



3rd NEWSLETTER

Here are the projects that won the prizes in the "Burgas blues hackathon" and Odessa Hackathon

The two-day "Burgas Blues" hackathon took place last weekend - an event for business ideas, related to digitization in the field of the blue economy and aimed at sustainable use of natural resources, protection and restoration of aquaculture, sustainable marine tourism and transport. Mayor Dimitar Nikolov also honored him with his presence.

12 teams were allowed to participate in the competition, divided into two age groups - for graduates and students over the age of 19, and for students up to the age of 19.

Competent jury chaired by Vesna Baltina - Deputy Mayor "Strategic Development and Ecology, digitalization and adaptation to climate changes" in the Municipality of Burgas; Prof. Dr. Sotir Sotirov – Member of the DiGiHub Board of Directors; Prof. Dr. Stanislav Simeonov - Deputy Dean of the Faculty of Technical Sciences at the UNIVERSITY "PROF. DR. ASEN ZLATAROV" – BURGAS; Prof. Dr. Atanas Luizov – program coordinator "Marketing" at BSU; Angel Angelov – managing partner at Innovation Capital and manager of Dinax Invest OOD; Plamen Popov - founder and member of the Management Board of Start Young Foundation and managing owner of the technology company SmartCards. Co-founder and executive director of "Bulgarian entrepreneur" magazine; Nikolay Kadiyski – owner and manager of digital agency Webtact, founder of DigitalSea, ranked the competitors teams in both categories.

In age group 1, the following teams were awarded:

1st place: Appeti't team with representative Rosen Dimitrov, business project for a specialized IT solution for online orders and payments in the restaurant sector;

2nd place: "Practical Solution" team with representative Daniel Delchev, business project for construction of a system for reducing LPG fuel costs on marine vessels by using Brownian gas;

3rd place: team "BTU" with team members Levent Kamber, Dobromir Petrov and Nikolay Pavlov, business project for the construction of an information system for the management of photovoltaic installations for electricity production located in water basins.

A special award was given to Venko Beshkov with the "IH-BAN" team for his project development for mining energy from hydrogen sulfide in the Black Sea waters

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In age group 2, the following teams were awarded:

1st place: "Goosesoft" team with members Valery Kulchicki and Kaloyan Stoyanov, project business idea for developing an innovative application that aims to revolutionize the way that users find and reserve electric car chargers.

2nd place: "Blue Flag" team with members Ivet Arabadzhieva, Nikola Zhelev, Mihaela Nikolova, Stefani Angelova, Yanilia Terpo, business idea to create a digital educational game to collect waste in the sea

And two third places:

3rd place: team "Shark" with members Klementina Georgieva, Martin Sobadzhiev, Mikhail Georgiev, Pavel Kruchmarov, project business idea for creating an application containing information about missing persons marine species and guidelines for their recovery.

3rd place: "Lazy Nation" with members Natalia Plamenova Yovcheva, Lachezar Kaloyanov Kutsarov, Dimitar Petkov Stoyanov, Georgi Mitkov Iliev, Stanimir Stoychev Stoychev, business idea for creating an interactive educational game for children about the seas and oceans and their cleaning.

All finalists in the "Burgas Blues" hackathon received subject prizes and tickets to "Remotion Fest Burgas", provided by the Municipality of Burgas, as well as prizes from Musalasoftware and Technologica. The projects of the winning teams in the 1st age group will be included in a mentoring program for entrepreneurs and will receive specialized guidance and support for successful business implementation from leading experts in the field. Finalists of the II age group will be invited to submit documents to receive the financing from the fund of the Municipality of Burgas to support startups.

The intended financial support for the team ranked in 1st place will be 5,000 BGN, for 2nd place - 3,000 BGN, for both 3rd places for 2000 BGN.

The "Burgas Blues" hackathon was held within the framework of the project "Digital Network for Blue Economy and promoting innovation" (DBAN) No. 101077599, which is implemented with the financial support of the EU through EMDF (2021-2027).



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The hackathon in Odessa took place on 26-28 June. There were 20 participants who submitted their ideas of which 7 were selected as finalists and winners.



**LIST OF SUBMITTED BUSINESS IDEAS
FOR SELECTION AND PARTICIPATION IN THE HACKATHON
UA BGROWTH
JUNE 26-28, 2023**

within the framework of the project "Digital Blue economy and innovation Acceleration Network"

(Project acronym: DBAN ; project number 101077599)
on the basis of Odesa State Agrarian University

