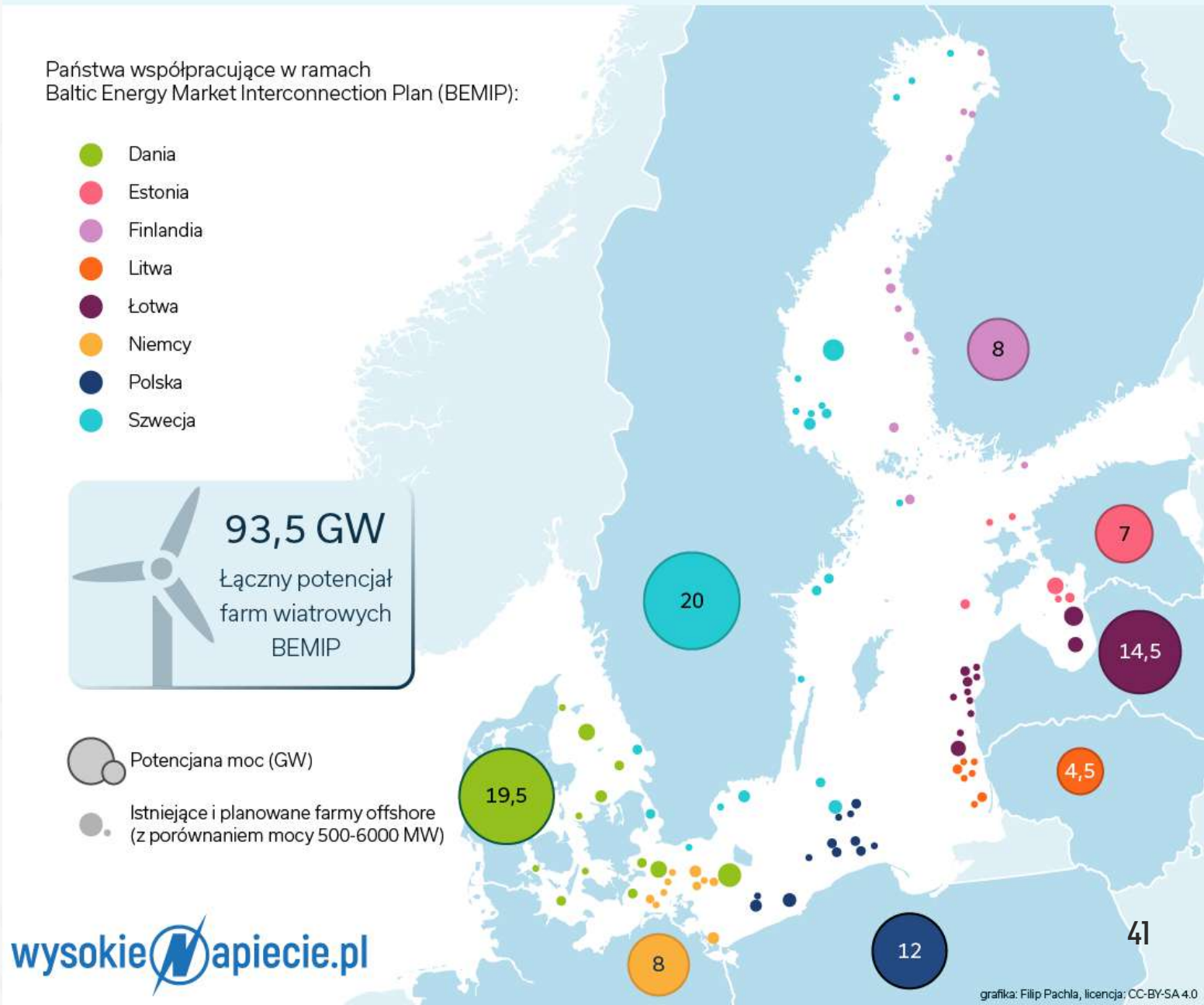
The real potential of offshore wind farms (OWFs) in the Polish Baltic Sea significantly exceeds the assumptions of the Polish Energy Policy 2040 (PEP2040) – reaching up to 33 GW of nominal installed capacity, with an expected average annual energy production of approximately 130 TWh.

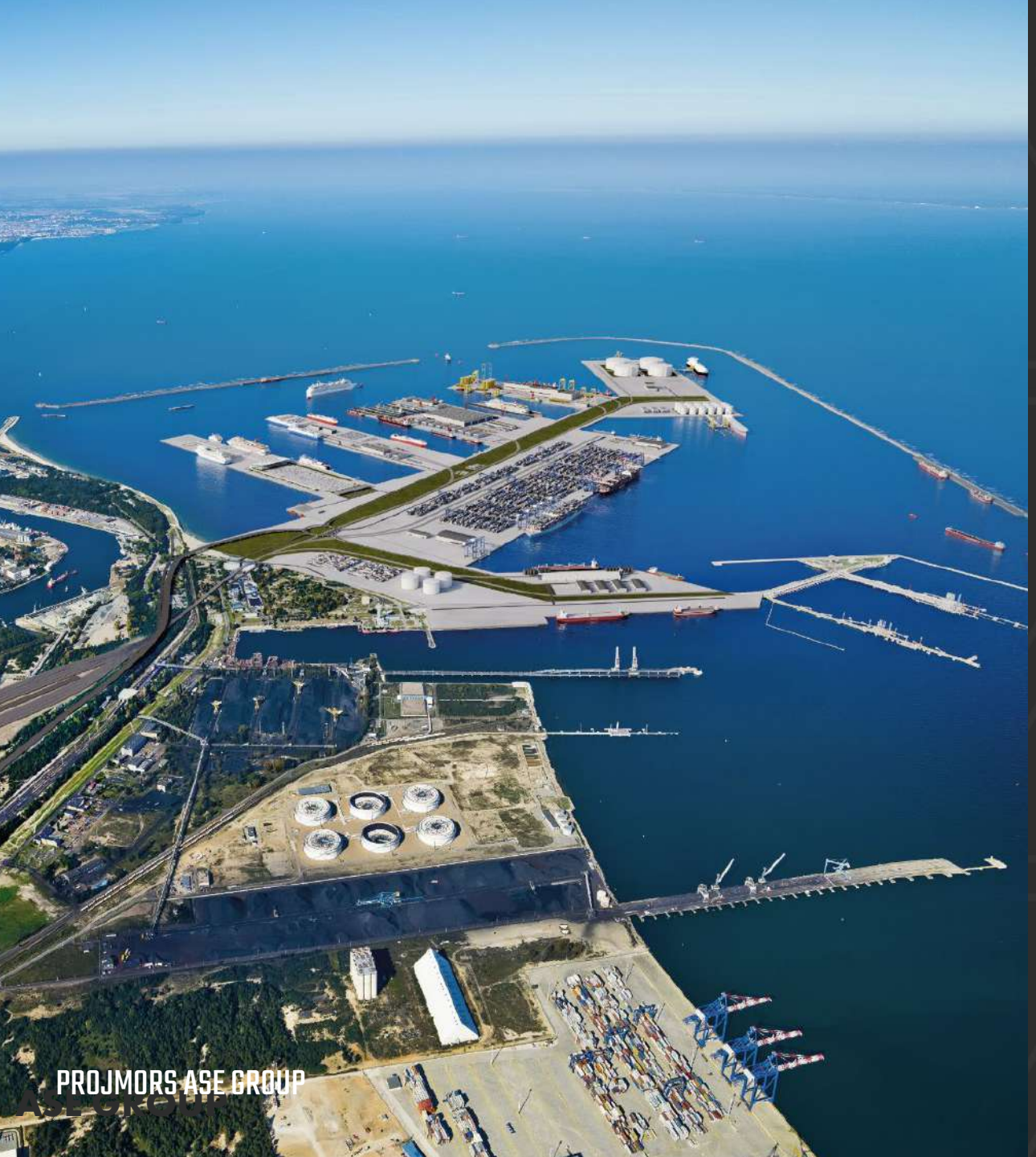


The Baltic Sea

According to the European Commission, the Baltic Sea could accommodate as much as 93.5 GW of offshore wind power by 2050.

For comparison - the Bełchatów Power Plant has a capacity of 5.1 GW and produces 18% of electricity in Poland.





Central Port, Gdańsk

New large external port, located on the Gulf of Gdańsk, between the entrance to the internal port and the Northern Port.
The concept and feasibility study include two container terminals, an LNG (Liquefied Natural Gas) terminal, a shipyard and a passenger terminal.

