

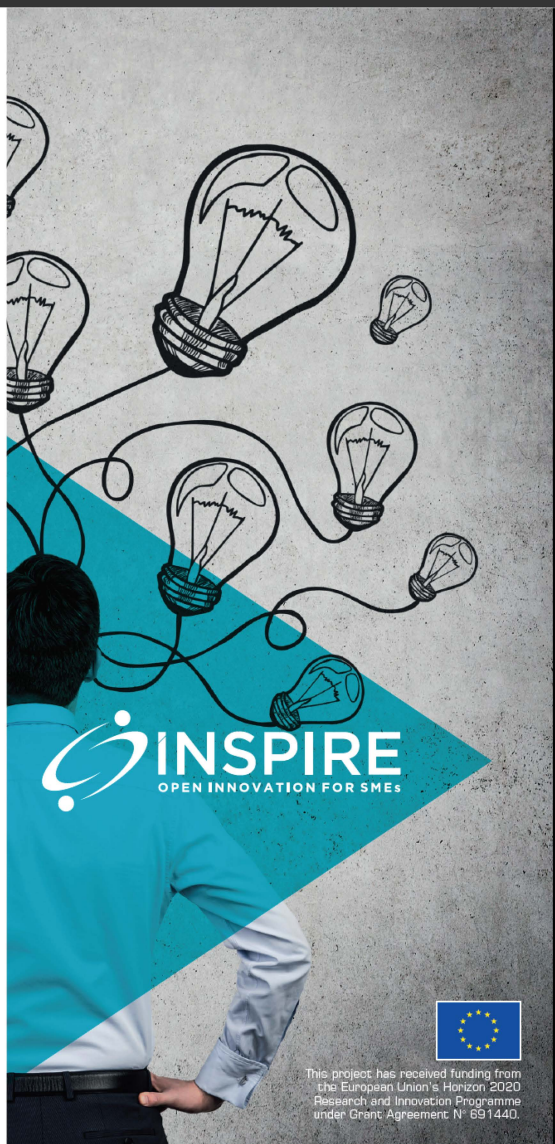
USTUKIU MALUNAS

Lithuania, www.ustukiumalunas.lt

A traditional bakery firm is invited to join an international research project funded by the Eureka programme. Despite being open and interested in acquiring new knowledge from academia, the SME was only able to benefit fully from the innovations after hiring suitably qualified personnel

Executive Summary

Ustukiu Malunas is a manufacturer of traditional grain products with an innovative twist. It aspires to differentiate itself from the competition, and one of the ways to do so is to constantly develop new products. The source of its many ideas are universities. To implement these ideas, they regularly engage in collaborative projects. One project aimed at developing technology and lactobacillus cultures for its line offermented products. The technology was based on university research and a vision of transferring it to the company. However, the company had to adapt to this opportunity by upgrading its laboratory to deal with microbiological cultures and acquiring new skills.



CASE N°: EE45

SECTOR: AGRIFOOD

TECH INTENSITY: LOW-MEDIUM TECH

LIFE CYCLE STAGE: RENEWAL

INNOVATION VECTORS: PRODUCT

01 PARTNERS: PSR

KEYWORDS: External knowledge, university partner

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BACKGROUND

UAB Ustukiu Malunas is a family-owned business, established in 1992 in a provincial Lithuanian town, just after the collapse of the command economy system. Giedrius U., the founder and CEO of the company – and like many entrepreneurs of that time – started out in business from necessity. He tried different activities: retail trade and wholesale trade, catering, acquired a grain mill, entered into the production of ecological products. He experienced ups and downs, almost went bankrupt and prospered again. When Giedrius' sons completed their education several years ago, they joined the company. And many young specialists came with them solving a long-standing human resources problem. In the agricultural area, the SME had to rely on what they could find and train locally, which was not always the best fit for what they wanted to do.

Ustukiu Malunas established a laboratory for cereal research, where the analysis of cereals could be performed and where new products were developed. The company started to focus and in the meantime it produces cereal products made of various grains and used in bread making, brewing, animal feed, dairy, confectionery and the meat industry. In 2000, it received a "Best Product of the Year" award and in 2005 an ICC Poland award. Now the company employs 120 people. About 30% of their production is exported –to Latvia, Estonia, Poland, Spain and the USA, among other countries. Giedrius is still the soul of the company; he has retained his open-mindedness, wit and ability to communicate with different kinds of people and he is keen to try new things, experiment and take risks.

INNOVATION CHALLENGE & MARKET OPPORTUNITIES

As it was working in a very competitive environment, Ustukiu Malunas was looking for ways to stand out from the competition. In this industry, competition is either on price or competing with differentiated products. They have limited marketing budgets, so the only way to stand out is to create products that can speak for themselves. The challenge is to develop new products with limited R&D capacity.

Despite the variety of bread products in the supermarkets, many consumers are going back to

local bakeries or even making their own bread at home. This trend shows that consumers are searching for the kind of flavour and texture often sacrificed during industrial production. Improving industrially-made grain products is therefore a market opportunity for smaller producers. However, meeting industrial production requirements, such as long shelf life, consistent quality as well as retaining the taste and texture of the home product is a challenge.

