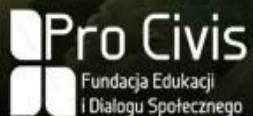




# REFAL HACKATHON

Maximizing the value of apple biomass



Ośrodek Promowania  
Przedsiębiorczości  
Sandomierz

jamk | bioeconomy

Interreg  
Baltic Sea Region



Co-funded by  
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CIRCULAR ECONOMY

BioBoosters



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# INVITATION TO PARTICIPATE IN THE REFAL HACKATHON

## "MAXIMIZING THE VALUE OF APPLE BIOMASS"

*The Challenge is to propose innovative product and/or technological solution that will allow to increase the value of sound biomass from apples damaged by weather conditions. The apples are a full value product, but due to various types of skin or shape defects, such fruits are disqualified from direct sales. The winner(s) of the REFAL Hackathon will get the opportunity to establish a long-term business cooperation with the REFAL Group, in particular by preparing and implementing a joint development project, implementing a new technology or establishing a new production line. **Help REFAL to valorise up to 6 000 000 kg of apple biomass per year!***

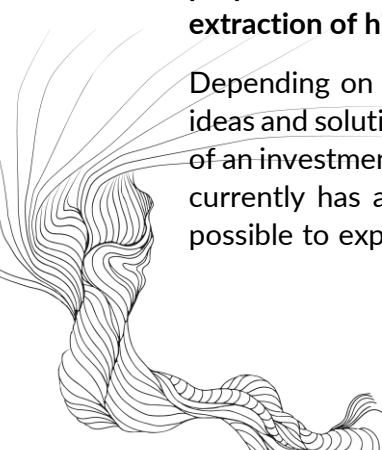
REFAL Group integrates fruit and vegetable producers from the Sandomierz area, one of the key Polish apple growing regions, where fruit growing has been present for many generations. The REFAL Group is engaged in the storage, sorting and sale of apples and other fruits and vegetables. **The area of orchards of the Group members is over 250 ha, while apple production is approx. 15,000 tons per year.**

In recent years, fruit and vegetable producers have been increasingly experiencing adverse weather conditions such as spring frosts or hail. This results in the loss or significant reduction of the yield of fresh market apples (apples for direct consumption). Customers do not accept apples with damage caused by frost and hail, despite the fact that the flesh of these fruits does not differ from apples not affected by such weather phenomena. The result is a significant loss of value of such fruits, which are then sent – at unit prices, as for the so-called drops – to plants producing juices or concentrates. Looking at numbers, usually approx. 15% - 20% of apples are not suitable for direct sale. In the case of frost or hail damages, this amount increases to approx. 30% - 40%. This could mean even **6 000 000 kg of apple biomass per year needing valorisation!**

Being well aware of the increasing technological advancements, economic importance and development opportunities offered by bioeconomy processes – REFAL is looking for innovative ideas to increase the value of sound biomass from apples damaged by adverse weather conditions.

Observing the dynamic development of the bioeconomy and constantly emerging market of **organic origin substances, chemical molecules, materials, semi-finished products and consumer products** – REFAL is interested in making investments and implementing appropriate new production line using apple biomass. Undoubtedly, promising directions for the use of apple biomass (apart from the standard production of juices and concentrates) include **fruit drying, freeze-drying, production of pectin, drop-in platform chemicals, fragrance extracts, additives for cosmetics and medicines**. REFAL is of course open also to **other innovative proposals and ideas within this Hackathon, in particular in the field of biorefinery and extraction of high-value chemical compounds from apple biomass.**

Depending on the degree of the innovativeness and economic profitability of the presented ideas and solutions – the REFAL Group is interested in the joint preparation and implementation of an investment in a completely new type of production line using biomass from apples. REFAL currently has a free production space that can be used for a new investment project. It is possible to expand the existing plant and create a new production facility. REFAL seeks for a



long-term cooperation with the solution provider / external company interested in the joint development of such a future – oriented project.

### How are we going to evaluate the submitted solutions?

The solutions will be evaluated according to the following key criteria:

- 1) Profitability and value creation from biomass (potential to increase the value of the apple biomass; ROI);
- 2) Innovativeness (novelty and originality of the presented solution);
- 3) Scalability of the solution (possibility to use other types of biomass and create new value chains regionally);
- 4) Market readiness for the new products or solutions;
- 5) Feasibility to implement the solution to REFAL operations;
- 6) Capacity of the solution provider to enter into co-operation and to jointly implement the proposal;
- 7) Positive impact on the amount of fruit reaching the REFAL cold stores and sorting plants<sup>1</sup>.