The basin area is almost 1,400 ha, the terminal area - 410 ha.
The length of the breakwater is almost 8,500 m, and the length of the quays - 19,000 m.

DCT Terminal, Gdańsk

Designed by PROJMORS in 2005-2010, the deep-water container terminal is the largest investment of this type, both in Poland and on the Baltic Sea. The terminal's transshipment capacity was 500.000 TEU in the first phase of construction and ultimately 1 million TEU.

2 ship berths with a depth of 13.5 m and 16.5 m on the container quay and a length of 650 m for Postpanamax ships, and a total length of 320 m and a capacity of up to 7,100 TEU, Ro-Ro ramp.

30 ha of storage and maneuvering yards, service buildings.

The excavation of the Vistula Spit

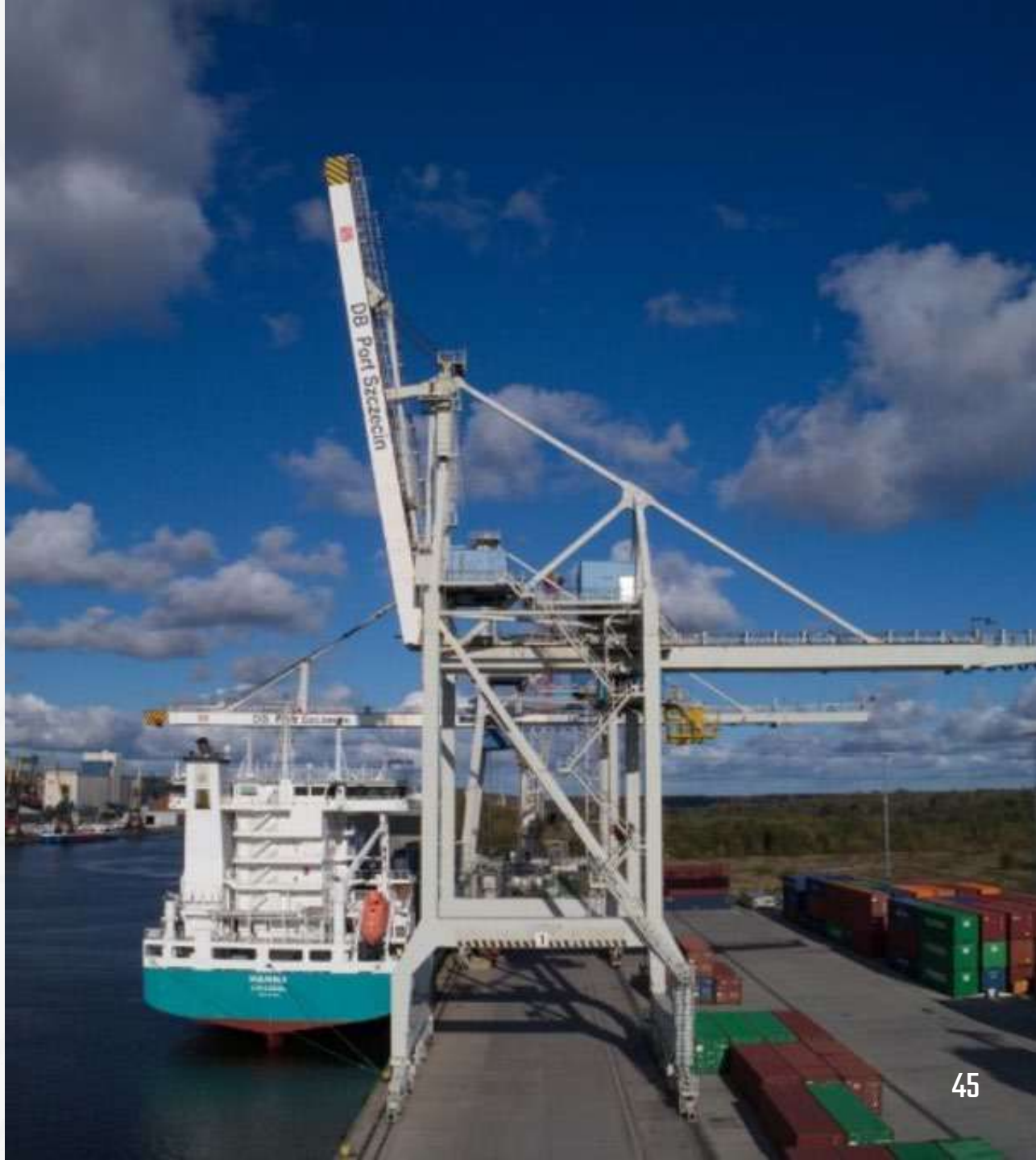
The investment includes the construction of a shipping canal, a sheltered port, a new road system with movable bridges, a lock, the construction of an artificial island as well as the construction of a fairway and the reconstruction of the Elbląg River fortifications.

Photo source: NDI SA

Container terminal in the DB port, Szczecin

The project was developed in two stages of investment implementation. Stage I included the construction of a terminal at the Finnish Quay with a transshipment capacity of 120,000 TEU per year, which included the construction of storage yards with a capacity of approx. 2,300 TEU and storage facilities for containers with hazardous materials, electrical, telecommunications and water supply networks.

Stage II involved the design of a railway terminal, including the reconstruction of the track system of the railway siding, a social and office building, a control shelter and a car wash.



Pomeranian Wholesale Center

Rënk, Gdańsk

The order included acting as Contract Engineer for the construction of the Pomeranian Wholesale Center in Gdańsk - Barniewice. The investment included over 30,000 m^3 of covered area and 132,000 m^2 of roads, squares and the development of an area of 2.4 ha - a total of 18.6 ha with full installation infrastructure.

Koko Oil Terminal, Nigeria

A new, independent transshipment terminal consisting of a park of 7 tanks for crude oil and a park of 40 tanks for petroleum products. The project also included a two-station transshipment quay for ships, jetties and full media production infrastructure for the terminal to be completely self-sufficient.

Nigerdock Shipyard Lagos, Nigeria

The most modern shipyard on the West Coast of Africa for shipbuilding and offshore structures with a 200 m long dry dock and a 3,000 tone floating dock.

The turnkey project also included large workshop halls, a modern production line, a 150 m long and 6 m deep offshore quay and a paved area for the construction of offshore structures with an area of 18,000 m^2.

ZOELLER TECH HALL,
Rekowo Górne

Zoeller Tech production plant expansion project in Rekowo Górne. On an area of 9.5 ha, a new production hall with a capacity of almost 120.000 m^3 and an area of 8.800 m^2 was designed.

Storage and maneuvering yards with a total area of almost 30.000 m^2 were also built.

Large-scale production plant, Szczecin

It is the largest investment of this type in Poland and one of the largest in Europe.

The project included land and hydrotechnical facilities, including: expansion of the Mazowieckie quay by adding a Ro-Ro ramp, construction of a production hall with a capacity of 1.1 million m^3, a social and office building with a capacity of 22,500 m^3 and a paint shop hall with a capacity of 122,000 m^3.

Hangars for 4 helicopters,
Nowy Glinnik

The project included 4 helicopter hangar buildings with storage and social facilities, 2 garages for auxiliary equipment, a boiler room, a pumping station, a transformer station, a fire tank, access roads and pre-hangar slabs.

