Profile Status: Published

Technology Offer

Solderable system-on-module for embedded applications offered

Summary

A small Czech company with long tradition manufactures solderable system-on-module for embedded applications. Main advantages are unlimited software possibilities, high configurability and easy board placement and soldering. The company is looking for international partners for a commercial agreement with technical assistance or a technical cooperation agreement.

Creation Date	31 July 2018
Last Update	01 August 2018
Expiration Date	02 August 2019
Reference	TOCZ20180731002
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/9b807ae1-25c1-480e-8b94-6cf472b08122

Details

Description

As the electronic systems integration degree grows, the demands on the production technology get higher and higher. Pitch reduction and circuits encapsulation almost excludes usage of one or two-layer printed circuit boards and production at semi-professional workplaces. But even fully professional products get considerably more expensive if a simple board needs to be controlled by a micro-controller unit.

The solution offered is a use of modules integrating all components requiring high precision, leaving the motherboard as simple as possible. Such solution is offered by the Czech company – a solderable system-on-module for embedded applications. The solution offered is based on system-on-chip or system on module with ARM Cortex (chip producer) microcontroller and also with Field-programmable gate array (FPGA). Quick and easy development is ensured by a standard connector. The key advantage in comparison with other solutions is that this is compressed on a 16 cm2 only with various software possibilities.

The module is placed on a thin ledge allowing the parts placement on both sides. Together with a high degree of integration it minimizes the module size, giving also an option to use the surface of motherboard for other (hidden) components. Rapid simplification of the motherboard circuits leads to usability of cheaper production technology and hence a significant price cut.

RIM connector allows users to multiple connect one printed circuit board to another one without connectors or wires because the board has small holes on its rim, which allows easy soldering (hence RIM connector). The module is intended to be soldered directly on the board using RIM

connector, providing various ways of assemblage – pin header connector (dismountable), half-round connection (solderable), RIM connector (solderable) and surface-mount technology (solderable).

The solution of solderable system-on-module for embedded applications offered is suitable for critical applications affected by vibrations, chemicals, temperature fluctuations and so on. There is no need to change this solderable system-on-module when switching from a prototype production to a mass production.

The applications are especially effective in small-series products requiring high computing power or powerful microprocessor, respectively. Such applications might be electric engine control, custom-made mobile instruments (e.g. for healthcare sector), instruments for flammable environment etc.

For instance, the solderable system-on-module has been already used in an outdoor charging station for electromobiles.

Main competing advantage is ability of the company to design and deliver embedded applications and solutions as a one-stop-shop: a complex of software and hardware solution including manufacturing, assembly and tests based on a customer needs in-house in one place.

The company is looking for international partners for a commercial agreement with technical assistance - the company manufactures and delivers solution with all technical assistance (such as software, installation etc.) necessary.

The second possible cooperation form is technical cooperation agreement - the company designs, develops and manufactures desired embedded solution specified by the client.

Advantages and Innovations

- motherboard simplification with two-layer-only boards
- save time, space and money
- high configurability processor module
- easy board placement and soldering
- cheaper solution for small batches
- smaller consumption of precious metals (the layer of gold etc. could be thinner than usual)
- solderable module offered has higher reliability than standard connectors thanks to better heat conductivity
- easier development of custom printed circuit board thanks to various way of assemblage
- quick start software development
- single voltage supply 3,3 V to 5, 5V
- additional circuits stacking possibility - e.g. LCD connector, analog-digital and digital-analog converters etc. (solderable directly on the module),
- the way to decrease the size of the motherboard since other components can be hidden under the module.

Stage of Development

Already on the market

IPR Status

Secret Know-how

Profile Origin

Private (in-house) research

Keywords

Technology

01	ELECTRONICS, IT AND TELECOMMS
01002003	Electronic engineering
01002004	Embedded Systems and Real Time Systems
02009008	Navigation and embedded systems
09003	Electronic measurement systems

Market

01004002	Data communication components
03	OTHER ELECTRONICS RELATED
03004003	Other electronics related equipment
03008001	Military electronics (excluding communications)
03008004	Other electronics related (including alarm systems)

NACE

C.26.1	Manufacture of electronic components and boards
C.26.1.2	Manufacture of loaded electronic boards
C.26.4	Manufacture of consumer electronics
G.46.5.2	Wholesale of electronic and telecommunications equipment and parts

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 SME <= 10

Year Established

1991

Turnover

<1M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
Slovak
Czech

Client Country

Czech Republic

Partner Sought

Type and Role of Partner Sought

Companies or research institutes interested in development of embedded applications using this solderable system-on-module based on a commercial agreement with technical assistance - the company manufacture and deliver solution with all technical assistance (such as software, installation etc.) necessary.

Companies wishing to develop embedded applications and willing to adapt this module to its specific needs based on a technical cooperation agreement - the company designs, develops and manufactures desired embedded solution specified by the client.

