Profile Status: Published

Technology Request

Strong sewing thread made of compostable material

Summary

A Swiss company has launched its first compostable clothing line. In order to achieve compostability for a piece of clothing, the guidelines for design and production are very strict. As a consequence of these guidelines, the company is looking for a sewing thread with the strength and properties of polyester. The company is seeking partners who have the know-how for this kind of sewing thread. Commercial, technical or research agreements could be possible.

Creation Date	06 July 2016
Last Update	24 November 2017
Expiration Date	02 July 2018
Reference	TRCH20160706001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/60e8cdb7-1286-42a2-8f5a-8b525394fc3d

Details

Description

A Swiss company recently launched its first compostable clothing line with t-shirts, pants and shirts. In order to achieve compostability for a piece of clothing, the guidelines for design and production had and have to be very strict. They managed to find a compostable sewing thread, but up to this day it is not as strong as a standard polyester sewing thread.
They are now looking for know-how or technologies with properties and strength matching polyester. The technology or know-how to apply should not compromise on the compostability of the clothes.

The existing clothing line has following characteristics:

Grown in Europe
The fabric is made from bast and cellulose fibres grown in Europe like Tencel or Modal, a cellulose fiber produced from raw material wood or wood pulp designed to minimize environmental impact. Producing these native fibres protects the soil and requires much less water than cotton which is easier to process.

Other fibres fitting the same criteria (low footprint, European, biodegradable) would be possible. Plant-based fibres are preferred and production has to be in Europe according to the concept of sustainable development of the company.

Short transport routes
Compared to common textiles, the path from fibre to product is a short trip. The various production steps for the fabric take place at a distance of maximum 2’500 kilometres (1’600

miles) from Zurich.

Not toxic
While flax and hemp cultivation requires almost no pesticides, they also use as few chemicals as possible when further processing bast fibres. The company avoids bleaching altogether. This means that the fabric may also be recommended for babies and infants without any restrictions. This is the conclusion reached by Oeko-Tex® Standard 100 (product class I), an independent control and certification system.

Factory proof
Fabrics and garments have to be long-lasting and sturdy. The Swiss company uses it as workwear in the factory and also at the bar after work. The employees subjected all fabrics and products to strict testing, also taking style into account.

For the compost
The fabric satisfies the toughest factory requirements and yet is 100 % biodegradable in compost within just a few months.

Background of the company
The company is design driven and a pioneer in its area. Several products of their other product line are exposed in well-known museum collections. Products can be purchased world-wide.

Cooperation
The company is looking for partners or research partners who have either the know-how or are willing to develop it together with the company respectively with a thread producing company. The company believes that the solution could come from the textile sector but more likely from other industries like e.g. bioplastics.
Following cooperation types might be considered:
- Commercial agreement with technical assistance: with a partner that offers the suitable solution
- Technical cooperation agreement: with a partner who has a solution which has to be adapted to the requirements of the Swiss company
- Research cooperation agreement: with a research partner to develop the solution as no existing solution is available

Technical Specification or Expertise Sought

- Strength equals polyester
- The solution has to be washing machine proof
- Available in various diameters on standard production spools
- Possibility to dye with GOTS or Oeko-tex low impact colours
- The end solution – the new thread - has to dissolve completely in regular compost within a few months. = Cradle to Cradle approach
- If possible, the solution should be vegan

Keywords

Technology

02007018	Advanced Textile Materials
02007020	Biobased materials
03005005	Non weaving related to Textiles Technology
03005007	Textile fibres

10003001	Biotreatment / Compost / Bioconversion

Market

07004001	Clothing, shoes and accessories (including jewellery)
09004003	Textiles (synthetic and natural)

NACE

C.13	Manufacture of textiles
C.15.1.2	Manufacture of luggage, handbags and the like, saddlery and harness
G.46.1.6	Agents involved in the sale of textiles, clothing, fur, footwear and leather goods

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Open for EOI : Yes

Dissemination

Send to Sector Group

Environment

Client

Type and Size of Organisation Behind the Profile

Industry SME 50-249

Year Established

1993

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Swedish
German
French

Client Country

Switzerland

Partner Sought

Type and Role of Partner Sought

The specific area of activity of the partner:
For all the three cooperation types the sought partner should be active in the production of sewing threads and meet the above mentioned criteria (in research stage or further developed).

The tasks to be performed by the partner sought:
- Commercial agreement: Provide the suitable solution.
- Technical cooperation agreement: Adapt an existing solution to the required specifications of the Swiss company.
- Research cooperation agreement: Develop the suitable solution together with the Swiss company.

