



# STRATEGIC RESEARCH AGENDA

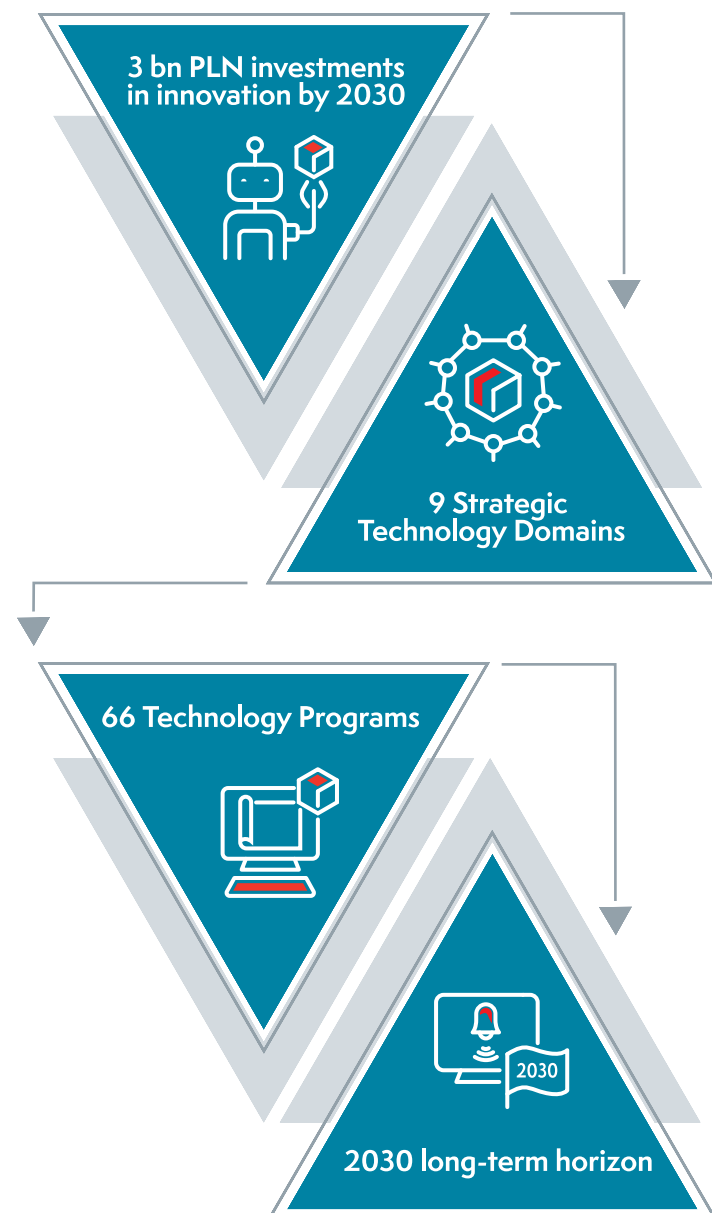
Managing innovation at ORLEN Group



## STRATEGIC RESEARCH AGENDA (SAB)

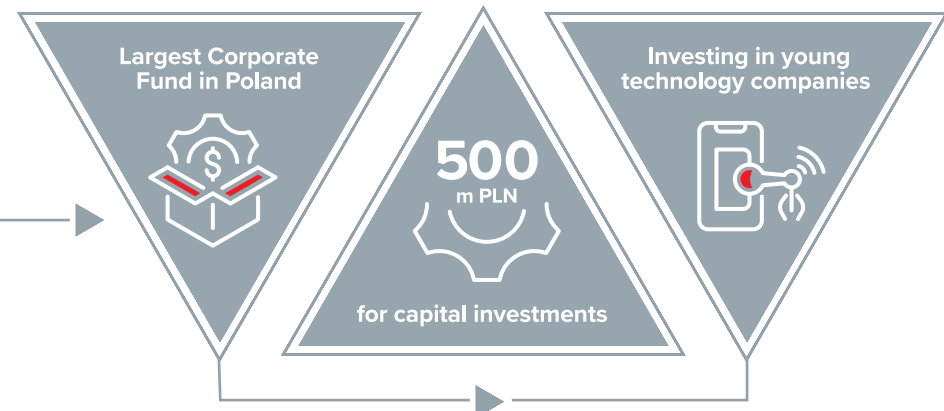
The Strategic Research Agenda is a document based on PKN ORLEN's strategic objectives that encompasses both ongoing and pipeline projects, the Group's long-term development plans, as well as recommended new directions in research, technology development and innovation.