Type and Size of Partner Sought

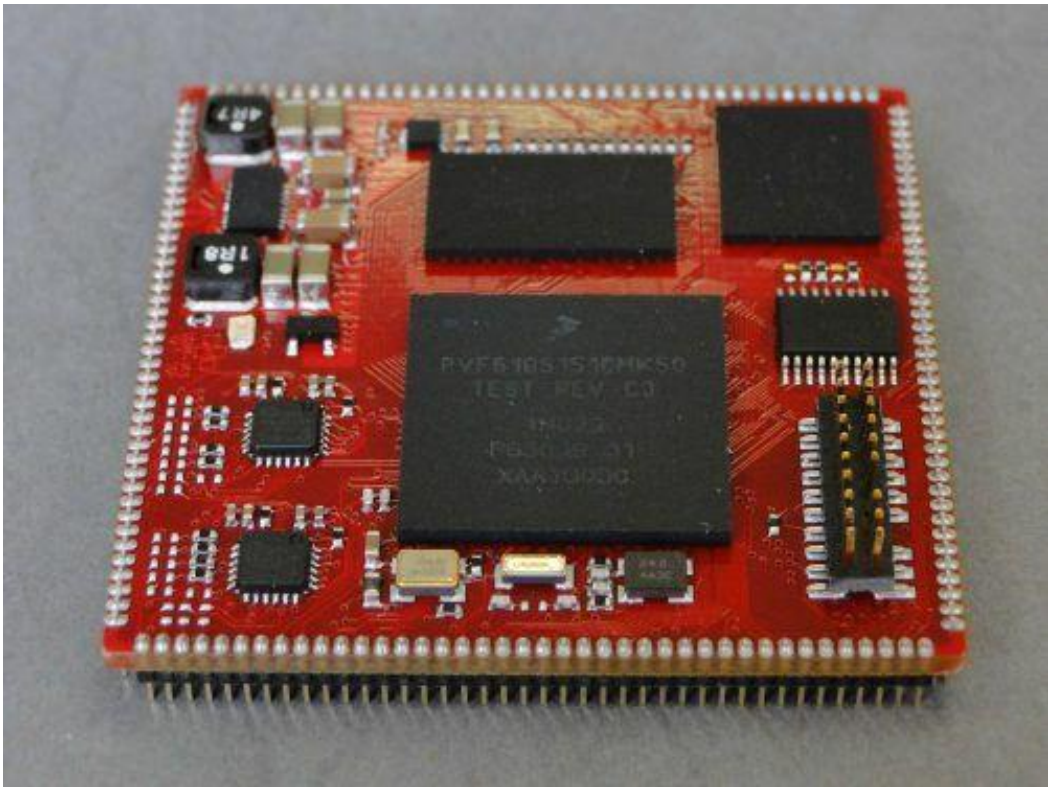
SME 11-50,R&D Institution,SME <10,>500 MNE,251-500,SME 51-250,>500

Type of Partnership Considered

Commercial agreement with technical assistance
Technical cooperation agreement

Attachments

Pic1.jpg



Profile Status: Published

Technology Offer

Greek company developing embedded vision software and IP cores is looking for partners on mobile/portable embedded devices or IoT

Summary

A Greek based SME develops computer vision software, by using image processing and machine-learning techniques. The SME is currently offering a versatile and easy-to-use software API that allows easy integration of deep learning technology to a variety of modern embedded systems. Ideal partners are those who wish to add computer vision or machine learning capabilities to their devices under financial agreement and/or license agreement.

Creation Date	29 May 2017
Last Update	06 June 2018
Expiration Date	12 December 2018
Reference	TOGR20170526001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/d977bcd6-1084-4b21-b625-6765f710d2cc

Details

Description

The Greek company develops embedded vision software and IP cores applied in video stabilization, image signal processing, image fusion, face detection and tracking, license car plate detection and recognition. It addresses the challenge of delivering innovative computer vision solutions while keeping optimal system requirements in terms of power consumption, memory and processing speed.

Their product and technology portfolio include applications in computational photography and visual perception/analytics and address various markets such as mobile devices, action cameras, drones, surveillance, automotive, industrial and robot vision etc.

Moreover, the company offers a versatile and easy-to-use software API that allows easy integration of deep learning technology to a variety of modern embedded systems.

The future brings a wave of embedded devices able to respond to their environment through embedded intelligence. Deep learning is a proven technology able to achieve this intelligence, but requires extremely complex processing to be performed in high speeds and at the same time within low levels of energy consumption.

To achieve those features the company follows a holistic approach:

- Tweak the Models: Use special models and special compression techniques which they are mimicking the human brain and which result in significantly more economical models.

- Tweak the Code: Use heterogeneous programming technologies, featuring the synergistic use of every available computing unit: Multi-cluster CPUs, the GPU and the DSP must all be exploited for carrying out the complex tasks deep learning inference in reasonable time and with limited power budget.

To help developers embed deep-learning technology into their own systems and applications the company developed a software library consisted of high-performance deep-learning models, highly optimized for embedded computing systems and implemented by-using a variety of approaches and techniques, in order to be able to suit to a wide range of applications.

This software includes also the necessary software tools in order to allow the user to train the model of interest by itself and to use the training results for building the final application.