Type and Size of Partner Sought

SME 11-50,University,Inventor,R&D Institution,SME <10,>500 MNE,251-500,SME 51-250,>500

Type of Partnership Considered

Commercial agreement with technical assistance
Technical cooperation agreement
Research cooperation agreement

Attachments

Profile Status: Published

Technology Offer

Secure and transferable e-tickets

Summary

A new and innovative electronic tickets system has been developed jointly by researchers of two Spanish universities. It is based upon a technology that uses mobile devices as a communication platform among sellers and buyers. The e-Ttcket is secure and efficient and provides an alternative solution to the use of classic paper tickets. Information and Communication Technologies (ICT) providers, specialized in the e-ticketing field are being sought for a license agreement.

Creation Date	21 September 2017
Last Update	27 September 2017
Expiration Date	27 September 2018
Reference	TOES20170921002
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/c39ea643-800c-4868-924a-9e626b171720

Details

Description

The use of Information Technologies (IT) in the day-by-day operations is growing dramatically. Nowadays, it is possible to perform a lot of actions at home and there are not temporal restrictions. The electronic tickets are an example; people can buy a transport ticket or a movie ticket. In this sense, the smart-phones are a key element because users can buy the e-ticket from any place and can carry tickets while they are moving, and validate them in order to get access to the service . Moreover, the e-ticketing systems must offer the same properties of the paper tickets, i.e. they must be secure, anonymous and transferable.

This solution uses cryptographic techniques in order to achieve the main security requirements for the system. Group signatures enable the users of a certain group to sign as a group member without need to reveal the real identity. This feature can give anonymity to the users of a system that could adopt this cryptographic primitive. However, the bad use of this group signature scheme should be penalized. To achieve so, revocable group signatures could be used and then a trusted authority (e.g. police or security forces) could have the right to revoke a determined group signature and adopt the considered actions. This way, if a ticket has been transferred and somebody misbehaved, a trusted authority could identify which is the part of the chain that misbehaved and identify him/her.

The scheme has also been thought to be used in mobile devices in order to make it really practical either for users and entities of the system. In this direction, the use of the mobile devices as a smartcard in order to perform secure transactions is a trend that is more used recently. Near Field Communication is a communication technology which this solution could adopt to be used in a real system with mobile devices, and where the tickets could be stored in.

However, the system can be deployed without the NFC technology.

The e-ticketing system proposed can be used in different services, so that service providers can adapt the system in order to meet their requirements. The system provides to the users the same properties of the paper tickets. The tickets are anonymous and users can transfer them between them without the interaction of the ticket issuer or the provider.

The method has been developed by researchers of two Spanish universitites, specialized in cryptographic systems. ICT providers specialized in the field of the electronic ticketing are beeing sought for a license agreement.

Advantages and Innovations

It is configurable and can be used in different services.

The system can be deployed in the cloud for the service providers. The users can use their smart-phones to obtain, use or transfer the e-tickets.

The system offers the same properties of the paper tickets and the benefits of the e-tickets. For example, customers are able to book everywhere, even without a printer.

Tickets can be bought and used immediately.

The system allows easier and faster communication between the customers and the company. Companies save resources and speed up the management process.

Moreover, the solution is practical, either for users and entities. That gives a commercial advantage in comparison to other solutions, because security has been considered an essential part of the system. For example, the anonymity for users enables the acceptance of the system to be in a high ratio.

Finally, the transferability of the tickets between users until its use, assuring that any misbehaviour could be identified and penalised if needed.

Stage of Development

Field tested/evaluated

IPR Status

Patents granted

Comment Regarding IPR status

The patent has been granted in Spain.

Profile Origin

Private (in-house) research

Keywords

Technology

01003009	Data Protection, Storage, Cryptography, Security

Market

01006002	Mobile communications, pagers and cellular radio
07001005	Sport facilities (gyms and clubs)
07001007	Other leisure and recreational products and services
08006001	Process control and logistics

NACE

M.72.1.9	Other research and experimental development on natural sciences and engineering

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Open for EOI : Yes

Dissemination

Send to Sector Group

ICT Industry and Services

Client

Type and Size of Organisation Behind the Profile

University

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Spanish

Client Country

Spain

Partner Sought

Type and Role of Partner Sought

Information and Communication Technologies (ICT) providers, specialized in the e-ticketing field are being sought for a license agreement in order to improve the actual e-tickets with new features based on the technology.

The main applications of the e-ticket are: electronic commerce, transportation and logistics systems, tourism applications, sport and leisure events, access control systems or mobile applications.

Type and Size of Partner Sought

SME 11-50,SME <10,>500 MNE,251-500,SME 51-250,>500

Type of Partnership Considered

License agreement

Attachments

Profile Status: Published

Technology Offer

A start up Bulgarian company offers partnership for the commercialization of a designed by them device, transforming the kinetic energy of cardio-fitness machines to electricity. The preferred cooperation types are financial or joint venture agreements.