No	The name of the business idea	Name of the applicant	Team composition, number of people
1	Solar Plex	Oleksiy Leonidovych Kurguzov	4
2	Blue Grid	Ihor Vyachelavych Karpenko	11
3	Garbage processing	Mykhailo Vladyslavovych Savchuk	3
4	Subregion Black Sea coast - pilot site for Ukraine's hydrogen strategy	Andrii Volodymyrovych Podolich	7
5	Renaissance	Olga Volodymyrivna Naidich	2
6	GREEN BEACH	Zvuzina Anastasia Yuryivna	4
7	Breath of life	Marukha Iryna Volodymyrivna	5
8	Recycling	Valery Oleksiyovych Arabinskyi	2
9	Creation of a multimodal logistics port center using blockchain technologies	Pidoprihora Maria Serhiivna	4
10	" TechMaster X"	Volodymyr Serhiyovych Kovalchuk	1
11	Fisher - star	Nerubalna Anna Oleksiivna	1
12	Cafe with lavender	Domaskina Oleksandr Olehivna	4
13	Bionrep	Demvanenko Victor Serhiyovych	2
14	Mushli-Kom	Abgash Tetvana Andriivna	3
15	Veltrack	Maksym Yuriyovych Nikiforchuk	2
16	Mobile application	Zhyrchibaba Angelina Ivanivna	2
17	Help Health	Yuliya Oleksandrivna pike perch	2
18	Garbage sorting Kindness. Ukraine	Budnikova Vladyslava Vitalyivna	2
19	The spirit of Cossacks	Doybush Inna	2
20	Observation deck	Marina Honcharuk	2

1st place **Breath of life** **Marukha Iryna Volodymyrivna** The essence of the business model is to equip rented premises and create conditions for providing a range of recreational services throughout the year with the aim of physical and emotional recovery of the population in war conditions: art and aromatherapy services , acupuncture, Sup -surfing, kayaking, sauna, vat, fitness classes, dancing, meditation, yoga, ecological tours. The business will involve partly personnel and specialists with the necessary work experience and licenses and permits to provide services. Tourists will have the opportunity to take part in the work of the volunteer movement for the restoration and enjoy eco-activities. Group classes with a psychologist on the shore of the estuary during sunset will be a key aspect of positive emotional fulfillment for tourists. Attracting customers will be carried out with the help of digital communication: website, chatbot, mobile application. The business model is focused on the economical use of natural resources of the estuary and is based on the principles of environmental sustainability: collection and sorting of garbage, use of environmentally friendly materials, popularization of ecological knowledge among tourists and local residents.

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2nd place GREEN BEACH Zyuzina Anastasia Yuryivna The business idea is to equip Odesa beaches with mobile gazebos with green roofs (the area of one gazebo is 4 m²) at the rate of 5 per one section of the beach. The roofs of the gazebos will be equipped with roofing in the form of soil completely covered with living plants. A Jackery SolarSaga 100W monocrystalline solar panel will also be installed on the roof with high conversion efficiency up to 23%. Such a panel is ideal for living in nature.

For the convenience of booking such a gazebo, a mobile application will be developed and implemented, with the help of which it will be possible to reserve a green gazebo on the beach in advance for your comfort and enjoyment of the sea vacation. There are many restaurants located on the beach, which also benefit economically from increasing the flow of customers. In turn, it will allow to increase the profit of concluding a cooperation agreement with neighboring food establishments (cafes). The mobile application will be linked to their menu, so they will be able to conveniently serve mutual customers. Attracting customers: the target audience is the population of the city and tourists who rest on the beaches of Odesa. Attracting customers can be done through advertising campaigns in social networks, on external advertising surfaces, as well as through partnership programs with hotels and travel companies.

The social effect of the implementation of the business idea is the restoration of jobs, an increase in revenues to the budget and social payments, as well as the implementation of one's own blue economy program by supporting the health of the marine ecosystem and attracting tourists.

3rd place Subregion Black Sea coast - pilot site for Ukraine's hydrogen strategy Andrii Volodymyrovych Podolich "Green Hydrogen"

Ukraine has a significant natural potential for renewable energy production, which allows for the production of renewable hydrogen. The total potential of the average annual production of "green" hydrogen is about 505 billion m³, incl . Mykolayiv region - 19 billion m³ and Odesa region - 22 billion m³. Large-scale production and use of hydrogen in Ukraine, combined with the powerful development of renewable energy, will allow decarbonization of the energy sector, infrastructure sector and industry. The territory of the Black Sea cluster can become a site for the production of renewable hydrogen not only for its own clean energy needs.

On the territory of the "Black Sea" subregion , the implementation of the most ecological technologies is expected, therefore, unlike the traditional concept of "green" ammonia, the project contains significant differences that increase its ecological attractiveness. Ammonia production at all stages will use exclusively renewable energy sources: wind, solar and biomass energy.

To obtain hydrogen in electrolyzers, purified water from municipal sewage will be used.

The biomass contained in the sewage sludge deposits will be utilized and used to obtain additional hydrogen through thermal steam-oxygen conversion, where excess oxygen from electrolysis processes will also be used.

The concept of the project involves three green stages instead of one, and closed production of ammonia.

4th place Blue Grid Ihor Vyacheslavovich Karpenko Project Blue Grid aims to develop and integrate automated technologies, such as drones, turrets and automated ground-moving devices, to improve efficiency and safety in various industries. Thanks to the ability to integrate with existing systems, Blue Grid facilitates the smooth adoption of new technologies, allowing organizations to easily adapt.