The company is currently looking for partners that wish to add computer vision or machine learning capabilities to their devices or solutions under financial agreement. Moreover, partners that wish to offer computer vision or machine learning/deep learning capabilities to their customers, are also welcome for cooperation under license agreement.

Advantages and Innovations

The main advantages and innovations of the company:
- Embedded form
- Low power consumption
- Ease of use
- Personalised solutions

Stage of Development

Already on the market

IPR Status

Secret Know-how,Patent(s) applied for but not yet granted

Profile Origin

Other

Keywords

Technology

01001001	Automation, Robotics Control Systems
01003012	Imaging, Image Processing, Pattern Recognition
01003016	Simulation

Market

08002002	Industrial measurement and sensing equipment
08002003	Process control equipment and systems

NACE

J.62.0.1	Computer programming activities
J.63.1.1	Data processing, hosting and related 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

Dissemination

Send to Sector Group

Automotive, Transport and Logistics

Client

Type and Size of Organisation Behind the Profile

Industry SME 11-49

Year Established

2007

Turnover

<1M

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Greek

Client Country

Greece

Partner Sought

Type and Role of Partner Sought

The Greek company is looking for cooperation with:
- SMEs or industries active on mobile/portable embedded devices or IoT.
- SMEs or industries that have needs for incorporating computer vision features into their products

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Financial agreement

Attachments

Profile Status: Published

Technology Offer

Technical partners sought for self-repairing industrial robot system.

Summary

A UK SME has developed a self-repairing industrial robot system using a patented novel method which eliminates planned and unplanned downtime and system failures. They are now seeking technical partners to further develop the innovation, via technical cooperation agreement, to a proof of concept stage but they are also open to license agreements.

Creation Date	01 June 2018
Last Update	04 June 2018
Expiration Date	05 June 2019
Reference	TOUK20180601001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/ab34fd5c-b3c5-4425-bf67-41bb34a7d66f

Details

Description

A UK SME has invented a new concept for self-repairing industrial robots that eliminate planned and unplanned downtimes.

Currently manufacturers who use robots and hydraulic machinery have to deal with frequent downtimes, outages and system failures. They utilise online monitoring to anticipate the failed component, and then schedule to replace the anticipated failed component which impacts their production flow which in turn has an effect on their overall revenue. The systems have to be repaired manually by a technician or engineer which can sometimes take a while depending on the type of failure that has occurred.

The art aims to eliminate planned and unplanned downtime in robots operating within a cell. The system utilises dual drive redundancy on one or more joints, and implements state of the art motors. The system is monitored by a fault detection and fault isolation (FDI) system.

The FDI system detects, identifies, switches off, isolates the failed drive, and engages the second motor instantly. A repair robot is then deployed to remove and replace the faulty drive, without stopping or hindering the on going operation.

Therefore, the main advantages of this system include the elimination of planned/unplanned downtime, which means there will be no stoppage in the production line, hence increasing productivity.

The advantages are even greater when the system is employed in inaccessible environments such as nuclear reactors or plants that handle hazardous materials.

The SME is now seeking European collaborative partners with whom he can form mutually beneficial technical cooperation agreements for further development of this concept with the opportunity to also license the technology for the appropriate partners.

Advantages and Innovations

The main advantages of this system include the elimination of planned/unplanned downtime, which means there will be no stoppage in the production line, hence increasing productivity.

The advantages are even greater when the system is employed in inaccessible environments such as nuclear reactors or plants that handle hazardous materials.

Stage of Development

Concept stage

IPR Status

Secret Know-how,Design Rights,Patents granted

Comment Regarding IPR status

EU Granted Patent

Profile Origin

Other

Keywords

Technology

02002009	Machine Tools
02003001	Process automation
02003006	Prototypes, trials and pilot schemes
02004	Plant Design and Maintenance
10001005	Radiation Protection

Market

08002002	Industrial measurement and sensing equipment
08002003	Process control equipment and systems
08002004	Robotics
08002007	Other industrial automation
08003007	Other industrial equipment and machinery

NACE

C.33.1.2	Repair of machinery
C.33.2.0	Installation of industrial machinery and equipment

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

ICT Industry and Services

Client

Type and Size of Organisation Behind the Profile

Inventor

Year Established

0

Turnover

<1M

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Arabic

Client Country

United Kingdom

Partner Sought

Type and Role of Partner Sought

Looking for partners to form mutually beneficial technical collaborations/agreements to further develop the concept to stage where it can be demonstrated for commercialisation to prospective end users and large scale manufacturers.

Technical Partners Sought:

Engineering and Electrical organisations whom can further develop the concept to a physical demonstration stage which can be then used to attract further public and private investment.

Licensing Partners: There is also the option to license this to the appropriate organisation who see this as an opportunity further down the line.

Roles:

To help develop quick release motor drives that are adapted for all industrial robots so that they can be replaced quickly and efficiently during a failure.

To further design and develop the concept to a physical demonstration stage in pilot test environment.

Type and Size of Partner Sought

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

Type of Partnership Considered

License agreement
Technical cooperation agreement

Attachments