

## Technology Offer

# Flexible plastic displays for consumer electronics, car interiors, digital signage and other applications

### Summary

*A UK company has developed flexible plastic displays for full colour and video. Early adopters come from the automotive, digital signage and consumer electronics segments but the technology is suited to a variety of product applications across different industries. Electronic products developers are sought for technical cooperation agreements.*

<b>Creation Date</b>	25 May 2017
<b>Last Update</b>	29 May 2017
<b>Expiration Date</b>	29 May 2018
<b>Reference</b>	TOUK20170525001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/45b2e5a3-6df3-43be-8486-6cc3ee788ec5">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/45b2e5a3-6df3-43be-8486-6cc3ee788ec5</a>

### Details

#### Description

A UK company has been building on its revolutionary plastic transistor technology. It is being used to develop flexible organic LCDs on plastic that remove the constraints of glass and enable new product form factors. In this industry, there has been a promise for larger format curved displays for quite a while. Latest mobile phones have displays with curved edges but it is extremely difficult technically to go larger than that.

The UK company's technology is scalable to large area displays (see the Picture). Importantly, the processes are compatible with the existing display manufacturing lines and the technology has already been industrialised for e-paper displays.

Early adopters are developing curved displays for car dashboards, wearables and signage for example. The thin, light and robust displays can be conformed to surfaces, bent and shaped. Flexible touch function can be laid on top.

The company is keen to meet product developers in key areas, including but not limited to consumer electronics, wearables, digital signage and automotive.

Another application of the plastic transistor technology is flexible sensors. High resolution fingerprint sensors on small and large areas have been developed targeted at biometric applications. The technology also enables curved X-ray image sensors for medical applications and non-destructive testing.

The UK company seeks product developers for technical cooperation. The partners will know their markets and customers. The UK company can both deliver prototypes and also bring the relations in the manufacturing and supply chain side.

#### Advantages and Innovations

Ref: TOUK20170525001

The ability to conform the displays to curved and non-rectangular surfaces brings new design freedom. It allows designers to create revolutionary product that will stand out from the competition and add value to customers.

## Stage of Development

Available for demonstration

## IPR Status

Granted patent or patent application essential

## Comment Regarding IPR status

Patents granted in many territories in Europe, Americas, Asia

## Profile Origin

Private (in-house) research

---

## Keywords

---

### Technology

01002009	Peripherals Technologies (Mass Data Storage, Displays)
01003012	Imaging, Image Processing, Pattern Recognition
01003018	User Interfaces, Usability
01003023	Environmental and Biometrics Sensors, Actuators

### Market

02004004	Other scanning related (incl. image processing, ...)
02005018	Other peripherals (not elsewhere classified)
07001003	Toys and electronic games

### NACE

M.74.9.0	Other professional, scientific and technical activities n.e.c.
----------	--

---

## Network Contact

---

### Issuing Partner

ASTER - SOCIETA CONSORTILE PER AZIONI

### Contact Person

Vera Lullo

### Phone Number

+39 0516398090

### Email

vera.lullo@aster.it

---

**Open for EOI :**    **Yes**

---

---

## Client

---

### Type and Size of Organisation Behind the Profile

Industry >500

### Year Established

0

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
French

### Client Country

United Kingdom

---

## Partner Sought

---

### Type and Role of Partner Sought

- Type of partner sought: industry.
- Specific area of activity of the partner: developers of electronic products for both consumer and industrial applications.
- Task to be performed by the partner sought: to send a non-confidential description of their new product idea, and initial questions so as to get a conversation going.