The document provides an integrated description of innovation and development directions at the ORLEN Group, in the context of its strategic objectives.



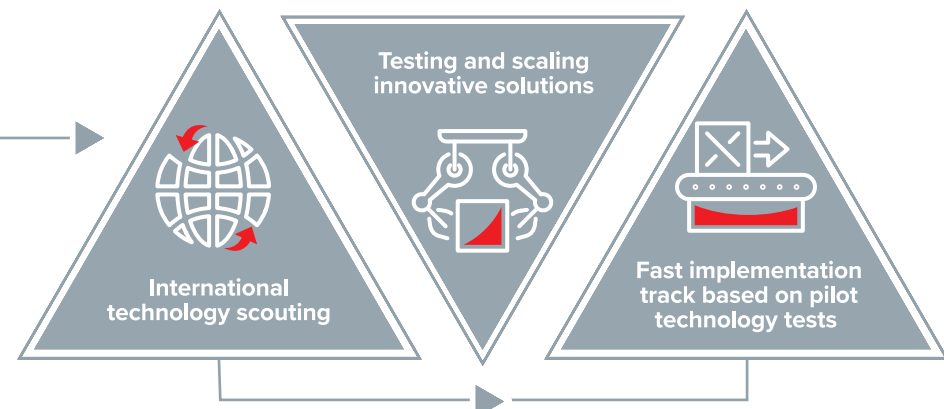
## ORLEN VC

Corporate Venture Capital Fund aims to enhance economical and innovative effect of ongoing strategical investments connected to ORLEN Group transformation.



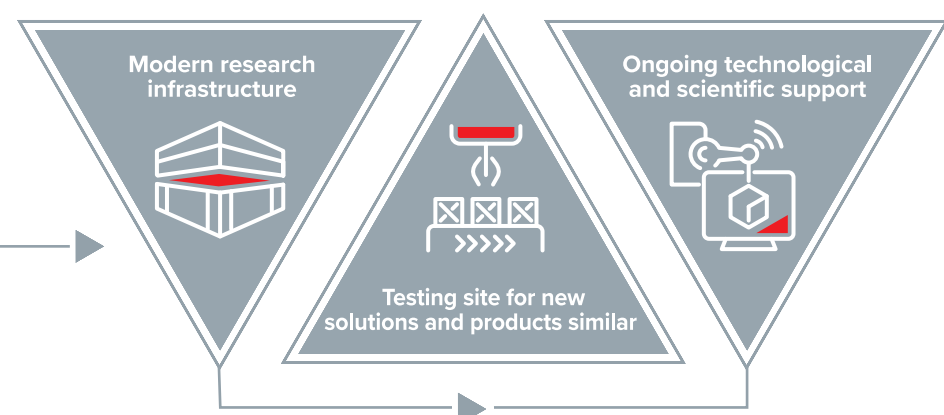
## ORLEN Skylight Accelerator

PKN ORLEN acceleration program is a made-to-measure solution for pilot testing technologies which address most important business challenges of ORLEN Group. ORLEN Skylight is a tool to fast-test solutions, co-developed with startups for the ORLEN Group Business Units.



## R&D Center (CBR)

Modern R&D Center located in Płock next to Company's refinery. CBR connects operational knowledge with the world of science enabling conduction of new research and product testing in environment of similar to production conditions.