The Hackathon Jury will consist of representatives of the REFAL Group, the PRO CIVIS Foundation – the Hackathon organizer, and selected experts.

### Why is it worth taking part in REFAL Hackathon?

**The winner(s) of the Hackathon will receive a chance to establish a long-term business cooperation with the REFAL Group, in particular by preparing and implementing a joint development project / implementing a new technology / launching a new production.**

**All participants of the final session of the Hackathon also get the chance to:**

- establish new business and networking relationships with companies and specialists from similar or related industry areas;
- develop the commercial potential of the presented solutions, also thanks to the expert and mentoring support provided by the organizers;
- establish new international contacts;
- significantly increase the visibility and recognition of Teams and their solution.

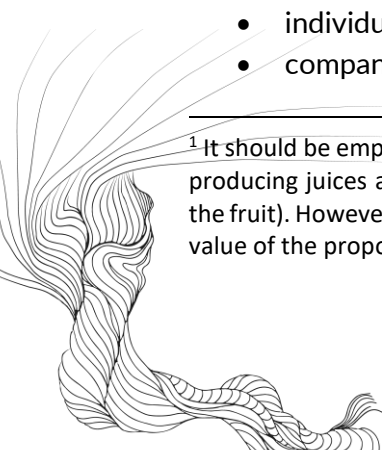
### What are the terms and conditions of participation in REFAL Hackathon?

REFAL Hackathon is open to all interested innovative entities, in particular:

- individuals
- companies

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<sup>1</sup> It should be emphasized that the ongoing sale of damaged apples by fruit growers directly to processing plants producing juices and concentrates means that the REFAL plant is bypassed (there is no need to store and sort the fruit). However, this criterion is only of supplementary character and constitutes exclusively a welcome added value of the proposed solutions



- SMEs startups
- scientific and research entities
- academic/student entities.

Applying Teams may also consist of representatives of various entities.

**REFAL Hackathon is an international event. The working language is English.**

**Participation in REFAL Hackathon is free of charge.** Innovators - international teams from the Baltic Sea Region (Finland, Sweden, Denmark, Norway, Germany, Estonia, Lithuania and Latvia) **are reimbursed for their travel and accommodation expenses.**

Entities participating in the Hackathon will be asked to sign confidentiality statements and non-disclosure agreements.

Detailed information on the participation can be found in the document: *"BioBoosters Hackathon. Rules of Participation."*

#### Detailed timeline for REFAL Hackathon:

**26.02.2025:** launch webinar of the REFAL Hackathon;

**23.03.2025:** deadline for submitting applications for the REFAL Hackathon;

**26.03.2025:** announcement of the Innovators selected to participate in the Hackathon;

**02.04.2025:** Kick-off Meeting (online); during this event, Innovators participating in the Hackathon will meet each other and meet with representatives of REFAL, who will present to the Innovators in a precise and detailed manner the Challenge, as well as expectations of the final ideas/solutions;

**24-25.04.2025:** Hackathon Days, two days' hybrid event, which will close with the selection of the winning Innovator; participation in the Hackathon Days will be possible online or at the following location: REFAL Sp. z o.o., Łukawa 80, Wilczyce (Poland)

#### Further information available at the Organiser's representatives:

Anna Gajek, [a.gajek@procivis.org.pl](mailto:a.gajek@procivis.org.pl) , tel. 600 323 923

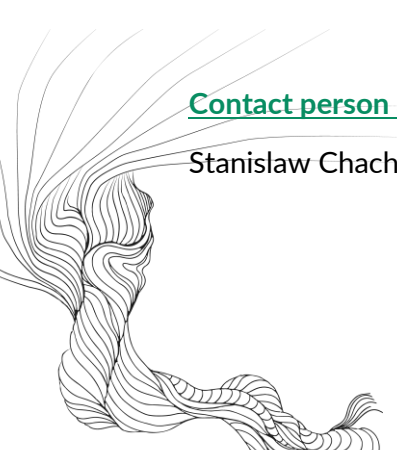
Damian Kuznowicz, [d.kuznowicz@procivis.org.pl](mailto:d.kuznowicz@procivis.org.pl) , tel. 600 435 424