### Type and Size of Partner Sought

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

### Type of Partnership Considered

Technical cooperation agreement

---

## Attachments

---

Capture.PNG



## Technology Offer

---

# Robotic device for applications on the vertically oriented walls

---

## Summary

---

*A Czech university has developed a robotic device intended for facade washing and cleaning and for performing inspection tasks like supervision of the state of the façade at points where glass is fixed to the surface, checking for potential surface disruptions of pressure vessels made of rust resistant steel. Researchers are looking for partners interested in further development of technology based on a technical cooperation agreement and for companies interested in production under a license.*

<b>Creation Date</b>	07 November 2016
<b>Last Update</b>	07 November 2017
<b>Expiration Date</b>	20 May 2018
<b>Reference</b>	TOCZ20161107002
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/50a3a813-c454-47ec-9086-891c9d5b2614">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/50a3a813-c454-47ec-9086-891c9d5b2614</a>

---

## Details

---

### Description

The problem:

Construction of high-rise buildings with facades made of protective glass fixed to supporting grids is a contemporary trend in modern architecture. There has been a long-term increase in the demand for devices and new technologies enabling users to deal effectively with problems concerning cleaning, inspection, installation and other service applications. Inspection of the potential surface disruptions of large pressure vessels is just one of many examples. A number of service robots or, more precisely, mobile platforms with different movement characteristics as well as various abilities to deal with surface height differences have been developed recently. Optimized service robot with improved load capacity has been developed for many technological operations such as dry or wet cleaning process realized on the glass facades of high rise buildings, camera assisted inspection tasks and other.

The solution offered:

The team of the Czech researchers have developed robotic device (a service robot), which consists of a compact duralumin frame connected to its rotary undercarriage by a rotating servo-drive. These elements constitute the body of the robot. The rotary undercarriage is mounted with articulated active suckers. It is possible to set the distribution of the suckers according to the character of the particular surface geometry, e.g. a façade system. The frame of the service robot is connected to four legs by means of versatile latches. The legs are also equipped with suckers and an individual electric rotatory servo-drive.

The robotic device is equipped with a number of intelligent sensors used to identify its current

position in space. Drive control is conducted by an advanced control system based on a compact industrial computer platform to which input and output modules, a module for temperature measurement and a unit for wireless communication are added. The device falls into the category of semiautomatic systems with partial autonomy. It is intended to be used with other technologies such as low-weight cleaning devices for dry cleaning, cleaning with a minimum cleaning liquid consumption and applications for inspection devices.

The competing solutions:

The existing mobile platforms for motion on vertical glass walls have had either the stepping, continuous, or pseudo-continuous motion and the force of holding on the glass wall has been produced using the active-vacuum suction cups and modules. Vacuum in the leg suction cups is released after platform body is fixed to a wall using the force produced in the active suction cups; then the legs are pulled away from the contact with the glass wall and repositioned by step applying a translational motion.

Solutions with the pseudo-continuous motion are based on rotary motion of the stepping unit on horizontal axes perpendicularly to the glass wall plane, possibly parallel to the glass wall; continuous systems are represented by the use of vacuum chambers in the form of oval suction cups located on conveyer elements. Solutions using rotary wheels with collapsible elements having even contact surfaces, which are provided with materials coating with adhesive layer, are quite exceptional.

Partners sought:

In the case of technical cooperation agreement:

Cooperation on the research and development of purpose-made superstructures; cooperation on the development of "system superstructures" to make buildings suitable for robotic cleaning; cooperation on installing cleaning modules into the superstructure of the service robot (shared know-how); cooperation on implementing other inspection systems; cooperation on developing software for detecting physical conditions of various surfaces.

In the case of a license agreement:

Acquiring a licence for a robotic device production. The subject of the license will be know-how for manufacturing the robotic device.

## Advantages and Innovations

The robotic device is able to deal with movement on smooth or structured surfaces in a unique way while offering high stability of the path. It is able to rotate without any difficulties and is able to surmount surface discontinuities and assembly holes. It is able to move very safely on vertical as well as negative-angled surfaces and has a high effective - load capacity.

