

Technology Request

Urgent - Creep Resistant Polymer Materials

Summary

A Brussels-based multinational active in consumer goods wishes to explore materials and technology approaches that can limit tensile creep in extruded polyethylene flexible film materials. Different kinds of cooperations are sought (technical cooperation or licence agreements), depending on the state of the art of the suggested solution.

Creation Date	22 December 2014
Last Update	21 January 2015
Expiration Date	27 March 2015
Reference	TRBE20141222001

Details

Description

Creep is the deformation of a polymer material over time when that polymer is under load. This Brussels-based large account intends to expand its knowledge and explore materials and technology approaches that can limit tensile creep in extruded polyethylene flexible film materials.

Preferrably, these materials would remain at least semi-transparent – e.g. fillers that make a totally opaque film such as carbon fibers would be much less preferred, but still considered.

The company also requires that the solution is also still consumer recyclable within a mixed polyethylene (PE) stream (i.e. have only a minor phase ~5-10% that is non PE).

Technical Specification or Expertise Sought

The company is therefore looking for companies or academic programs working in this area or who have a ready-made solution compliant with the following requirements:

- Data demonstrating creep/stress relaxation (at ~3% strain or 8.2 MPa stress (megapascal) at both 25°C and 50°C - temperature in Celsius) for a suitable time period (preferably 3 hours but 30 minutes to 5+ hour data OK) for both a control polyethylene film and any data supporting the solution.
- Cost index of the solution vs. without the technology, idea, solution.
- Recyclability assessment of how recyclable the technology/solution is vs. polyethylene film without any of the proposed technology.
- Materials that are approved safe for direct food contact.
- The Solution provider should be prepared to supply 1 kg of material for internal evaluation

The company is NOT interested in:

- Any solutions without data supporting creep/stress relaxation performance vs. control
- Any solutions where 1kg sample cannot be supplied
- Metals, the use of metals in place of polymers definitely out of scope
- Laminations or coextrusions (to PET or other polyesters) to a polyethylene
- PVC or any chlorinated polymers
- Inclusion of Nylon (through lamination, coextrusion, etc.)
- Solutions that are not recyclable in the polyethylene stream
- Materials that are 3 times or greater cost index than the baseline cost index (without solution/idea)

Stage of Development

Prototype available for demonstration

Keywords

Technology

002002015	Extrusion
002007014	Plastics, Polymers
002007015	Properties of Materials, Corrosion/Degradation
008002002	Food Microbiology / Toxicology / Quality Control
010003004	Recycling, Recovery

Market

008001009	Speciality/performance materials: producers and fabricators
008001018	Polymer (plastics) materials
009004006	Packing products and systems

NACE

C.22.2.2	Manufacture of plastic packing goods
----------	--------------------------------------

Dissemination

Send to Sector Group

Bio Chem Tech

Client

Type and Size of Organisation Behind the Profile

Industry >500 MNE

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Client Country

Belgium

Partner Sought**Type and Role of Partner Sought**

Type of Partner Sought: industry or academia

Area of expertise: materials, polymer material

Role of Partner Sought: collaborate with the large account on this technical issue, by providing "work in progress" solutions where 1kg sample can be supplied for test or, even better, ready-made solutions sought

Type and Size of Partner Sought

University, R&D Institution, SME 51-250

Type of Partnership Considered

License agreement

Technical cooperation agreement

Technology Offer

Car sharing software solution for electrical vehicles fleet management

Summary

Spanish based tech-company has developed a complete technological solution specially optimized for electrical vehicles fleet management. It allows managing a car sharing fleet of vehicles addressing particular users, companies or public organizations. The company is looking for integrators willing to cooperate under commercial agreements with technical assistance.

Creation Date	19 July 2013
Last Update	19 January 2015
Expiration Date	19 January 2016
Reference	TOES20130719001

Details

Description

Nowadays, carsharing provides a real business opportunity when based in a renting model. It allows users to drive vehicles for just a short period of time or a short distance within urban and residential areas. In addition carsharing eases remarkably the process of picking up and handing over vehicles in different locations of the city.

This solution is based on web and consists of two functional modules with different functionalities:

1)Front office module:

- Register: Users can register in the system providing some details such as driving license and bank details for payments if required.
- Reservations: Users can make a reservation choosing date, vehicle type and a station to pick up the vehicle. A map is displayed, showing the location of the stations, vehicles, and the area where the vehicle can be used (marked with a circle).
- Reservations by slot: Users can make vehicle reservations within a slot previously defined by the operator.
- Reservation record: Users can check from the system their reservation records, including every detail (date, duration, mileage, price, station, etc).
- Payment: Payments can be sent directly through bank account or a gateway for credit cards in a

complete secure system.

- Account management: For edition of personal details such as address, phone number, e-mail and password.

2)Back Office module

- New user validation: New users have to be validated by the staff managing the application, depending on the parameters fixed by the operator (minimum age, driving license, etc.).
- Reports in CSV (comma-separated values) format regarding reservations made.
- Timeline: Useful feature which allows controlling the state of reservations in a very easy way.
- Manual reservations: System managers can make a reservation for a client if needed.
- RFID cards management: Once a user has been validated, he receives at home a personal RFID card. This functionality allows management of the RFID cards used to open and close the vehicles, to turn them on, etc. Managers can add new ones, delete, assign temporal cards o permanent ones, or even a master card for any vehicles of the fleet.

*There are alternative systems to the RFID cards.

- Fleet management: System allows monitoring in real time the location of any vehicle of the fleet and its state.) Vehicles incorporate a vehicle control device, which sends information such as location, charge of batteries or speed. It also allows managers to open or close the doors remotely or even not allowing the engine to start.
- Vehicle management: For managing the fleet by adding new vehicles or deactivating those being repaired.

Advantages and Innovations

Main innovation and advantage regarding this solution is that can be used for managing carsharing of either regular gasoline-powered vehicles or electric vehicles. On the contrary, other solutions are designed just for one kind of vehicles, forcing carsharing companies to acquire different managing software solutions when having different energy sources powered cars in their fleet.

Other innovations and advantages are the following:

- Customizable and scalable.
- Easy and quick deployment
- Cloud oriented architecture.
- Accessible from any web browser.
- Very flexible to be adapted to new functionalities.

Stage of Development

Already on the market

IPR Status

Copyright

Profile Origin

Private (in-house) research

Keywords

Technology

001003003 Applications for Transport and Logistics

Market

002007001 Systems software

006009 Other Energy

NACE

J.58.2.9 Other software publishing

J.63.1.2 Web portals

Dissemination

Send to Sector Group

ICT Industry and Services

Client

Type and Size of Organisation Behind the Profile

Industry SME 50-249

Year Established

0

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Spanish

Client Country

Spain

Partner Sought

Type and Role of Partner Sought

- Type of partner sought:

Software integrators and cloud services providers.

- Specific area of activity of the partner:

Integrators familiar with smart cities solutions and solutions for local governments.

- Task to be performed:

To integrate and deploy this technology within a defined influence areas under a commercial agreements with technical assistance.

Type of Partnership Considered

Commercial agreement with technical assistance