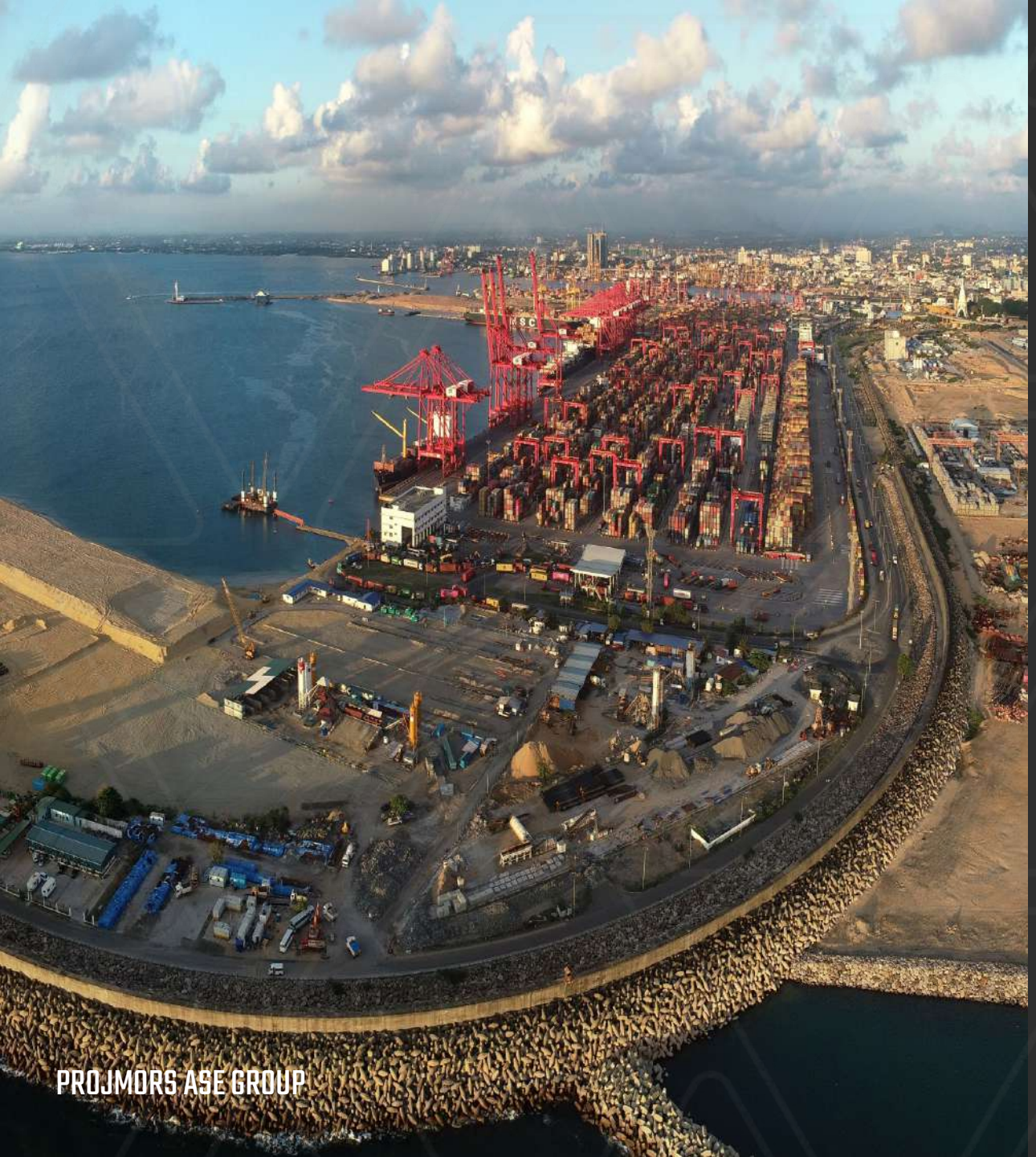
Aparthotel complex, Świnoujście

The project consisted of two 5- and 6-story buildings. In addition to the residential part, the buildings have a swimming pool area, fitness center, spa and restaurant.

The project was created in cooperation with ASE STUDIO.

ASE PROJMORS INDIA

1. Design of a sheet pile wall
2. Assessment of port capacity in the state
3. Development of tender documentation for the container terminal in Dhamra Port
4. Detailed design of the infrastructure for the storage yard in Dighi Port
5. Detailed design for the widening of a 2.6 km section of road and a box bridge
6. Detailed design of the container terminal in Dhamra Port
7. Review of the West container terminal project in the Port of Colombo



Project Overview of the Western Container Terminal at the Port of Colombo, Sri Lanka

- EPC Contractor for Quay: ITD Cementowanie
- EPC Contractor for Shipyard: To be appointed
- Design Consultant for
- Shipyard Design Consultant: CGR UK
- Quarter 1400m
- 36 ha. Container Yard with CRMG
- All designs are in line with European and British standards
- The scope of the PROJMORS project review includes all marine works, onshore construction works, water supply and sanitation for dredgers, quay, revetments and container yard.

Tender and detail design for Dhamra Container Terminal, India

- 400 m long berth for servicing container ships with a capacity of 18,500 TEU
- Dredging level -18 mCD.
- 2 access viaducts 40 m long.
- 2 km long defence for reclamation protection.
- 18 ha. container station, including E-RTG station, CFS station and railway station.

The scope of PROJMORS includes all construction works except dredging and reclamation, drainage, water supply and sewage networks.

Planning and detailed design of backup infrastructure at Dighi Port, India

Road network of 4 km, including new roads and widening of existing roads. Area of the gate complex is 6000 m2. Embankment of 24 m height for the road to the tank farm. Storm water, water and sewage network. The scope of PROJMORS includes planning and detailed design of all components in accordance with the port master plan and user requirements.

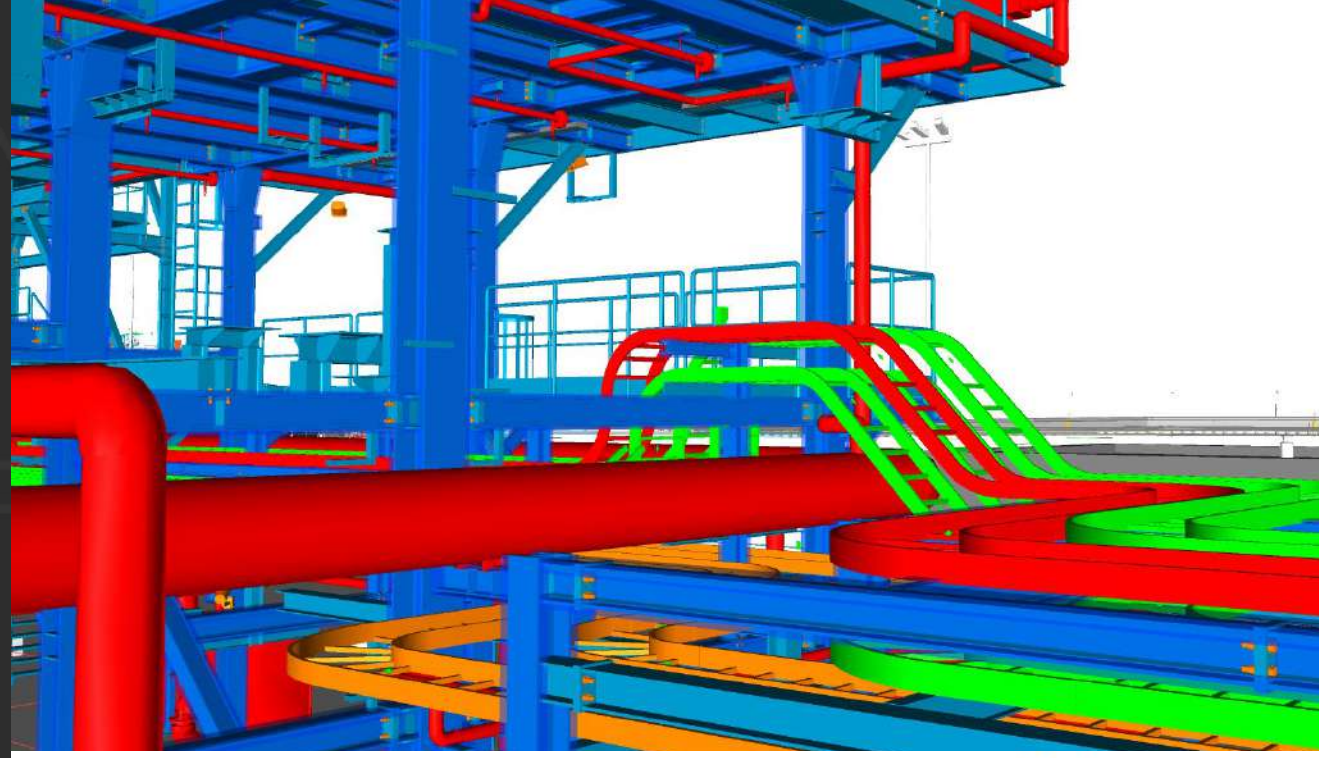
Key clients and partners in India:

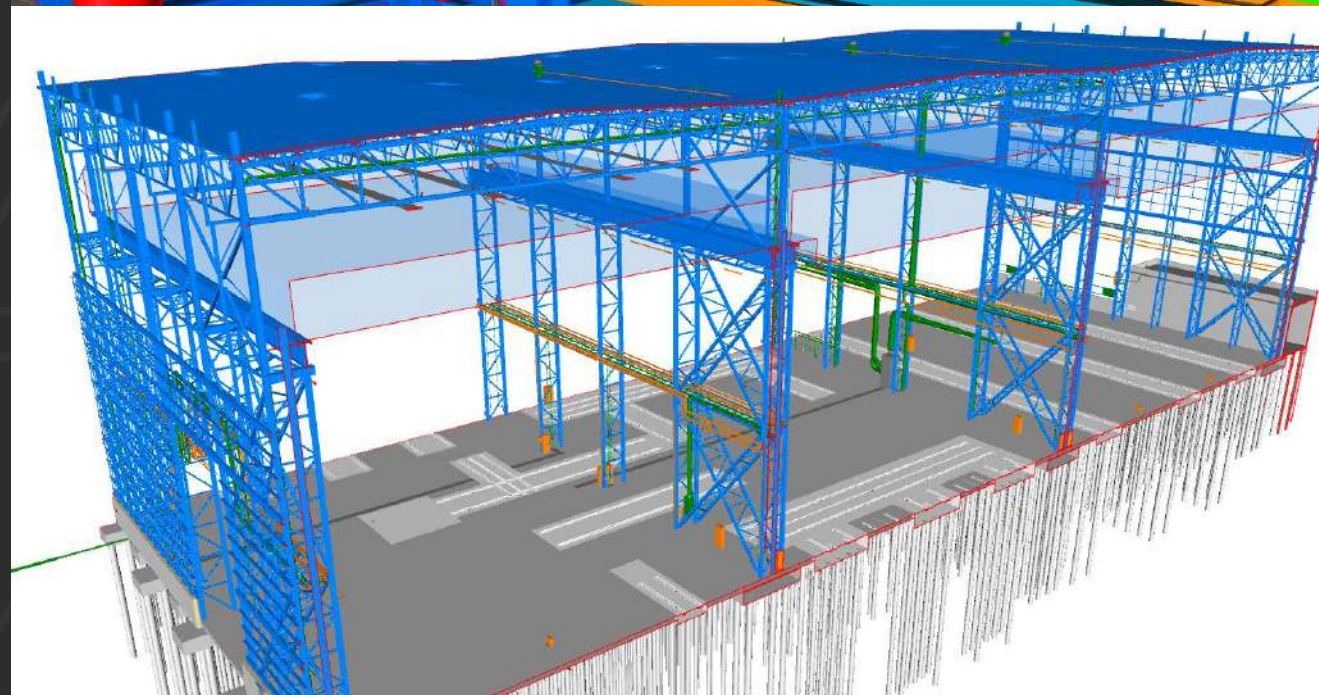
- MAJOR PORT AUTHORITIES
- INLAND WATERWAYS AUTHORITIES
- STATE MARITIME BOARDS
- SHIPYARDS
- INDIAN NAVY
- INDIAN COAST GUARD

BIM (Building Information Modeling)

At PROJMORS we have extensive experience in using the BIM methodology in working on complex infrastructure projects requiring flawless coordination in terms of structure, architecture, MEP and technology.

We prepare multi-discipline models of cubature objects in all industries. Combined with a rich catalog of non-geometric information, they create a useful database for the implementation of construction works and management of the completed facility.






CAMINO PROJECT
ASE GROUP

CAMINO PROJECT ASE GROUP

Support and Projects

We are a design office specializing in comprehensive investment project management. We act as a contract engineer and supervision inspector. We support investors at all stages of the investment process.

We operate throughout the entire implementation process:

from designing installations, preparing design documentation, through selecting technologies and devices, to final acceptance and start-up.

PROJECT MANAGEMENT

comprehensive investment project management

CONTRACT ENGINEER

technical supervision, control of documentation and EU procedures

SUPERVISORY INSPECTOR

PROJECTS

including in Ex zones,
electrical installations, fire protection installations, ventilation,
air conditioning, sanitary, technological installations
BIM technology developments

Main areas of activity of CAMINO PROJECT:

Technological installations

Energy conventional and nuclear

Sanitary installations and ventilation

YOUR ENGINEERING SUPPORT TEAM

Completed projects

Orlen Plock:

Reduction of odour nuisance for retention reservoirs, author's supervision.

Orlen Gutkowo:

Executive design for the modernization of lighting of rail and tank transshipment terminals. Technical consulting.

Azoty – Zośka Biogas plant:

Technical and economic concept of construction of Thermal Processing and Raw Materials Recovery Plant. Cogeneration.

Mochovce Power Plant:

2D and 3D design documentation for fire protection installations.

Jantar Development:

Supervision over the implementation of storm sewerage and water supply installations for an investment in Wiślinka near Gdańsk.

EKO-KONSULT
ASE GROUP

EKO-KONSULT ASE GROUP

We are a consulting company providing services in the field of safety for industry and the environment.

We support the energy market - including offshore, Oil & Gas and renewable energy - as well as other industrial sectors: chemical, petrochemical, mining and food.

SCOPE OF SERVICES

ENVIRONMENTAL CONSULTING
Investments and procedures

PROCESS SAFETY
Threat and risk analysis

SEVESO
Preventing major accidents

ENERGY OPTIMIZATION CONCEPTS

ATEX
Explosion-proof analyses

FIRE PROTECTION
Fire protection analyses for plants and installations

SIL
Functional safety

SAFETY ACADEMY
Specialized training

HYDROGEN ACADEMY
Hydrogen technologies

Environmental protection
in the investment process

- Procedures for obtaining environmental decisions
- Location analyses
- Environmental studies
- Environmental impact reports
- Project Information Cards (KIP)
- Public consultations
- Water audits

EKO-KONSULT ASE GROUP: Sustainable Industry Transformation

EKO-KONSULT's new goals and activities are in line with the European Green Deal policy, which aims to achieve climate neutrality by 2050. The "green" transformation sets the directions for development, investment and the legal framework, creating both new opportunities and challenges.

EKO-KONSULT promotes a modern, conscious industry in which the implementation of business goals takes into account care for the environment and climate.

Using innovative solutions derived from military technologies, EKO-KONSULT focuses its activities on energy transformation - with particular emphasis on the hydrogen industry and renewable energy markets.

75% CO_2 emissions
in the EU comes from the energy sector
– that is why energy transformation is crucial.

Environmental protection
in the enterprise

- Integrated permit procedures
- Post-implementation analyses
- Ecological reviews
- Adjustment programs

Fire Safety

Safety in industry

- Fire safety analysis
- Development of fire scenarios
- Determination of fire protection conditions
- Development of fire safety instructions
- Coordination of the project in the field of fire safety

Explosion Safety

Explosion protection

- Ignition Hazard Assessment for Machines
- Selection of Explosion Protection Systems
- Static Electricity Protection Instructions
- ATEX Audit
- Operation Instructions for Electrical and Non-Electrical Equipment in Ex Zones
- Explosion Hazard Assessment
- Classification of Explosion Hazard Zones
- Explosion Risk Analysis
- Explosion Protection Document
- Advice on ATEX device certification

Process Safety

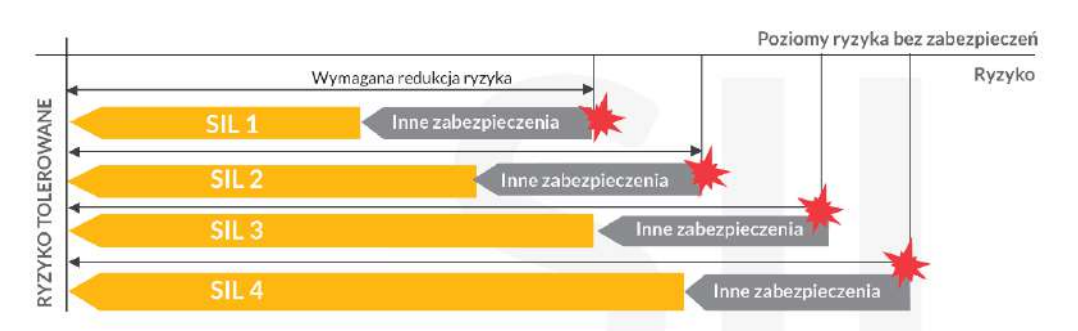
Threat and risk analysis

- PHA: Preliminary Hazard Analysis
- HAZID: Hazard Identification
- HAZOP: Hazard and Operability Analysis
- LOPA: Layered Protection Analysis
- FTA: Fault Tree Analysis
- RBD: Reliability Block Analysis
- FTA: Fault Tree Analysis
- FMEA/FMECA: Failure Mode, Effects and Critical Failure Analysis

Functional Safety

Functional Safety Management

- Supervision over the implementation of all stages of the safety life cycle according to the requirements of PN-EN 61511:2017
- Determination and verification of SIL levels
- Specification of SRS safety requirements for the SIS system
- Audits of process and functional safety



SECURITY ACADEMY

Certified Training

- Explosion safety
- Process safety
- Fire safety
- Functional safety
- Environmental protection

IECEx recommends the ASE GROUP Safety Academy, awarding it the title of **IECEx Recognised Training Provider**. The international verification body recognises that during the training at the ASE GROUP Safety Academy, the participant will be provided with knowledge in the scope necessary to obtain **the IECEx Certificate of Personnel Competence.**

17 000 trained participants

20 types of training

CERTIFICATION QUALITY

Hydrogen Academy Training

The specialist training cycle begins with an introduction to hydrogen technologies at a **basic level**.

