Technology Request

Urgent request for digitisation solutions in rail freight transport

Summary

An Austrian company coordinates the entire rail freight transport logistics of the country. It is looking for new digital solutions related to rail freight transport via an idea challenge, open until 31 Jan. The solutions have to aim at improving provision of information for clients and optimizing offer submission & order processing. Any other digitization solutions for rail freight transport are of interest as well. Commercial, research, technical, licence and service agreements are envisaged.

Expiration Date	11 January 2018
Reference	TRAT20170111001
Profile link	

Details

Description

The Austrian company is active in the area of rail freight transport and coordinates all of the Austrian transport logistics in this sector. This includes logistics from single wagons and large containers to block trains and the transport between the most significant economic centres in Europe.

Rail freight transport nowadays faces radical changes. Today, international transport works differently and much faster than only a few years ago. Different technical systems are used simultaneously and the markets in different countries are governed by different rules.

To facilitate, modernise and speed up services for business customers, the company is looking for new digital solutions via an international idea challenge.

The company is interested in covering a wide range of technological issues, with a focus on:
1. Provision of information: How can the way business customers receive the information they need for transporting their freight by rail be improved?
2. Submission of offers and processing of orders: How can the process of creating individual offers and contracting be simplified?
3. Existing digitization solutions: What kind of solutions that already exist can be used to optimise rail freight transport (e.g. artificial intelligence, internet of things, chat bots, block chain, intelligent disposition, etc.) and how could this be implemented?

The Austrian company is open to various types of collaboration including commercial, license and services agreements as well as research and technical cooperation.

This is a Call for Ideas that might result in later collaboration, and although it is not a grant or funding offer, there is still a deadline for submissions, which is 31 January 2017

Technical Specification or Expertise Sought

The company is looking for smart and simple solutions. The solutions shall not require huge investments or construction work or increased personnel expenses.
All solutions submitted will be reviewed by experts by mid of February.

Stage of Development

Concept stage

Comments Regarding Stage of Development

The stage of development can range from idea to fully developed product that has already been introduced to the market.

IPR Status

Other

Comment Regarding IPR status

Every IPR status of the sought solution is welcome.

Keywords

Technology

01004003	Applications for Transport and Logistics
01004012	Operation Planning and Scheduler System
02009003	Railway Vehicles

Market

02007003	Operating systems and utilities
09001007	Other transportation

NACE

H.49.2.0	Freight rail transport
J.63.1.1	Data processing, hosting and related activities

Open for EOI : Yes

Dissemination

Send to Sector Group

ICT Industry and Services

Client

Type and Size of Organisation Behind the Profile

Industry >500 MNE

Year Established

1923

Turnover

>500M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
German

Client Country

Austria

Partner Sought

Type and Role of Partner Sought

Type of partner sought:
SME, industry, research organisations

Specific area of activity:
Digital applications addressing current and future issues in the rail freight sector.

Task:
The company is open to different types of cooperation:
Research or technical cooperation: joint development of a new solution; further development and/or adaptation of an already existing solution to the specific needs of the rail freight sector.
Service, commercial or licensing agreement: providing a solution that is fully developed and has already been introduced to the market; technical implementation of the solution including servicing.

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

Services agreement
License agreement
Commercial agreement with technical assistance
Technical cooperation agreement
Research cooperation agreement

A UK university seeks partners for licensing agreements or technical cooperation agreements for a new de-identification method for facial images suitable for privacy protection in multimedia conten

Summary

A UK university has developed an online privacy solution for de-identification of facial images that allows the swapping of the original face with either an existing face image of the user's choice or an automatically synthesized face with potential to be applied across a number of potential markets. The university seeks partners to license the technology in their own applications for a license agreement or technical development partners of the solution for a technical cooperation agreement.

