



FROM MVP TO INNOVATION IN JUST ONE PILOT

About DTEK Group

DTEK Group is fully owned by SCM, a leading investment company with equity interests in energy, metals & mining, telecommunications, banking, transportation, sport, real estate, trading, agriculture and other commercial sectors.

DTEK Group is the largest private investor in the energy sector in Ukraine with over \$11 bln invested capital since 2005, employing 55,000 people:

- Largest renewable company in Ukraine with 1.1 GW onshore wind and solar assets installed
- Largest private power generator in Ukraine with 19 TWh of electricity generated in 2022 (27 TWh in 2021)
- Largest power grid, distributing over 40% of Ukraine's electricity demand
- Trusted power and gas supplier with 3.5 mln customers served through
 5.6 mln connections
- Largest privately-owned natural gas producer in Ukraine with 2.0 bcm produced in 2022

DTEK Group is actively expanding internationally, facilitating energy transition in Central, Southern and Eastern Europe:

- Active renewable developer in the EU with a target to operate 5.0 GW by 2030
- Leading asset-backed energy commodities trader with vast EU crossborder trade





Equipment manufacturing



Coal mining



Logistics



Thermal power generation



Renewables power generation



Oil & Gas



Electricity distribution



Customers



Trading



Service functions



Education

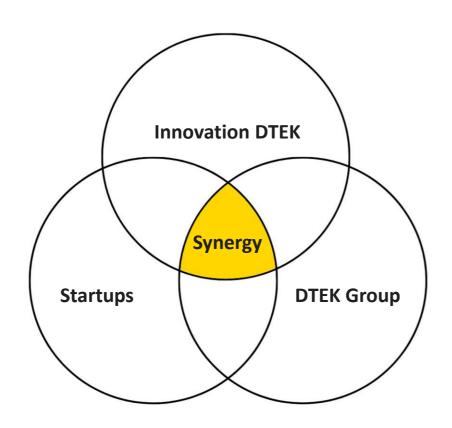


Digital solutions

About Innovation DTEK



Innovation DTEK is an open innovation platform where every startup has an opportunity to test its MVP, develop and scale at the facilities of the largest private investor in the energy sector in Ukraine



Synergy is our mindset. We believe that cooperation between corporation and startups will support the energy transition

4 innovation managers

catalyzers, fostering innovation between you and corporation

3 000+ innovation solutions

reviewed in 2018 - 2023

62 pilot projects

launched in 2018 - 2023

If your innovation solution is matching with our innovation challenges and features a high <u>Innovation</u> <u>Readiness Level</u>, please apply: <u>openinnovation.dtek.com</u>



Our team





(in)

Emanuele Volpe

Chief Innovation Officer





Andrii Bondar



- Blockchain
- Hydrogen





Oksana Dybkina



- IoT (IoE/Smart home)
- XaaS





Margaryta Grachova





Innovation Manager

- XR (AR/MR/VR) –
 Wearables
- Artificial Intelligence

Mykyta Lazarev





Serhii Tankevych

Innovation Manager

- Smart Grid
- Drones Exoskeletons
 - Robotics





COAL MINING

- high priority - medium priority - low priority

Hardware solutions	Priority	Software solutions	Priority
 Evacuation of personnel from the mine in case of destruction of lifting machines due to the enemy shelling 	• • •	 Systems for the automatic recording of machine condition and causes of downtime 	• • •
 Automatic control system of mining and excavation machines for the preparatory pits passage 	• • •	 Software to collect and transmit CH₄ readings on control equipment for timely reduction of shearer speed 	
 Technology for transport of the moistened mining mass 		 Automated equipment shutdown system 	
 System for mixing coals of different qualities 		Digital model for coal quality planning	
 Protective structures in the tunneling face 			
 Technologies for locating the wellheads of previously drilled exploration wells 		THERMAL POWER GENERATION	
 Innovative technologies for connecting rubber cloth belts 		Hardware solutions	Priority
• Low-speed methane drainage units from worked-out areas of		 Solution to protect equipment from drone attacks 	
Using diesel locomotives as generators	• • •	 Diagnostics of pipe thickness of water economizer heating surfaces in hard-to-access areas 	
 Solar systems instead of the mine boilers during the summertime 		 Insulating material for sealing air leaks 	
 Non-destructive testing of metallic castings 		 Advanced metal heat treatment technologies 	
Rock mass destruction technology		Diagnostics of metal wear in pipes	
		 Technology for preventing, cleaning, and de-slagging of the coal- fired boiler 	• • •