The next stage – **advanced** – discusses general safety principles for hydrogen installations.

At expert levels, detailed technical and technological solutions are discussed, e.g. selection and installation of explosion-proof devices in hydrogen gas atmospheres.

Selected projects

For industry and the environment

300 completed technical expertise

600 environmental impact reports prepared

PGE GiEK Dolna Odra Power Plant:

- inventory of devices
- implementation of the system

Number of devices: 4.000

Source: Wikipedia

PGE Heat Energy:

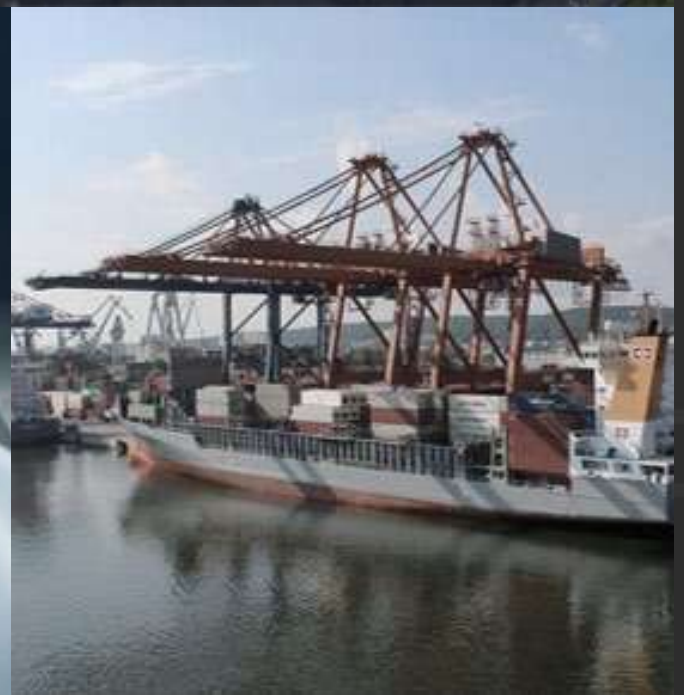
- inventory of devices
- implementation and maintenance of the system
- installations: coal feeding, biomass, fire protection, H2
- bidirectional data exchange with SAP

Number of devices: 15.000

PGE GiEK Rybnik Power Plant:

- inventory of devices
- implementation of the system

Number of devices: 5.000



Reference

- Environmental Impact Assessment Report for the project “Construction of a waterway connecting the Vistula Lagoon with the Gulf of Gdańsk”
- Works related to the location of the **FSRU** in the Gulf of Gdansk for the gas system, **2021-2022**
- HAZOP analysis for the project "modernization of the leakage control system of electrical connections of LNG pumps„ **PLNG S.A., 2019”**
- **PGE GiEK S.A. Branch Zespół Elektrowni Dolna Odra** - development of an explosion protection document for the coal feeding installation, **2020**
- Comprehensive service in the field of explosion safety at **IKEA** plants in Poland, **2020-2023**

Environmental documentation

for offshore wind farms

Report on the environmental impact of the Baltica Offshore Wind Farm

Client: MEWO S.A., Maritime Institute in Gdańsk

Date: 08.2016 - 11.2017

Investor: GK PGE

Stage: 2020 Environmental decision

Report on the environmental impact of the Baltic Power Offshore Wind Farm

Client: MEWO S.A.,

Date: 03.2020 - present

Investor: PKN ORLEN

Stage: In progress

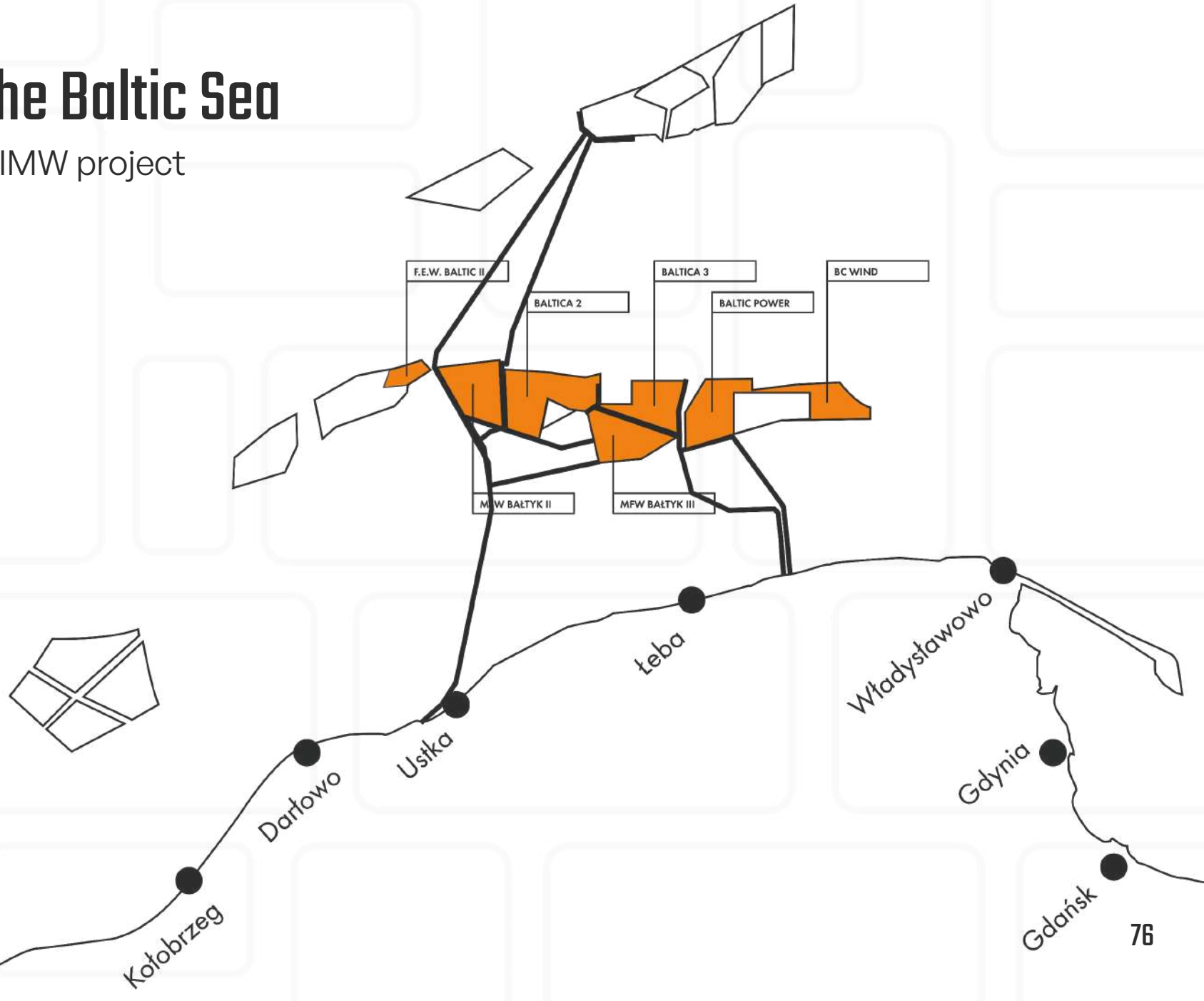
Analysis of decisions on environmental conditions issued for the Bałtyk II and Bałtyk III offshore wind farms and for the electricity transmission infrastructure

Client: CDM Smith

Date: 04/2020

OWF in the Polish part of the Baltic Sea

Participation of EKO-KONSULT in the IMW project




ASE ATEX
ASE GROUP

ASE ATEX ASE GROUP

We provide comprehensive solutions of safe technologies for industry. We specialize in implementations and integrated solutions at the highest world level based on our own know-how and products of renowned suppliers.