Operating pressure: 6 bar

Consumption of compressed air: 600 l/min

Supply: 30 V DC, 25 A

Dimensions: 1120 x 1120 x 300 mm

Weight of the mobile platform itself: 48 kg

Useful load (according to the type of superstructure): 15 - 20 kg

Working width of subsequent technology: 800 - 1200 mm

Working speed: 0.8 – 1.2 m/min

Cleaning surface output: 60 - 80 m<sup>2</sup>/h

Inspected surface output: 30 - 90 m<sup>2</sup>/h

## Stage of Development

Available for demonstration

## Comments Regarding Stage of Development

Two types of robotic superstructures have been developed for initial testing. One is intended for camera assisted inspection tasks and the other is a technological superstructure for cleaning



building façades made of glass. The low-weight cleaning superstructure for dry cleaning and the technology for minimum cleaning liquid consumption are both being developed with the intention of ensuring maximum cleaning output and minimum energy consumption. Inspection is ensured by two HD cameras which enable the monitoring of the state of the observed surface.

## IPR Status

Design Rights, Patents granted

## Comment Regarding IPR status

Patent and a Utility model granted in the Czech Republic.

## Profile Origin

National or Regional R&D programme

---

## Keywords

---

### Technology

01001001	Automation, Robotics Control Systems
03001001	Cleaning Technology
09001008	Other Non Destructive Testing
09001009	Sensor Technology related to measurements

### Market

08002004	Robotics
09007002	Manufacture of construction materials, components and systems

### NACE

C.28.9.9	Manufacture of other special-purpose machinery n.e.c.
M.71	Architectural and engineering activities; technical testing and analysis
N.81.2.1	General cleaning of buildings
N.81.2.9	Other cleaning activities

---

## Network Contact

---

### Issuing Partner

ASTER - SOCIETA CONSORTILE PER AZIONI

### Contact Person

Vera Lullo

### Phone Number

+39 0516398090

### Email

vera.lullo@aster.it

---

**Open for EOI :**    **Yes**

---

---

## Client

---

### Type and Size of Organisation Behind the Profile

University

### Year Established

1953

### Turnover

10 - 20M

### Already Engaged in Trans-National Cooperation

Yes

### Languages Spoken

English  
Czech

### Client Country

Czech Republic

---

## Partner Sought

---

### Type and Role of Partner Sought

The university would like to cooperate with a manufacturer of a robotic device from machining or robotic industry who would like to manufacture such devices based on licensing agreement. The subject of the license will be know-how for manufacturing the robotic device.

Additionally, the university is also looking for partners interested in further development based on a technical cooperation agreement for the following types of cooperation:

- cooperation on the research and development of purpose-made superstructures
- cooperation on the development of "system superstructures" to make buildings suitable for robotic cleaning
- cooperation on installing cleaning modules into the superstructure of the service robot
- cooperation on implementing other inspection systems

### Type and Size of Partner Sought

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

### Type of Partnership Considered

License agreement



Technical cooperation agreement

---

## Attachments

---

## Technology Offer

---

# Advanced technology developed for antimicrobial rubber sealings and coverings to avoid significant spreading of bacteria, viruses and fungi on elastomer materials for medical/care, industrial and domestic applications

---

## Summary

---

*A large German company specialized in rubber production developed a new technology for antimicrobial rubber and elastomer sealings and coverings to reduce germs. The material properties are long-term stable and entail no health risks; manufacturing costs can be significantly reduced compared to similar procedures. Industrial partners sought with interest in medical, domestic and other elastomer sealings and coverings for technical cooperation and commercial agreements with technical assistance.*

<b>Creation Date</b>	11 May 2017
<b>Last Update</b>	15 May 2017
<b>Expiration Date</b>	15 May 2018
<b>Reference</b>	TODE20170511001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/fd121932-5e37-4cf2-a608-d82dbea00836">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/fd121932-5e37-4cf2-a608-d82dbea00836</a>

---

## Details

---

### Description

In Europe there are annually about 1,8 Mio. cases of hospital infections induced by multi-resistant germs. To avoid such infections many surfaces like on furniture, handrails, fittings, kitchens, toilets etc. are provided with special coatings mostly based on silver particles or other expensive technologies.

A large German company has developed a new material formulation for a wide range of sealings and protective components (coverings) made of rubber or elastomer material e.g. handrail covers, door seals on fridges, handles, knobs, fittings etc. which provides highly effective antibacterial protection.

