Ambline Ltd.

DATE: September 2014

"Thanks to amber properties and amber-shaped particles, we are able to produce amber composite yarns, preserving original biological properties of Baltic amber. Natural particles are evenly distributed in polymer organics matrix which is the basis of yarn"

Inga Lyashenko
Dr.sc.ing., Senior Researcher, Institute of Biomaterials and Biomechanics (Riga Technical University)

FAST FACTS

Country or Region:

LATVIA

University:

RIGA TECHNICAL UNIVERSITY

Business partners:

- Ambline Ltd

Area of UBC:

- COMMERCIALISATION

Project start date: September 2013

Project end date: On going

Keywords:

- Amber yarns
- Commercialization
- Textile products

PROJECT SUMMARY

Dr.sc.ing. Inga Lyashenko, a researcher in the Institute of Biomaterials and Biomechanics at Riga Technical University (henceforth – RTU) developed a unique technology for production of amber yarns. I.Lyashenko has an agreement with a private company, Ambline Ltd., and according to the agreement Ambline Ltd. can use the amber yarns to produce exclusive apparel products. By intertwining linen, wool, cotton or cashmere with amber yarns Ambline Ltd. has been producing scarfs, sauna gloves and night gowns for women and children, bed linen and other products. Currently, the products are sold in boutique shops in Latvia, but the aim is to export the production to other countries, and there have been discussions with potential cooperation partners in Portugal, the United Kingdom and Italy. In March 2014 Ambline Ltd. participated in International exhibition of yarns "FILO" in Milan, and the company took part in exhibition Baltic Fashion & Textile Riga 2014.

CASE STUDY IN DETAILS

Project Background and Needs

At the heart of the cooperation is a technology of amber yarns which was developed by the RTU's scientist Inga Lyashenko. It is a unique technology that is protected by 3 patents (one of them International).

Amber contains amber acid and it's isomers, which is biologically active ingredient.

The effect of Succinic acid contained in the amber is not only associated with the regulation of intracellular processes, but also the restoration of the wilted skins renewal process. This feature of succinic acid allows to use technologically processed succinite in cosmetology.

The yarns is made out of the light yellow amber or succinite, which contains the largest amount of amber acid (3-8% of its mass), compared with other types of amber.

The need in this project was to produce a marketable product that would contain the amber yarns and, thus, carry with it all the beneficial qualities of amber.

Key Objective:

- to develop a product that would use the amber yarns with all its beneficial qualities.

Lessons learned:

- Ambline Ltd. is much more attractive service provider compared to the Riga Technical University, which might be related to speed and efficiency in processing the orders.
- The long term experience in certain research of combi-nation amber yarns with natural yarns finally can lead to successful commercialization and lead to export markets with fabrics and textile production, as well luxuary hand-made production.
- Establishment of new start-up company is never easy and only close cooperation between Riga Technical University and researchers who are establishing Ambline Ltd. can lead to business success.
- Ambline Ltd. is providing a good feedback for Riga Technical University bio-textile department regarding the future needs of R&D activities.

University profile:

Riga Technical University is the first technical university in the Baltic countries – its history dates back to 1862 when Riga Polytechnic was founded. Long lasting traditions, advanced teaching methods, new technologies and innovative approach provide the University with the opportunity to ensure research excellence and offer exciting full-time or part-time studies in RTU in Engineering Sciences, Technologies, Natural and Environmental Sciences as well as in Architecture and Engineering Economics.

Now RTU academic staff is about 466 persons, research staff - 453 and, in total, there are 14 891 students (including foreign students).

Project Solution from University's Side

Riga Technical University incorporation with JLU Technologies Ltd. were first who get support from EU projects and made technology of amber yarns and manufacture first pilot party of amber yarns, therefore the support from the bio-textile department was quite active while performing technology transfer process and early hosting of JLU Technology Ltd. The processes of licensing and commercialization in JLU Technology Ltd. were in their early phase and a lot of activities had to be done in order to accelerate similar initiatives. Bio-textile research department (Riga Technical University) is internationally recognized center of excellence that has deep traditions in preparation of young scientists and every year it prepares promising specialists in specific bio-textile technology field. Riga Technical University is offering high-class specialists in bio-textile industry, and JLU Technology Ltd. are a great option for employments. Also Riga Technical University is eager to offer its open access infrastructure and equipments for temporal use by companies and especially start-ups from Riga Technical University when it is mostly needed.

Project Solution from Partner's Side

There is an agreement between the scientist and Ambline Ltd. for 5 years, whereby Ambline Ltd. is allowed to use amber yarns to produce marketable textile products especially luxury hand-made production.

Achievements and Impact

As a result of the cooperation, a research finding has been turned into real products that are marketed and sold in Latvia and to the export markets. The creation a new type of product - amber yarn was oriented to these main characteristics from client's perspective: amber composite yarns with a significant advantage compared to other known polymer composite yarns, composite yarns with a smooth surface that does not cause allergic reactions, stimulates the activity of the skin, promotes normal skin area regeneration, reflects ultraviolet rays, prevents the formation of clots in contact with platelets and which have biocompatibility with living tissue, in addition technologically processed succinite activity lasted longer than one year.

Quantifiable Outputs for University

More than 10 publications in the mainstream media about the invention and the fact that it was done in Institute of Biomaterials and Biomechanics of Riga Technical University. As well as seminars were organized by specialist of bio-textile Riga Technical University for Ambline Ltd. management and securing professional advices were done.

Cooperation projects:

2006.-2007. RTU „Knitted fibers with antitrombogenic properties”.

2007 RTU „Woven vascular implant with anti-thrombogenic biological properties for practical implementation in manufacturing”

01.03.2012. – 31.05.2013. Riga Technical University “Biomaterial research and optimization into production” ESF

2013.28.10.-2014.28.03 RTU “Yarn containing the Baltic amber for manufacturing and research”. ERAF project.

Quantifiable Outputs for Partner (s)

A unique product that is being sold in Latvia and elsewhere, as well as in the online shop.

CHECKLIST OF PREREQUISITES TO SUCCESS

Formal aspects

- There is a commercial contract between the scientist of the university and the cooperation partner.
- Project is related to at least one strategic priority of the University.
- Project is related to at least one strategic priority of the Partner(s).

Financial and/or Infrastructure aspects

- Co-operation Partner invests financial resources in the project.
- University gains monetary benefits from the project.
- University gains non-monetary but measurable and verifiable benefits from the project.
- Co-operation Partner gains monetary benefits from the project.

Human capital aspects

- University is devoting its human capital, know-how, competence to the mutual cooperation, specifically, R&D staff.
- Co-operation Partner is devoting its human capital, know-how, competence to the mutual cooperation.

Marketing and communication aspects

- Project and/or project results are communicated within mass media channels.
- Project and/or project results are presented in trade-shows, conferences, seminars, other marketing events.
- Project and/or project results are communicated within academic and/or scientific communication channels (research papers, scientific conferences and activities).

- Project and/or project results are communicated within internal marketing and/or communication channels within the University and/or Partner institution.

For More Information

For more information about the case study contact Inga Lyashenko on inga.lasenko@inbox.lv

For more information about the project "FROM BRIDGING TO SUCCEEDING. University and Business Co-operation Through Success Stories." and for more case studies visit www.university-business.net

For more information about the Nordplus Horizontal programme visit www.nordplusonline.org