Industrial systems integrator

Products and solutions		IT systems for industry	Services	Service
Electrical devices in EX version	Fire detection and extinguishing	Inspector-ex	Monitoring VOC, H2, N	Start-ups and commissioning of installations
Electric heating systems	Tank metering	Inspector-svc	Legalization of tanks	
Explosion protection	Measuring instruments	Inspector-ldar	Installation inventory	Warranty and post-warranty inspections
Gas and flame detection	Technological installations and devices	Inspector-fire protection	Audits of expertise	
Leak and emission detection		Inet	Training webinars	Permanent service contracts
			Automation	

Products and solutions

Explosion-proof electrical devices

STAHL
DISTRIBUTION BUSINESS PARTNER

Fire detection and extinguishing

protecfire
Made in Germany

Electric heating systems

tope®

Raychem®

nVent

SCHNIEWINDT
THE POWER OF ELECTRIFYING IDEAS

INERIEC

Measuring instruments (including for tanks)

ASHCROFT

EMERSON.

Stationary gas leak detection (including hydrogen)

TELEDYNE OPTECH
Everywhereyoulook™

MICROPACK
FIRE & GAS

Portable gas detectors

OPGAL
Beyond the Visible

DISTRAN
SWITZERLAND

INDUSTRIAL SCIENTIFIC

Explosion protection

ATEX

Fiber optic temperature detection

YOKOGAWA

Service

Sales department R.Stahl

		Separators and intrinsically safe barriers	Distributed I/O Systems	Signaling devices	Sockets and plugs	Power distribution boards
	Control panels	HMI operator panels	CCTV and thermal imaging systems	Network interfaces	Control boxes	
Lighting	Installation and connection equipment	Automation Systems	Individual solutions	Inlets and glands	Panel computers	

Electric heating systems

Products and solutions

- Heating cables with accessories
- Temperature control and monitoring systems
- Industrial heaters
- Industrial electric heaters
- Process heating
- Cabinets, containers and protective housings for I&C

Fire detection and extinguishing

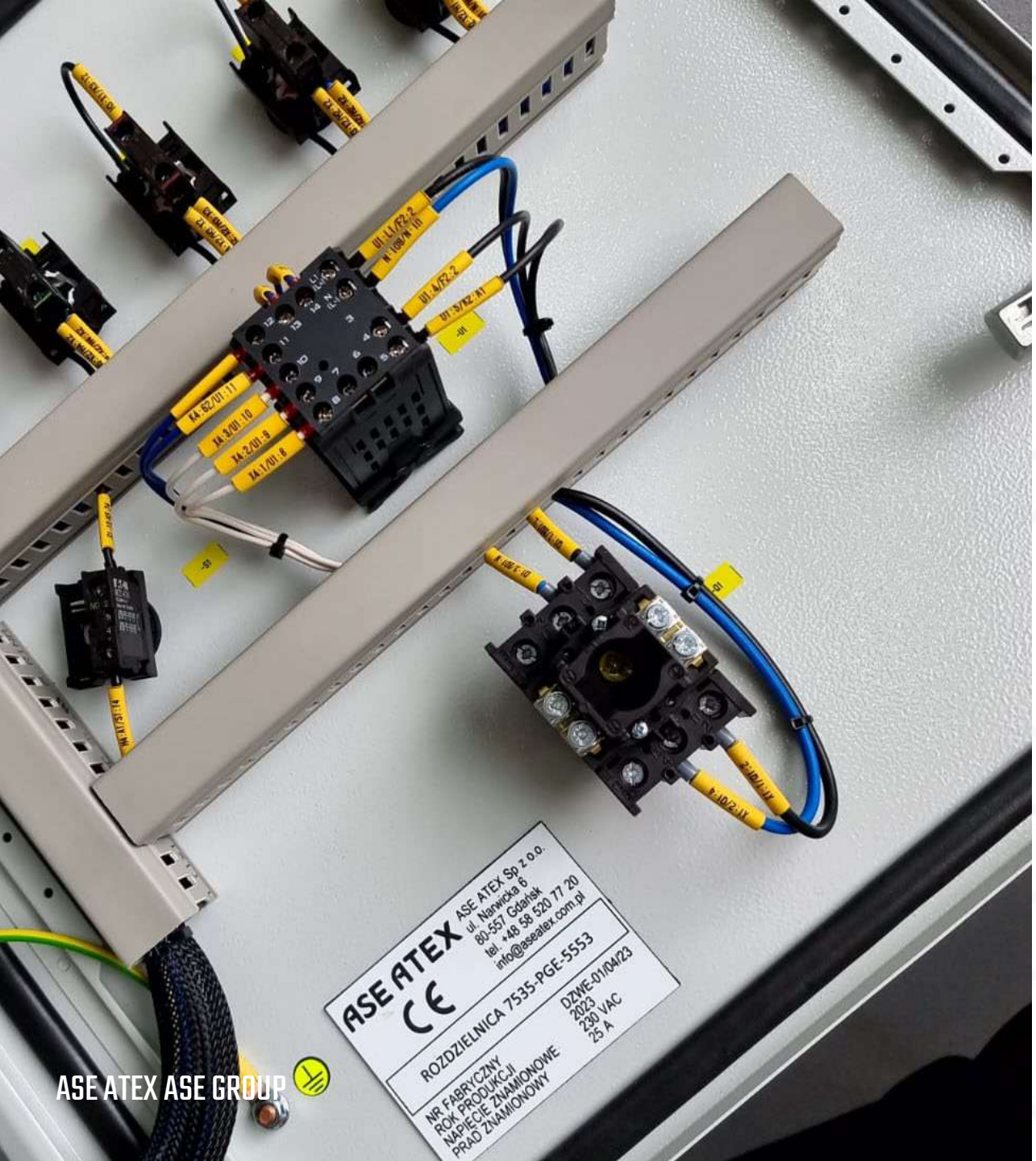
Products and solutions

- Fire alarm systems
- Water and foam installations
- Gas extinguishing
- Spark detection and extinguishing
- Ventilation and smoke removal installations

Gas and flame detection

Products and solutions

- Gas detectors
- Flame detectors
- Detection centers
- Signaling devices
- Portable detectors



Tank metering

Products and solutions

- Tank metering
- Level measuring devices
- Overflow protection
- Leak detection
- Sampling systems
- Surge protection

Small FTE

Selected projects

Water fire extinguishing and sprinkler system for the new block of the PGE Turów Power Plant

Over
9000 m
pipelines

Stand
SVDS

Above
500
steel

Small FTE

Selected projects

Comprehensive fire protection solutions at the Benda-Lutz aluminum powder plant

Fire detection and alarm systems	Argon gas extinguishing system
Gas Detection Systems	Suction gas detection systems for monitoring oxygen levels

ASE ATEX ASE GROUP

Small FTE

Selected projects

Modernization of the fire protection system at the methanol terminal in Szczecin:

- Execution of the executive project
- Relocation and launch of water and foam plots
- Delivery of a water and foam plot control system
- Modernization and transfer of the existing fire pumping station
- Delivery, assembly and launch of the CCTV system of the quay and the operation of monitors based on fire detection cameras

Inspector-Ex®

Passporting and Ex device control system

Inspector-Ex® is a system supporting the operation of devices in explosion-hazardous areas.

It is a powerful and useful tool for maintenance services and those responsible for the operation of electrical devices in plants with explosion-hazardous areas.

ASE ATEX ASE GROUP

Functionality:

- Ensures reliable verification of the technical condition of devices and installations,
- Supports maintenance from the safety perspective, e.g. of critical devices,
- Organizes and facilitates access to technical documentation,
- Facilitates inventory of devices,
- Stores photographic documentation,
- Generates reports in electronic form.


elmech

ELMECH-ASE

We Power the Future

We design and manufacture electronics and power electronics for industry, military, railways, energy and the marine sector. We specialize in guaranteed power supply systems, improving energy quality, energy storage and conversion, and battery management.