The antibacterial effect is based on a specific mixture of rubber material and defined metal ions resulting in an acidic pH value, thus creating hostile conditions for bacteria, viruses and fungi. Microorganisms are not able to build up resistance against this effect. It is not a coating technology as the whole item is made of the innovative antibacterial material. The technology has been tested with regard to ISO 22196:2011 and its significant antibacterial effect has been validated.

The antimicrobial elastomers are able to be processed by extrusion and injection moulding like

other rubber mixtures and elastomeres.

This antimicrobial material is applicable for all rubber and elastomer sealings and coverings in

- industry: food production, domestic products, cleanrooms
- medical/care sector: hospital equipment,
- diverse equipment for rooms and buildings: kitchens, wet rooms, handrails etc.
- agriculture: livestock breeding
- individual and public transport: equipment for mass transport (handrails)

The company develops customized elastomer compounds for every special application, cooperates with the customers to design the needed rubber components and produces in own production centres.

Commercial agreement with technical assistance: Any applications not possible to develop and produce for technical reasons at the own facilities.

Technical cooperation agreement: For all applications possible to develop and produce the needed antimicrobial elastomer components at the own facilities.

## Advantages and Innovations

- Cost efficient process: lower costs than using silver ions!
- No health risks
- Long-term stable effect, because added agents for antimicrobial activity do not disintegrate
- Consistent antimicrobial activity in contact with body fluids unlike using silver ions
- No risk of abrasion or mechanical damages, agents are homogeneously distributed inside the elastomer material
- No influence on physical properties of the basic elastomer
- Applicable for all types of elastomers

## Stage of Development

Already on the market

## IPR Status

Patents granted

## Comment Regarding IPR status

The company has the exclusive worldwide license for using this patent in elastomers.

## Profile Origin

Private (in-house) research

## Keywords

### Technology

02002002	Coatings
02002012	Mixing (powder, etc.), separation (sorting, filtering)
02002013	Moulding, injection moulding, sintering
02002014	Extrusion
02007016	Rubber

## Market

07004004	Housewares
07004005	Furnishing and Furniture
08001008	Membranes and membrane-based products
08001018	Polymer (plastics) materials
09007002	Manufacture of construction materials, components and systems

## NACE

C.22.1.9	Manufacture of other rubber products
----------	--------------------------------------

---

## Network Contact

---

### Issuing Partner

ASTER - SOCIETA CONSORTILE PER AZIONI

### Contact Person

Vera Lullo

### Phone Number

+39 0516398090

### Email

vera.lullo@aster.it

---

**Open for EOI :**   **Yes**

---

## Dissemination

---

### Send to Sector Group

Materials

---

## Client

---

### Type and Size of Organisation Behind the Profile

Industry >500

### Year Established

Ref: TODE20170511001

0

**Turnover**

>500M

**Already Engaged in Trans-National Cooperation**

Yes

**Languages Spoken**

English

German

**Client Country**

Germany

---

## Partner Sought

---

**Type and Role of Partner Sought**

Looking for industrial partners who need rubber components with antimicrobial properties for their products, systems or objects:

- Manufacturers of equipment/fittings for food industries
- Manufacturers of domestic appliances
- Manufacturers of equipment/fittings for livestock breeding
- Manufacturers of equipment/fittings for cleanrooms
- Manufacturers of equipment/fittings for domestic engineering
- Manufacturers of hospital equipment
- Manufacturers of public transportation equipment/fittings
- Manufacturers of wet room equipment/fittings
- Manufacturers of equipment and fittings effected by microbial colonisation in general.

Commercial agreement with technical assistance:

- Any applications not possible to develop and produce for technical reasons at the own facilities

Technical cooperation agreement:

For all applications possible to develop and produce the needed antimicrobial elastomer components at the own facilities; adaption to the new applications, system integration.  
Interested in joint development and production of the rubber/elastomer components.

**Type and Size of Partner Sought**

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

**Type of Partnership Considered**

Commercial agreement with technical assistance

Technical cooperation agreement

---

## Attachments

---