OPEN INNOVATION TRAJECTORY

Concept development

Grazina J., a scientist from Kaunas University of Technology, suggested to Giedrius to participate in a project that would carry out research into lactobacillus cultures from bakeries in the Baltic countries. Fermentation has traditionally been used to preserve perishable products and enhance their nutritional value. The idea was to improve the nutritional value of pre-gelatinized cereal staple and to increase the amount of dietary fibre by using a fermentation process. Research showed that some lactic acid bacteria produce not only organic acids, but also protein compounds –bacteriocins that inhibit the reproduction of congeneric LAB. The concept included screening the antimicrobial activity of LAB and making a composition suitable for the production of fermented cereal products. Furthermore, it would work on selecting a proper fermentation medium.

The development process, IPR and competition strategy

The project was funded by the Eureka programme. The researchers joined up with others in their field from Latvia and Estonia, including the Latvian University of Agriculture, Laci Bread Bakery (Latvia) and Fazer Eesti As (Fazer Bakeries Estonia). Food scientists and technicians at the Kaunas University of Technology in Lithuania gathered samples of the lactobacillus cultures from bakeries in the country and performed research regarding metabolites produced by LAB in sourdoughs; a comprehensive analysis (thermo stability, activity at different pH, stability at different temperatures) on bacteriocins produced by LAB isolated from spontaneous bread sourdoughs was made.

They also researched the antimicrobial activity of LAB and tested compositions for the production of

fermented cereal products. Ustukiu Malunas provided different compositions of lactobacillus growth media and was the lead user of the new technology. It also went on to develop products with specific functionality characteristics and an increased amount of biological active substances. It was planned to develop new production technology as well.

The know-how was transferred from the project to Ustukiu Malunas.

As a small company Ustukiu Malunas looks for small niches which are not interesting for the big players. Their competition strategy is based on a constant flow of newly developed products, sometimes with very unexpected ingredients and taste. Ustukiu Malunas seeks to gain the first mover advantage before imitators offer their variation of the product. Their product ideas are sourced from inside and outside the company. For example, the idea of developing the extruded grain products was prompted by the Latvian company Dobeles Dzirnaveiks.

Other ideas may come from the research world, usually from Lithuanian and Latvian universities. Most often the products are developed together with the research partners and tested in the market. It usually takes around six months to test, and if successful the production is continued. About 90% of trials are unsuccessful.

Commercialization and follow-up

The scaling-up process ran into problems. Although the growth media for lactobacillus was sourced from Ustukiu Malunas, and the company was actively engaged in the project, scaling up production proved to be difficult: the cultures would die for some reason when grown outside the university laboratory. It may have been related to the qualification of the staff at Ustukiu Malunas. When new people, graduates of the Kaunas University of Technology, joined the company the situation significantly improved: company personnel and university researchers could understand each other more easily. However, precious time was lost. Now they are commercializing fermented grain products which should appear on the market at the end of 2017.

The SME was obliged to upgrade its laboratory and in-house skills to adopt the new technology.

At the beginning the new product was produced in small batches and delivered to small retail chains in Latvia and Lithuania. If the idea is accepted by the consumers, the product will be offered to the big chains. For geographically distant markets, the usual approach is to develop partnerships with

distributors (usually companies working in the wholesale trade}, for example in Spain, Czech Republic and Israel. In the Baltics, and to some retail clients in other countries, Ustukiu Malunas sells under their own brand.

They have their own e-shop; recently, when the new generation took over some key functions in the company, they became active in the social networks. This allows them to obtain consumer feedback and suggestions directly (one example was a suggestion to make one type of their crackers softer).

Other discoveries made during the project can be applied to produce grain that is resistant to rotting, which would allow for intensified crop production without harming the environment. This may solve some problems that Ustukiu Malunas experienced with grain storage.

BUSINESS IMPACT

Fermented grain product technology is a promising enabler for new product lines. It is also employed for feed production from the factory's by-products.

With this particular fermented product initiative, they equipped their laboratory that allows them to work with lactobacillus cultures. They have employed new people who can understand and work with academic researchers.

The greatest challenges for the company in this project have been understanding the scientists they were working with. One of the reasons was that they had product technologists who were not trained in microbiology. They were learning gradually, but the breakthrough came when new specialists, graduates of the Kaunas University of Technology, joined the company.

The company has yet to earn money from this project, but they have had positive experience from co-developing other innovations, e.g. extruded grain products, so they are optimistic about future earnings.

LESSONS LEARNED

This is a rare example of an LMT company which regularly and willingly works with academia in joint projects or just providing raw materials. The case shows that there are difficulties in absorbing external knowledge.

Ustukiu Malunas understood the importance of external knowledge, but could not make full use of it until they hired new qualified personnel. The case also highlights the importance of the subject-object (project level - company level) interaction for the commercial success of innovation: the company has to adapt to the new opportunity.

Main lessons learned:

1. The development of innovation has go hand-in-hand with the development of internal resources. The successful project required that changes be made in the company.
2. The case illustrates the importance of the concept of absorptive capacity: Ustukiu Malunas was aware about the importance of fermentation technology, but could not absorb the knowledge and transform it.
3. In some areas, academia may be an important source of product ideas.