Our solutions are based on proprietary technologies, tailored to specific customer needs. We focus on precise diagnostics, innovation and efficiency. We support sustainable development by reducing the use of fossil fuels and the carbon footprint.

30 years
experience and continuous operation

60% less CO_2
green technology

Innovative designs
experience in turnkey projects

Polish production
with comprehensive support for foreign investors

ENER GATE

Characteristic :

- designed by ELMECH Engineers
- produced in our production plant in Pruszcz Gdański
- adapted to the needs and requirements of the Customer:

Basic elements:

Control

Software

Battery

Automation

Active filter

Case

Energy management process

ENER GATE

Energy storage

Energy management

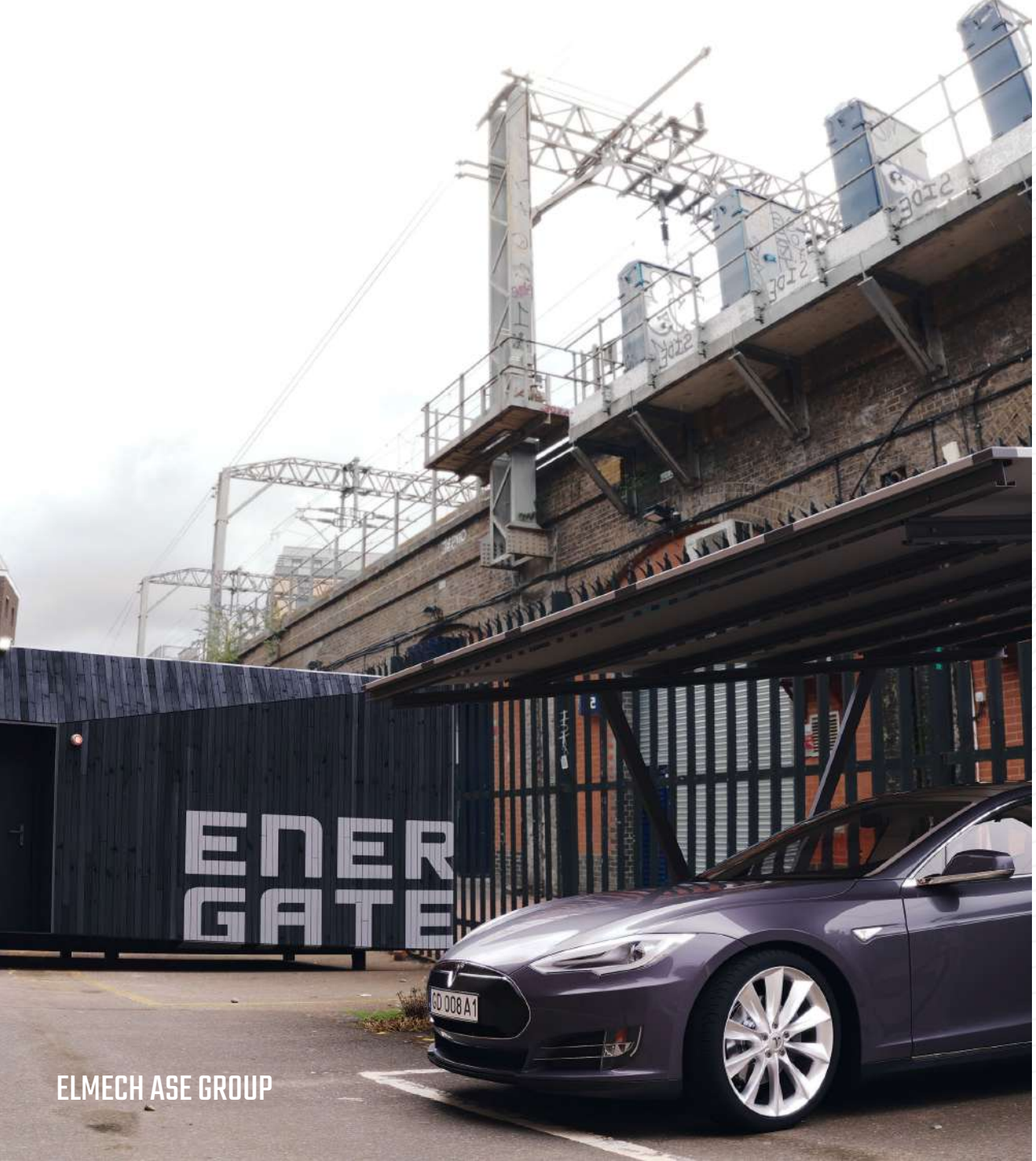
- Purchase
- Consumption
- Production

Improving energy efficiency

- Reactive power
- Power quality

Expected effect

- Financial,
- Technological
- Economic
- Security



Benefits of using energy storage:

- Reduction of energy purchase costs
- Reduction of distribution fees
- Increased consumption of free energy from photovoltaics
- Reduction of electric car charging costs
- No exceedance of ordered power
- Elimination of reactive power costs - active filter

Benefits step by step
For example, 30% lower electricity costs

CASE STUDY

ENERGATE

Factory in Pruszcz Gdański

ELMECH ASE GROUP

CASE STUDY

ENERGATE

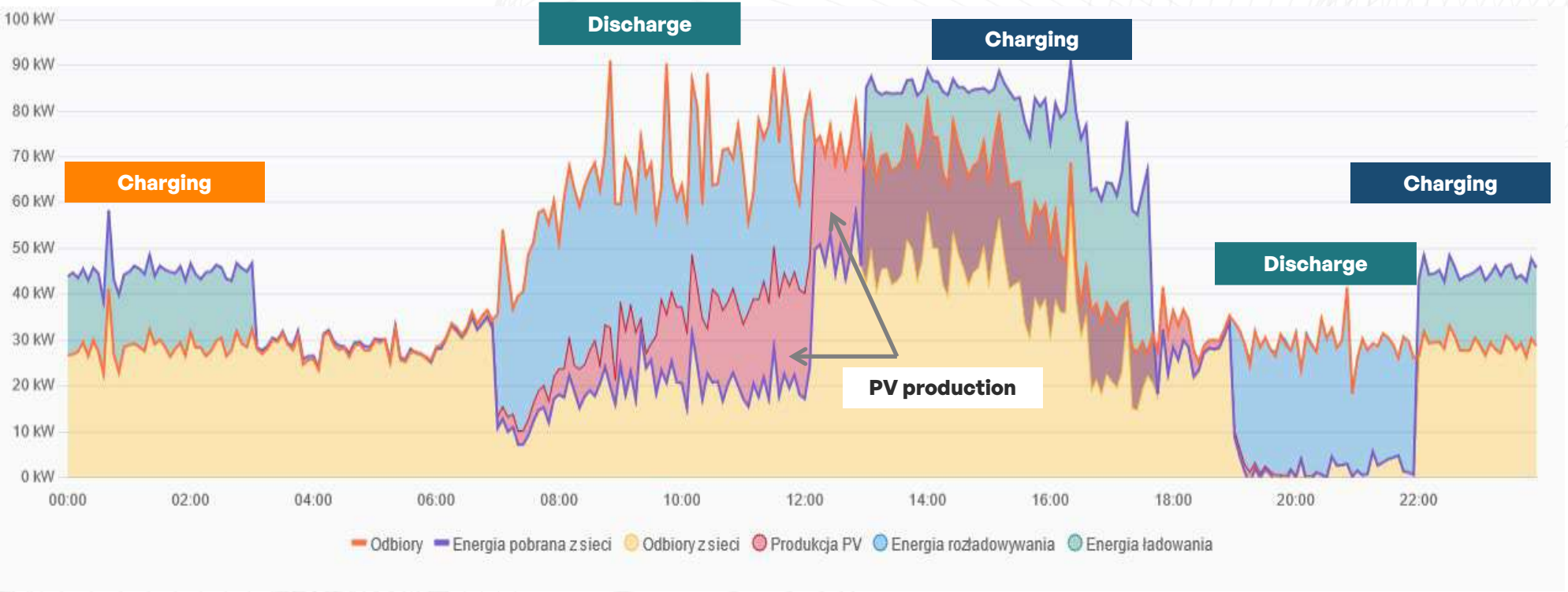
ENERGATE on the ASE GROUP campus in Gdańsk

CASE STUDY

ENERGATE on the ASE GROUP campus in Gdańsk

Time shifting is a cost optimization that involves purchasing energy when it is cheaper and consuming it when it is most expensive.