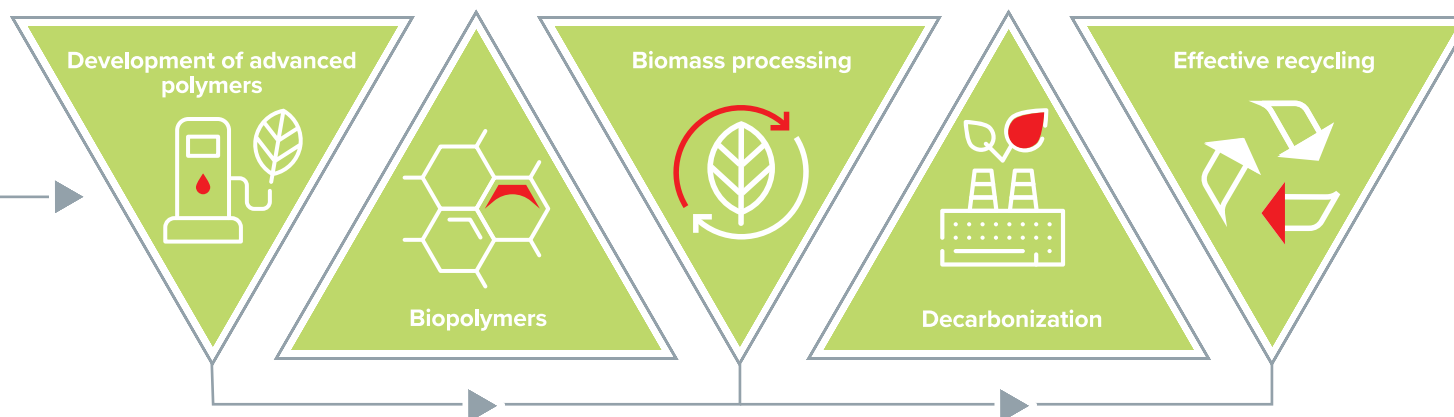


## SAB DOMAINS

1

### Environmentally friendly technologies and products

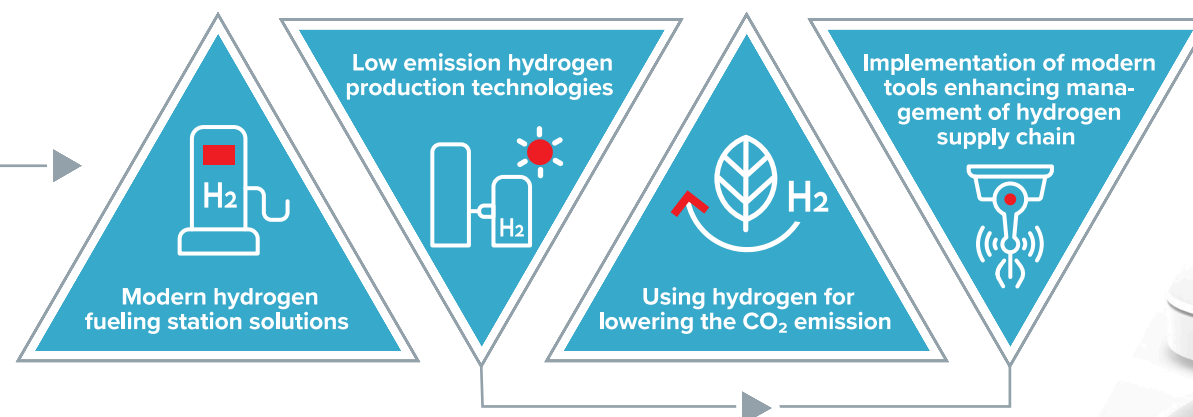
Access to technologies to develop new business areas and reduce regulatory risk. Development of advanced biofuels, biopolymers, biomass processing, decarbonization of production assets and efficient recycling.



