Technology Offer

Innovative antimicrobial additive for building finishing materials

Summary

A university spin-off from Latvia has developed an innovative, environmentally friendly type of antimicrobial additive for application in building finishing materials to avoid fungi and other microorganisms' development, as well as prolonging durability of finishing materials. The company mainly is looking for commercial agreement with technical assistance, but other collaboration types are possible.

Creation Date	28 September 2015
Last Update	06 October 2015
Expiration Date	05 October 2016
Reference	TOLV20150928001

Details

Description

An SME from Latvia is a spin-off from university with long lasting experience in mineral additives and related technologies research.
Most of the traditional antimicrobial additive production technologies are multi-stage chemical solutions that require utilization of by-products and waste, as well as involves energy and time consuming monitoring processes. The production technology of the proposed additive is innovative, one stage mechano-chemical solution, generating zero amount of waste. The technology is not significant energy consuming, is fast and uses worldwide available non-deficit raw materials. The innovation of the new additive is achieved by encapsulating EU recognized surface substances in mineral microcapsules. The method is developed by research team which has EU patents on mechano-chemical mineral additive production methods. The target market of the additive is wide - any producer of building finishing material is a potential client.
The company offers commercial agreement with technical assistance to adapt and implement the technology of adding innovative anti-microbial material in existing or newly developed products. The research partners for further applications of the additive are welcomed.

Advantages and Innovations

The mineral microcapsules prolongs the antimicrobial effect and material durability for 10-20 years. The micro-particle structure of the supplement allows scattering evenly into finishing material volume which makes it easy to use. In comparison with other alternatives this product does not contain any heavy metals, silver or biocides, it is environmentally friendly by being produced in waste-free production with up to 80% energy saving comparing to alternative methods and is much faster to produce - 2 days in comparison with 12-21 days for alternative products.

Stage of Development

Available for demonstration

Comments Regarding Stage of Development

Field tested/evaluated

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

The additive is applied for EU patent.

Profile Origin

Other

Keywords

Technology

02007002	Building materials
02007003	Ceramic Materials and Powders

Market

08001007	Coatings and adhesives manufactures
08001015	Other speciality materials
08001023	Other chemicals and materials (not elsewhere classified)

NACE

F.43.3.9	Other building completion and finishing

Dissemination

Send to Sector Group

Environment

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2014

Turnover

<1M

Already Engaged in Trans-National Cooperation

Yes

Experience Comments

N/a

Languages Spoken

English
Latvian

Client Country

Latvia

Partner Sought

Type and Role of Partner Sought

Type of partner sought: industry or R&D organisation.
Specific area of activity of the partner: building finishing material producers or developers.
Task to be performed: implement of the technology in production of existing products or development of new applications.

Type and Size of Partner Sought

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

Type of Partnership Considered

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

Technology Offer

Innovative characterization and modeling of silicon based semiconductor materials and devices

Summary

A Belgian company, active in semiconductor characterization and modeling, offers, in the frame of outsourcing agreements, an innovative service for the characterization and modeling of silicon based semiconductor materials and devices, including substrates, active and passive devices for a wide range of applications - direct current DC/baseband, high frequency applications - and radiation hardness operation.

Creation Date	14 September 2015
Last Update	01 October 2015
Expiration Date	30 September 2016
Reference	TOBE20150813001

Details

Description

A company, in close partnership with a prestigious Belgian university, holds an exclusive license from this university to commercialize a 3-decade know-how in semiconductor characterization and modeling for design of digital, analog/radio frequency (RF) and harsh environment applications. Concretely, the company is looking for partners interested in its skills, knowledge and expertise in characterization and modeling services.
Regarding others traditional characterization services, this technology doesn't suffer from parasitic surface conduction (PSC) effects and so, reduces digital substrate noise (DSN) and shows no impact on active devices performance.
This technology is the most promising solution for RF system-on-ship (SoC), and future long-term evolution (LTE), 5G generations.

The agreements could take the form of outsourcing/services where the Belgian company would make available to its partners its technological services and tools in order to validate the quality of silicon substrates, active devices (e.g. transistors) or passive devices (e.g. inductors). The experts of the company offer also to work with their partners through the whole cycle starting from a new idea, Technology Computer Aided Design (TCAD) simulations to evaluate and validate the idea, design, fabrication and testing of the required test structures and the optimized modeling of the new material/device.