Energy purchase management



CASE STUDY

ENERGATE

ENERGATE in Baukrane

ENERGATE in Baukrane

Managing temporary electricity demand

CASE STUDY

ENERGATE

Peak shaving – smoothing out power demand.
We don't draw from the grid, but from energy storage.

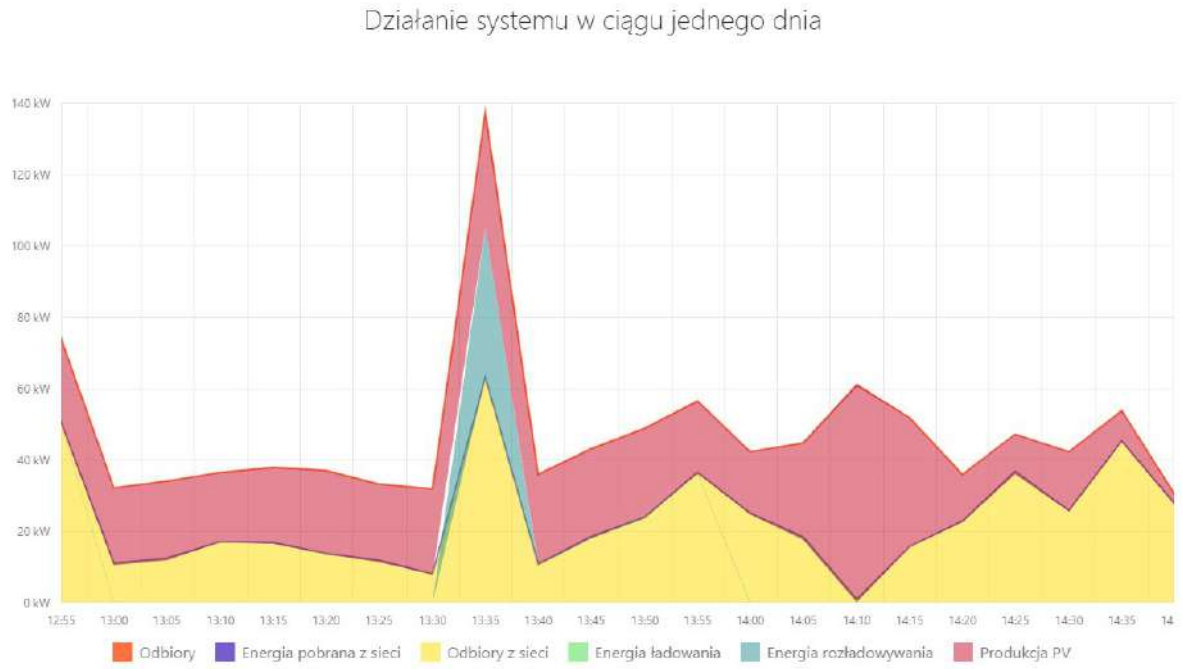
Possibility of generating savings by reducing the ordered power.

A penalty is imposed for failure to adhere to the power allocation.

Penalties can reach several thousand per month.

13:35

Odbiory: 137,5 kW
Energia pobrana z sieci: 63,0 kW
Odbiory z sieci: 63,0 kW
Energia ładowania: 0.0 kW
Energia rozładowywania: 42.1 kW
Produkcja PV: 32.4 kW



CASE STUDY

ENERGATE

Paint production plant

CASE STUDY

ENER GATE

Paint production plant

Energy storage:
- Power 500 kW
- Capacity 450 kWh
- LiFePo4 batteries

Photovoltaic installation:
- Power 350 kWp

Energy management:
- Uninterruptible power supply
- Electrical energy storage
- Power quality improvement
- Reactive energy compensation

CASE STUDY

ENERGATE

Photovoltaic farm

Energy storage:
- Power 11.5 MW
- Capacity 49.45 MWh
- LiFePo4 batteries

Photovoltaic installation:
- Power 145 MWp

Energy management:
- Avoiding negative sales prices
- Auto consumption
- Capacity market
- Full capacity utilization

CASE STUDY

ENERGATE

Photovoltaic farm

CASE STUDY

ENERGATE

Ice Sports Hall

CASE STUDY

ENERGATE

Ice Arena
- Tomaszów Mazowiecki

CASE STUDY

ENERGATE

Office and utility building
with chargers and PV

CASE STUDY

ENERGATE

Realization for Teknos

CASE STUDY

ENERGATE

ENERGATE built
for Rumia Invest

CASE STUDY

ENERGATE

XILLAR charging system for a military unit

ELMECH ASE GROUP

Active filters

SQUADRON

ASE GROUP

SQUADRON ASE GROUP

We specialize in providing safe, comprehensive products and services in the field of unmanned aviation as well as simulators and trainers.

Areas of activity:

Software production for military needs

Software production

Games and simulations

Applications, e.g. for managing Elmech energy storage

Drones and anti-drone systems

Offshore Wind Farm Simulator

SQUADRON:

- Unmanned aviation experts,
- IT experts,
- Certified instructors and pilots - unmanned aviation operators with military and civilian experience,
- FMV (Full Motion Video) image analysis specialists
- Specialists in geodesy and cartography.


ASE
OFFSHORE

ASE OFFSHORE

Service integrator
for **OFFSHORE WIND ENERGY**

At ASE Offshore, we combine the potential of the most experienced Polish design, advisory and consulting companies specializing in services for offshore wind farms. We originate from ASE GROUP and SMDI Advisory Group.

ASE OFFSHORE

ASE OFFSHORE

MISSION

We create and implement best practices in effective cooperation between the investor, suppliers and stakeholders.

We jointly implement projects that modernize the energy sector in accordance with the ideas of sustainable development.

ASE OFFSHORE Services:

We provide **the highest quality** consulting services for the offshore energy sector, based on knowledge, cooperation and many years of practice.

Strategic consulting

Permissions

Research and analysis

Social communication

Investor supervision

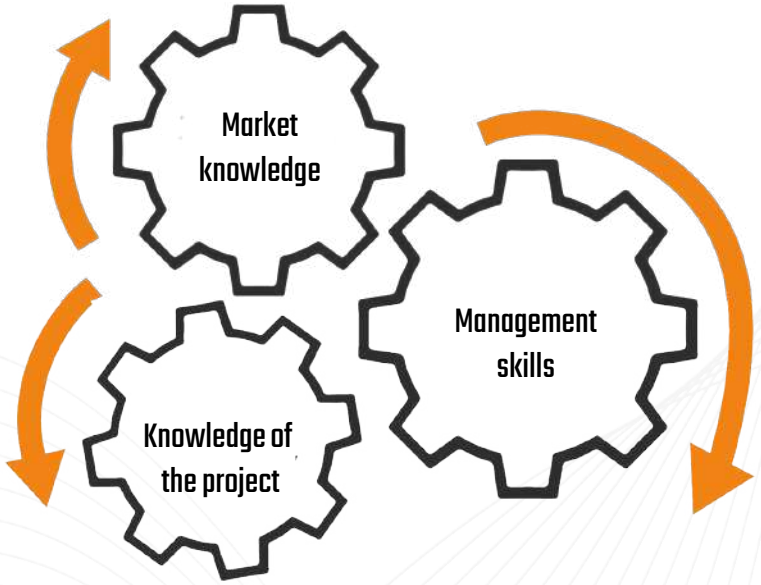
Project management

Projects

Collections

ASE OFFSHORE

Integrator and Coordinator




ASE
STUDIO

ASE STUDIO

Harmonious integration of construction with nature

A division of the BPR ASE GROUP company.
An interdisciplinary team of architects, interior designers, artists, constructors and engineers.

Collaboration:
From the initial discussion about the idea to the design and supervision of its implementation throughout Poland. Specialization in detailed visualizations of interiors and buildings.

ASE STUDIO

Our mission

We design buildings in accordance with ecological standards, integrating with renewable energy sources.

We always take into account the local environment in which our projects will be embedded. We choose natural materials.

We base our philosophy on biophilic design, i.e. the bond that man feels with nature through architecture.

ASE GROUP

THANK YOU FOR YOUR ATTENTION

ASE ATEX ASE GROUP
BPR ASE GROUP
CAMINO PROJECT ASE GROUP
EKO-KONSULT ASE GROUP
PROJMORS ASE GROUP
SQUADRON ASE GROUP

ASE GROUP

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