2

### Hydrogen technologies

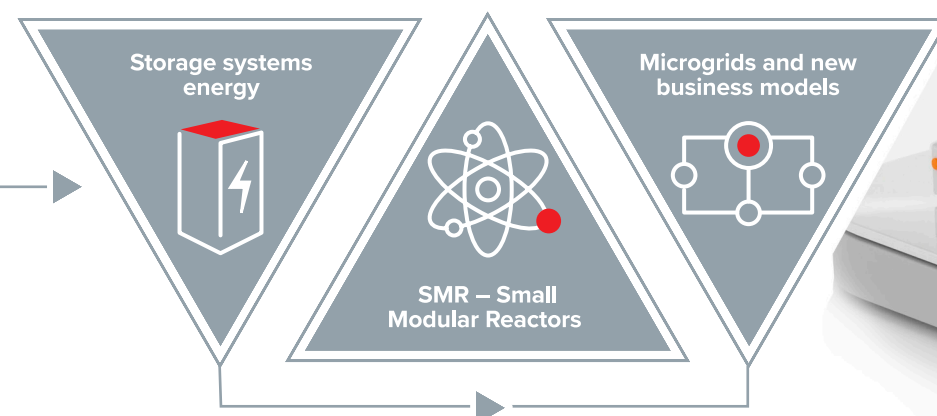
Building new competencies and taking a strategic position on the hydrogen market. Implementing innovative solutions in the construction of hydrogen production and refueling infrastructure.



3

### Efficient and low carbon energy generation

Providing low-carbon sources of electricity and heat and extending the energy value chain.

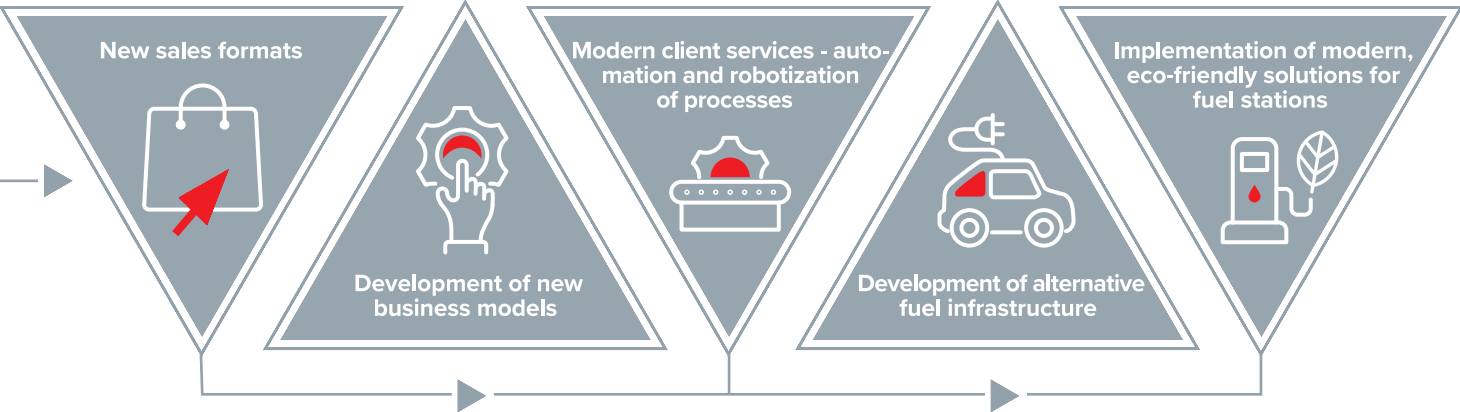




# SAB DOMAINS

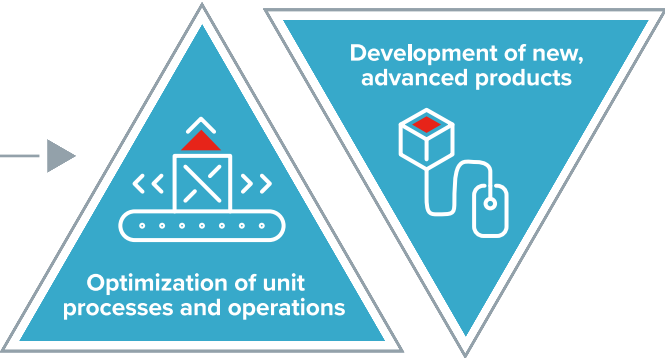
## 4 Modern client and fuel station of the future