OIL & GAS

- high priority - medium priority - low priority

Hardware solutions	Priority	Hardware solutions	Priority
• Minimization of the negative impact of killing fluids on reservoir		 Production of carbon-neutral methanol 	
• Increasing the hydrocarbons recovery factor at the fields using CO ₂		 Automation and digitization of Bentec and Drillmec drilling rigs 	
 Production of energy resources using geothermal energy from depleted fields 	• • •	 Equipment for measuring the torque transmitted to bottom hole assembly and on-line data transfer to the surface 	• • •
• Stimulation of terrigenous reservoirs with low pressures		 Alternative materials for line pipes 	
 Cleaning of the well bottom hole zone from drilling muds/fluids 		• Protection of downhole equipment against corrosion in the	
• Mitigating risks of prospecting and exploration drilling at large		corrosive environment	
depths (over 6 000 m)		 Evaluation of the inflow rate form the producing formation intervals without well interventions 	
• Prospecting and development of fields with complicated reservoirs			
 Prevention of paraffin build-up in tubing and flow lines 		Pipeline protection against electrochemical corrosion	
• Stimulation of hydrocarbon production in close proximity to gas-		 Technologies to locate underground utility systems 	
water contact and deep formation damage		 Alternative hard-surfacing solutions for access roads and sites 	
• Drill bits for drilling under the geological conditions with fast-		 Exploitation of depleted fields for CO₂ and natural gas storage 	
changing rock hardness		Drill cuttings utilization	
 Technologies for reducing CO₂ emissions and its utilization 		Software solutions	
• Biomethane production technologies for injection into gas		Satellite data on the working area	
transmission and distribution systems		 Remote monitoring of tubing wear without well interventions 	
 Prevention of salt deposits in tubing during well operation 		Digitization of the drilling machine	





ELECTRICITY DISTRIBUTION

Hardware solutions	
• Effect of the pulse generator on the smart meter operation	\bullet
 Diagnostics of porcelain insulators 	\bullet
 Hardware and software for automatic data reading from electricity meters 	• • •
 Mechanisms for protecting underground cable laying routes 	
 Deicing technologies for overhead electricity lines 	



TRADING

Software solutions	Priority
Energy storage utilization optimization solutions	\bullet
 Flexible digital environment for rapid development of new solutions/algorithms/analyses 	
Trading platform	
Energy commodity trading optimization solutions	• • •



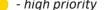
CUSTOMERS

Software solutions	Priority
 Home energy management software 	• • •
Paying electricity bills in cryptocurrency	
 Hourly electricity consumption forecasting system 	
 Energy management system for business customers 	
• Al in chatbots and call-centers to process customer's requests	
Alternative financing of ESCO-projects	



SERVICE FUNCTIONS

Hardware solutions	Priority
Innovative glazing protection	
 Glass or coating with varied light transmission for dimming out 	
 Info kiosk for accepting primary documents 	
Software solutions	
Facility service management system	
Business trip accounting solution	













EDUCATION

Hardware solutionsMechatronics laboratory	Priority
Software solutions	
 Online training platform (Learning Management System) 	
 Trainings for distribution system operator dispatchers 	
 Innovative concepts for Alumni Clubs 	
 Tool for modelling and predicting recommendations for users to build individual educational vectors 	
 New approaches to training processes in the market (EdTech, Edutainment, VR/AR) 	• • •
 Mechanisms for assessing the staff training efficiency 	
 Gamification of the learning processes 	
3D AR training courses for miners-beginners	



CROSS BUSINESS

Software solutions	Priority
 Al based grants scouting for the restoration and modernization of the energy sector 	• • •
 Al based recommendations generation on Ukraine restoration, based on the example of previous wars and natural disasters 	• • •
 Al based recommendations generation on major projects for modernizing the country's economy, based on retrospective information 	• • •
 Influence of media and advertising activities on growth of brand recognition 	• • •
 Smart patterns searching for project and product management artifacts 	
 Al tools for analyzing changes in both project and operational activities of the company 	• • •
Electronic digital signature management system	
 Protection against malicious code written by OpenAl's GPT-based models class tools 	
 PowerPoint presentations automatic generation 	
 Voice robot/AI in SME sales 	
 Solutions for video presentations and animated videos with high- quality audio 	