Jean – Pierre Kisielewski, [jp.kisielewski@procivis.org.pl](mailto:jp.kisielewski@procivis.org.pl) , tel. 880 741 347

Artur Sobolewski, [a.sobolewski@procivis.org.pl](mailto:a.sobolewski@procivis.org.pl) , tel. 667 112623

#### Contact person at the REFAL Group:

Stanislaw Chachuła, [s.chachula@refal.eu](mailto:s.chachula@refal.eu) , tel. 668 129 103



### The Company / Challenge Provider – REFAL Group:

REFAL Company is a Group of fruit and vegetable producers associating fruit growers and farmers from the Sandomierz area. The Group was established in 2009 on the initiative of fruit growers from the Sandomierz district. It deals with the production, storage, sorting and sale of apples and other fruits and vegetables. The main product is apples of many varieties such as: Golden Delicious, Red Jonaprince, Jonagold, Gala Must, Idared, Mutsu and Red Delicious. The Group is also the owner of the "Jabłka Sandomierskie" ("*apples from sandomierskie region*") brand, which uses the popularity of the Sandomierz region as land rich in orchards and a long-standing agricultural tradition.

REFAL facilities are located in Łukawa, 10 km from Sandomierz (Poland). The Company's complex includes, among others, modern refrigeration facilities of KA type (controlled atmosphere) and ULO type (low oxygen) and a sorting plant. The Group has, among others, Integrated Production and Global G.A.P. certificates.

### Organizer of the Hackathon – PRO CIVIS Foundation:

**The Foundation for Education and Social Dialogue PRO CIVIS** is an entity whose aim is to undertake, conduct and support initiatives for the development of local communities, including through research, development and innovation, as well as entrepreneurship. The key areas on which the PRO CIVIS focuses its activities are:

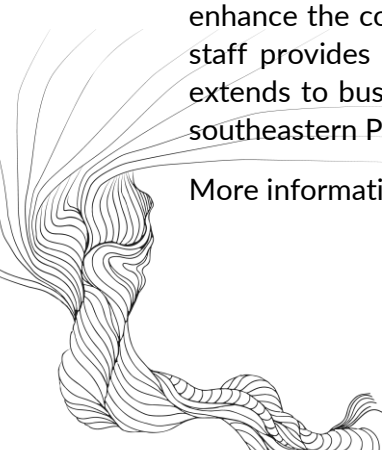
- circular economy and bioeconomy as a renewable element of circular economy
- sustainable development (sustainable products, services and business models and new consumption patterns)
- eco-innovations
- industrial ecology and renewable energy sources.

More information: <https://www.procivis.org.pl/home-page/>

### Co-organizer of the Hackathon – The Center for Business Promotion and Entrepreneurship in Sandomierz:

**The Center for Business Promotion and Entrepreneurship in Sandomierz** (Poland) is a NGO founded in 1991 by Senator Zbigniew Romaszewski and TechnoServe. It helps accelerate economic transition in rural southeastern Poland, initially focusing on agrobusiness and expanding into broader business development and support. The headquarters are in Sandomierz with a regional sub-office in Busko-Zdrój. It collaborates with various local and international agencies and is an active member of the national Small and Medium Enterprise (SME) Services Network. Through this network, the Center offers access to programs that enhance the competitiveness of SMEs within the European Union. The Center's experienced staff provides consulting, training, financial services, and technical assistance. This support extends to businesses, entrepreneurs, farmers, NGOs, local governments, and rural youth in southeastern Poland.

More information: <https://www.opiwpr.org.pl/en>



REFAL Hackathon is implemented and supported as part of the project "**BioBoosters – boosting the circular transition**" ( <https://interreg-baltic.eu/project/bioboosters/> ). The aim of this international project is to increase the level of innovation of entrepreneurs in the scope of bioeconomy and circular economy. Project Partners coming from 7 countries representing the Baltic Sea Region (Finland, Sweden, Germany, Estonia, Latvia, Lithuania and Poland) will carry out a total of 18 hackathons dedicated to the bioeconomy sector. The BioBoosters project is co-financed by the Interreg – Baltic Sea Region 2021-2027 program.

<https://hackathon.procivis.org.pl/>

<https://www.linkedin.com/company/BioBoosters>

<https://interreg-baltic.eu/project/bioboosters/>

*#hackathon #apples #biomass #valorisation #extraction #drop-in platform  
chemical compounds #highvalue #innovations*



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