The partners could be for instance silicon wafer providers, foundries and Integrated Device Manufacturers (IDMs) or fabless companies.

Their services also cover radiation hardness characterization and modeling. They're situated few steps from one of the most powerful cyclotrons in Europe where they perform their radiation hardness tests on materials, devices and circuits. For this service, the targeted market is the medical and space applications.

Hereafter is a non-exhaustive - because they work with their customers on new and custom solutions adapted to their needs - list of the services:

- Wide band characterization (S-parameters) from few Hertz (Hz) to 220 gigahertz (GHz)
- Non-linear harmonic distortion measurements for input power from -20 decibel milliwatts (dBm) till +40 dBm with a noise floor of -145 dBm
- Cross-talk characterization for frequencies from 5 Hz till 26 GHz (for substrate assessments)
- Low frequency (flicker) and high frequency (thermal) noise characterization and modelling
- Load-pull and source-pull characterization
- Design and fabrication of optimized test structures for specific characterization and modelling goals
- Silicon substrate characterization and modelling for linear and nonlinear applications, wide band, high power, and radiation hardened applications
- Harsh environment characterization including extremely low and high temperatures (from 4 Kelvin to 600 Kelvin)
- Innovative techniques to measure and model self-heating in active devices
- TCAD simulations for materials and devices in a wide range of operation
- Geant 4 physical simulations for the effect of high energy particles on material and devices (for radiation and space applications)

Advantages and Innovations

The innovation is the business core of the company. Indeed, they offer services that are not, a priori, offered by their competitors. The companies usually outsource these tasks to the Belgian company to benefit from their long experience in the domain and the innovation/professional service that would have been much more expensive and time consuming if performed internally.

They employ innovative techniques based on their expertise in the RF domain. These techniques are adapted to all regimes of operation, not only RF, of electronic devices and circuits.

Nowaday, the company's experts are invited in major events and conferences worldwide to present the state-of-the-art advancement in this field.

Moreover, the company continues to invest in R&D to keep ahead in the field of innovation & technology and to be able to answer all specific demand with custom solutions.

Stage of Development

Already on the market

Comments Regarding Stage of Development

The services are already in the market and used by major players in the domain of silicon semiconductor wafer providers, foundries and fabless companies. The company continues to work on R&D projects - in partnership with major companies in the different fields - in order to keep the leading position in the market of innovative characterization and modeling of semiconductor devices.

IPR Status

Exclusive Rights

Comment Regarding IPR status

Exclusive license for 10 years with a major university in Belgium to commercialize 3 decades of

accumulated know-how in this field.

Profile Origin

Private (in-house) research

Keywords

Technology

01002005	High Frequency Technology, Microwaves
01002007	Nanotechnologies related to electronics & microelectronics
01002012	Semiconductors
01003025	Internet of Things
02011	Aerospace Technology

Market

03	OTHER ELECTRONICS RELATED
03004001	Semiconductor fabrication equipment and wafer products
04017	Micro- and Nanotechnology related to Biological sciences
05004	Medical equipment
08001010	Semiconductor materials (e.g. silicon wafers)

NACE

M.72.1.1	Research and experimental development on biotechnology
M.72.1.9	Other research and experimental development on natural sciences and engineering
M.72.2.0	Research and experimental development on social sciences and humanities

Dissemination

Send to Sector Group

Nano- and Microtechnologies

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2014

Turnover

<1M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
Russian
Lithuanian
French
Arabic

Client Country

Belgium

Partner Sought

Type and Role of Partner Sought

The partners could be:

- Silicon wafer providers; to ensure the quality of their wafers for specific applications like high power or high frequency applications

- Foundries and Integrated Device Manufacturers (IDMs): for specific niche and state-of-the-art characterization and modeling services like the quality assurance of silicon wafers through the complete Complementary metal–oxide–semiconductor (CMOS) process, non-conventional measurements like load-pull with high specs, or modeling (equivalent circuit or SPICE-like (Simulation Program with Integrated Circuit Emphasis)) of specific types of substrates for high performance/high frequency applications.

- Fabless companies: to enhance their models or foundry qualified process design kits (PDKs) and qualify their technology before putting it to the market.

Type of Partnership Considered

Services agreement