Summary

This is a Bulgarian start-up company working on its first major project – a device for transformation of the kinetic energy from fitness machines to electricity. The company has developed its first prototype version and now is working on the second stage concerning the final optimization of the product and its commercialization. The sought cooperation types are financial, joint venture or technical cooperation agreements. Commercial agreement with technical assistance is also an option.

Creation Date	30 December 2016
Last Update	08 January 2018
Expiration Date	18 July 2018
Reference	TOBG20161229002
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/3994ff01-8d43-4989-98ee-85e33b87ad00

Details

Description

This newly founded Bulgarian company is working on the development of an innovative device that makes electricity from the kinetic energy of cardio-fitness machines. The research is based on the experience of proven specialists from the energy industry, the information technologies' industry, wellbeing and recreation, business development and entrepreneurship. The combination of the above mentioned experts' knowledge and experience brought to the development of a technologically improved solution to something that already exists. Technology, the team is working on, is an improvement from existing alternatives due to its new approach towards installation (making it more affordable), to its compatibility with various fitness machines, and mainly due to its distinguishing feature for individual recognition and feedback.

The concept comes not only as an addition to cardio training but would be developed in other industry markets as it is a statement for sustainable development from every gym and user. The information and individual contribution will be uploaded on social media platforms and phone

apps.

The main driving force behind the concept is to make the care for the environment a purposeful activity. The idea is to make the regular training sessions a remarkable event for every user by adding a “feel good” element by informing users how much they have relieved the environment from pollution through their personal actions.

The device under development is designed for functionality. It will be functional from an installation perspective, making it more affordable for every new installation in the same facility (gym). The goal is to make the investment for one fitness machine equipped with the device and the investment for ten (in the same facility) as much as possible closer.

Example: 1 installation costs X €, and for 10 you will pay 3X to 4X €, instead of paying 10X €. It is important to be noted that the company is working hard towards having the initial price (X) lower than the price of the competitive devices.

The further improvement of the device is directed towards its compatibility to a wide range of machines (more than any of the existing alternatives on the world market). As a final touch, the company decided to make the device fun to use and to develop personal recognition feature.

The development of the device so far has costed € 50 000. Calculations suggest that further € 100 000 would be necessary for the final product development, where all details would be performed with precision and all requirements to manufacturing will be specified. For setting it as a market-ready device are needed additional € 100 000. The time span of the product development will take from 18 to 24 months. Marketing team has calculated that it will take three years for the investors to recover their initial investment and start generating profit.

The envisaged primary types of partnership are financial agreement and joint venture agreement. The potential partners are expected to estimate the prospects for commercialization of the device and the needed funds and if convinced that the project is profitable, to invest in it. Commercial agreement with technical assistance for acquisition of the company or part of it also is an option.

For additional development of the project, aiming at the application of the device in other industrial sectors, a technical cooperation agreement is sought.

Advantages and Innovations

- The device contributes for protection of the environment while the people perform their casual sports activities;
- The device is designed to be functional with different kinds of fitness equipment. It can be applied also in other types of machines and equipment;
- The company has achieved decrease of the expenditures for installing several devices in one facility (gym);
- The company’s team includes experts in different branches – energy, information technologies, wellbeing and recreation, business development and entrepreneurship. This allows it not only to design an innovative product, but also helps for its further development and adaptation for other devices.

Stage of Development

Prototype available for demonstration

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

Applied for national patent. Application for European patent is being currently prepared for submission.

Profile Origin

Private (in-house) research

Keywords

Technology

01002004	Embedded Systems and Real Time Systems
11008	Creative services

Market

07001004	Sporting goods, hobby equipment and athletics clothes

NACE

R.93.1.3	Fitness facilities

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Dissemination

Send to Sector Group

Environment

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2015

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Bulgarian

Client Country

Bulgaria

Partner Sought

Type and Role of Partner Sought

Joint venture agreement - a potential partnership with a company in the sphere of software/mobile apps development could prove highly beneficial to both parties. If such partnership is agreed upon and the software/mobile app development phase is outsourced to the potential partner, then the company's team would be fully capable to develop the rest of the device, and perform all necessary tests for additional € 50 000.

Financial agreement - at the stage the company has reached, it needs € 200 000 for finalizing the product development and set it as a market-ready device. This sum is expected to be granted by the potential partner.

Commercial agreement with technical assistance – if a potential partner is interested in acquisition of the company or part of it, the expected price is € 500 000 for the whole company (including the patent, now-how, expertise and technical assistance) or € 200 000 for 30% of it.

Technical cooperation agreement – the concept of the developed innovative device (full concept is a trade secret) suggests its use in many other spheres of the industry and services. Every technology company that is interested in the device and has ideas for its application in a particular machine or equipment is welcome as a partner.

Type of Partnership Considered

Financial agreement
Commercial agreement with technical assistance
Technical cooperation agreement
Joint venture agreement

Attachments