Expiration Date 12 January 2018
Reference TOUK20170106001
Profile link

Details

Description

With the advance of camera technology and face biometrics, many organisations and governments are exploiting the potential of data sharing to enhance their operations or business models. However, this has inevitably ignited concerns about the privacy of individuals identifiable in recordings. De-identification in multimedia content can be defined as the process of concealing the identities of individuals captured in a given data set (images, video, audio, text) for the purpose of protecting their privacy.

The intensive adaptation of surveillance has inevitably raised concerns about the privacy of individuals identifiable in recordings. This growing concern, along with the associated ethical and social responsibilities has made de-identification the focus of attention in many organisations. The European COST framework is hosting action IC1206 "De-identification for privacy protection in multimedia content"(2013-2017). The US National Institute of Standards and Technology has published its first guidelines on "De-identification of personal information" as well. This is in addition to the UK Data Protection Act , the EU General Data Protection Regulation and the US Consumer Privacy Bill of Rights which all demand the deployment of appropriate technical and organisational methods to protect private information.

Masking, blurring and pixilation are the ad hoc face de-identification methods that were widely used in the past. However, these methods fail to serve their purpose as they are either reversible or unable to thwart existing face recognition software. Moreover, they are highly destructive and hence destroy data utility.

The solution developed by this UK university have developed a novel solution to this problem

that opens many opportunities in the field of online personal privacy protection using the k-same family process, where sets of images are partitioned into clusters identified in size by the value term “k”.

The solution has the potential to be developed in a number of potential areas including:

Privacy protected public data sharing and dissemination. An example may be a TV interview under witness protection where the original face is replaced with a synthesised face.
Privacy protection built into photo sharing/social media applications where people with access permission can see original images/videos while people without access permission see de-identified faces with original expressions and movements.
In the film and game industry where there is the potential to transfer facial expressions between the faces of different characters or between different versions e.g. between a photo version and a cartoon version of the same face.
In the beauty industry – to demonstrate the impact on a client’s face of cosmetic surgery, aging, weight loss, make up etc with dynamic video showing the expressions of the client rather than a still image
Face swapping for fun – replacing an existing face with another face of a celebrity, a cartoon character or animal – complete with expressions.

This UK university seeks partners interested in licensing the technology for applications such as those mentioned for a license agreement or partners willing to work with the university to further develop this solution for a technical cooperation agreement.

Advantages and Innovations

The scientists at this well-known UK university have developed a unique face de-identification system that, unlike other technologies, offers the ability to produce a distinguishable face for each individual while retaining the same diversity as the original face set within a corresponding de-identified face set.

This means faces that look similar before de-identification will remain similar afterwards and faces that look different will remain different.

This method also reduces the re-identification risk of the de-identified (synthesized) faces to nearly zero. This has been tested using some of the most advanced face recognition systems including local binary patterns, histogram of oriented gradients and local phase quantization.

Additional the system has incorporated model based facial expression transfer to restore the facial movements and expressions in the original images or videos thus producing a more natural experience.

The system offers the ability for online video/photo sharing features to offer access permissions where those with permission will see the original face and those without will see a de-identified version.

The system also offers the ability to complete the de-identification process by blending a de-identified face region with its original background, where the new shape of the de-identified face region is retained without distorting other objects in the image and the skin tone within the face region is adjusted to achieve seamless blending with other parts of the human body e.g. ears and, neck.

Stage of Development

Available for demonstration

Comments Regarding Stage of Development

A prototype that runs in real time is available for demonstration.

IPR Status

Copyright

Comment Regarding IPR status

Software covered by copyright

Profile Origin

Other

Keywords

Technology

01003009	Data Protection, Storage, Cryptography, Security
01003012	Imaging, Image Processing, Pattern Recognition

Market

02007006	Other system software
02007024	Programming services/systems engineering
02007028	Other software related

NACE

J.62.0.1	Computer programming activities

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

1952

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Client Country

United Kingdom

Partner Sought

Type and Role of Partner Sought

The university seeks partners interested in licensing the technology for use in their own applications as part of a license agreement. They are also interested in working with partners on further technical development of this solution through a technical cooperation agreement.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Technical cooperation agreement