The main areas of the project include the automation of control of drones, turrets and other devices, as well as control of various devices, such as sensors, IoT devices and automated equipment. Blue Grid also provides automatic collection and analysis of data from various sensors and creation of digital spatial models, which helps to analyze, model and visualize spatial data for better understanding and management of real objects and processes.

As a result, Blue Grid opens up new opportunities for optimizing solutions in various fields, improving security and efficient collection and analysis of spatial information.

Automated drones : Blue Grid can integrate with unmanned aerial vehicles (drones) for automatic collection and analysis of spatial data. Drones can be used for video surveillance, environmental monitoring, assessment of the state of infrastructure, as well as for assistance in emergency situations.

Control automation: Blue The Grid can provide a common platform for controlling automated drones, turrets and other devices. It allows these devices to be coordinated using spatial data and intelligent analytics to improve efficiency and reduce risk.

Integration with existing systems: Blue Grid can integrate with existing control and monitoring systems, helping organizations easily implement new automated technologies and ensure a smoother transition.

Thus, Blue The Grid can become a powerful tool for the development, integration and control of automated drones, turrets and other devices that improve security, provide efficient data collection and allow the use of spatial information to optimize decisions in various industries.

Digital spatial models, also known as digital twins, create virtual representations of the real world based on spatial data collected from various sources, such as satellite imagery, lidar, photogrammetry, and ground-based sensors. These models allow analysis, modeling and visualization of spatial data, which contributes to a better understanding and management of real objects and processes.

Automation in the agricultural sector can significantly increase the productivity and efficiency of agricultural enterprises. As an example, Blue Grid can be used to implement automated systems in agriculture.

Automated drones for field monitoring: Using Blue Grid, drones can automatically collect and analyze data on plant health, soil moisture, nutrient levels, and other important metrics.

Automated agricultural equipment: Blue Grid can be integrated with automated tractors, combines and other agricultural equipment to manage operations and optimize processes such as sowing, tillage and harvesting. This allows to reduce labor costs and ensure more accurate execution of work.

Intelligent watering and fertilizer management: Using sensor data and automatic analysis of Blue Grid, farmers can accurately calculate the need for irrigation and fertilizers for each section of the field. This makes it possible to provide optimal conditions for plant growth and increase the efficiency of resource use.

Yield and risk forecasting: Blue The Grid can use spatial data, historical data and analysis of meteorological conditions to predict crops and identify risks such as pests, diseases or adverse weather conditions.

5th place Renaissance Olga Volodymyrivna Naidich One of the main ways of developing sturgeon farming at the present time, along with the recovery and increase in the number of individual populations, is the wide deployment of commercial sturgeon farming. The final goal of these works is creation of full-system sturgeon farms of various technological types (garden, industrial, pond), and their orientation in two main directions of activity: 1) preservation

and increase of sturgeon stocks in natural reservoirs, through mass stocking with young; 2) increase in the volume of commercial sturgeon products. Very promising are fish breeding technologies in closed water supply conditions, which allow reducing the burden on natural fish populations and can be used for the production of ecologically clean sturgeon products.

One of the species of practical interest for stock farming is the sterlet. Research on the cultivation of sterlets in industrial conditions served as the basis for the development of biotechnology for the formation and exploitation of sterlet queen herds under regulated conditions. At the same time, there is still a need to develop new biotechnologies for extended reproduction and commercial breeding of sturgeon fish, including sterlets.

We propose to develop and implement innovative methods of growing valuable species of fish for both commercial sturgeon breeding enterprises and sturgeon breeding plants. The partners are engaged in breeding and sale of finished products.

6th place Solar Plex Oleksiy Leonidovych Kurguzov We offer the service of upgrading ordinary electric solar panels (PV) into electric thermal panels (PV-T). After modernization, the panel produces 10-15% more electricity and thermal energy, 3-4 times more than electrical energy. The overall efficiency of converting solar energy into consumer energy is 95%+ compared to 20% in a conventional PV panel. The development has 3 patents and an MVP, which has been successfully tested in real conditions for 3 years. The project is in TRL-7 status. Currently, we can produce 7 panels/day. Uniqueness - we do not make a panel from scratch, like competitors, but modernize ordinary panels. The solar energy market is steadily growing, even in Ukraine during the war. Laws have been passed in the EU and the USA requiring the installation of solar panels on homes. And the advantage of our panels is that we provide simultaneous provision of electricity and thermal energy from the sun. As you know, no house can exist without thermal or electrical energy.

7th place Garbage processing Mykhailo Vladyslavovich Savchuk Business model for recycling raw materials is to redo unprocessed materials in the form of ready products which can be sold on the market. The main one essence business models is effective _ use resource in and optimization

processes production to achieve profit. _ We will work with polygons garbage, not depending from supplies. Now there are many processing equipment almost for every type of raw material. We can process and sell some raw materials, and produce new product.

We will make granules from waste. Pellets from PET material - to rubber crumbs (which can replace coal). Almost every good we will distribute by place of their appointment. Competitive advantages are that we will not to depend from sites of reception. _ Disadvantages - some raw can be deformed. The market share is very high, as many natural raw materials can be saved and we can produce that things, which only appears on the world market.