Adapting the retail station and wholesale business model to meet changing customer needs. Leveraging technology to offer additional products and services to customers.



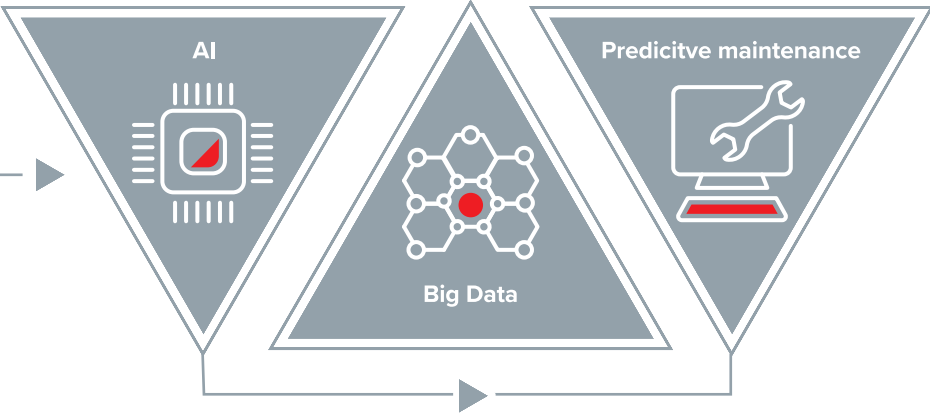
## 5 Advanced petrochemicals and new generation of materials

Extend the value chain by adding high-margin chemical products and expanding into new, high-growth, core-related markets.



## 6 Industry 4.0 and innovative organization

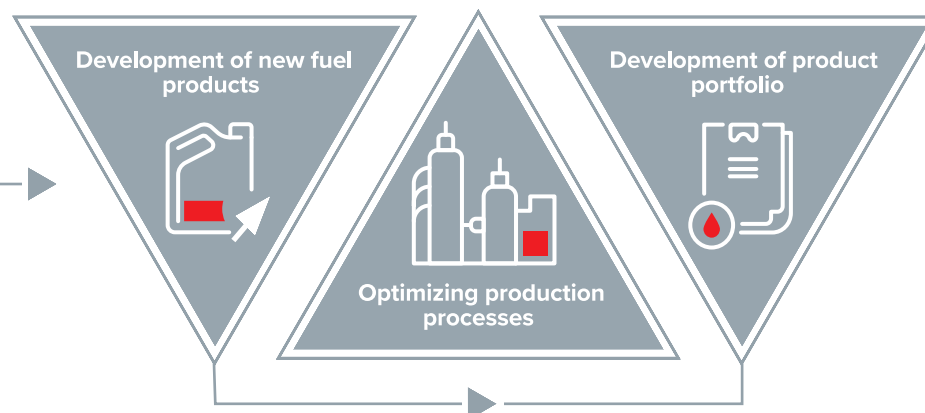
Reducing the costs of production processes and value chain management by using Industry 4.0 technologies. Accelerating the development of organizations by adapting new digital technologies.



7

## Effective process technologies in refinery

Optimizing and increasing the efficiency of production processes. Application of efficient crude oil processing technologies to high-margin products.



8

## Development of the fertilizer area

Developing fertilizer offerings and using technology to expand offerings in modern products and services, such as precision fertilization.



9

## Modern upstream business

Optimize oil field access, intensify production and reduce production costs while maintaining occupational safety and environmental protection standards.

