



DSP Valley and its cluster partners of the Silicon Europe Alliance kindly invite you:

Open Innovation day with Boston Scientific

Boston Scientific

Enabling Innovation in Smart Health Solutions together with Boston Scientific

**Tuesday November 13th, 2018 from 9:00 am to 5:30 pm
Health House, Leuven (Belgium)**

Are you a high tech SME, an Applied Research Institute or a Start-up offering innovative and breakthrough solutions for medical technologies? Then Boston Scientific, global medical technology leader, wants to explore an active partnership with you.

Therefore, Boston Scientific, together with DSP Valley (supported by Silicon Europe) is organizing an open innovation day in order to discuss about potential partnering with you. We are looking for partners offering innovative and breakthrough technologies and solutions in a number of strategically important fields for Boston Scientific with the goal to establish mutually beneficial collaborative efforts to accelerate joint commercialization of these technologies and be able to provide beneficial solutions to patients and physicians.

More precisely, we are looking for partnerships, innovative solutions and enabling technologies in the following fields:



1. Fiber optics (FO)

- **Smart laser technologies** (i.e. the following areas: development of smart fiber optics, integration of light source, detectors and spectrometers, OCT technology as well as Auto-fluorescence and diffuse reflectance spectroscopy)
- **Integration of light source, imagers and other sensing technologies.** in an endoscope like device with the goal to enhance therapeutic visualization and navigation
- **Rotational technology with multiple fibers:** A catheter based optical imaging device typically requires a rotatory joint to couple a rotating component to a stationary processor. It works well for a single fiber like OCT. For a more complex device requiring multiple fibers such as all optical ultrasound, we need a technology to allow coupling of light to two or more optical fibers from independent light sources, while still allowing the assembly of fibers to rotate.
- **Optical Forward scanning** to be used in the vascular system

2. Miniaturization of electronics and electronic packaging (EP)

- Electronic packaging for embedding silicon Asics and sensors within PCBs/Flex.
- Packaging, enabling long term hermetic sealing of flexible electronics.
- Micro-electronic packaging enabling long term hermetic sealing allowing wireless energy charging through the packaging
- Implantable organic bio-degradable electronics
- High density electrodes / better charge transfer to neuronal systems

3. Fluidics (pressure measurement, pumps, valves) (FL)

- Low energy miniature fluid pumps, valves and pressure sensors for long term human implant. Pressure sensors for long-term use in range from 0 to 2.0 PSI and 0-20 PSI These components and the fluid will not be in direct contact with body. Isolation between electrics and fluidics is required.
- Measure/monitor blood flow, blood pressure waveform.
- Vascular pressure sensors for long term applications,
- Micro fluidics Pumps: targeted ranges : (5ml per minute , Pressure : up to 1.7 PSI), (50 ml per minute, Pressure up to 20 PSI)
- Microfluidic valves: targeted leakage of < 500 ul per minute at 0 to 1.7 PSI, Application B: Minimal leakage at < 0 to 20 PSI

These are guidelines only and prospective partners are encouraged to show us their microfluid solutions anywhere near these ranges.

4. Ultrasound technology (US)

- Phased Array Ultrasound systems:
A typical BSC ICE catheter such as Ultra ICE Plus uses a mechanically scanned (rotating) single element ultrasound transducer to produce a circular imaging plane normal to the catheter axis. However, many applications require imaging in a plane parallel to the catheter axis. This is most easily produced using an electronically scanned multiple transducer array. For these applications we need a technology that incorporates the transducer array and electronics to support phase delayed transmitters, individual received signal delays, signal summation and transmission of summed signals to a host imaging system.
- Forward scanning ultrasound systems in the vascular system
- Opto-acoustic technologies

5. IoT applied to smart packaging & supply chain management (IoT)

IoT technology for individual unit level

Currently, the main challenge for obtaining product position and environmental monitoring in a cost effective manner is at the individual unit level, in the context of the end users facility. Some companies can already get us this information for reasonable costs at higher levels (container, pallet, etc.). However, individual unit level management requires unique solutions due to:

- Cost of tagging every product
- Individual Hospital Restrictions (including country specific issues)
- Competing systems i.e. wireless interference
- Concerns over medical device interactions

6. Systematic firmware development for medical devices (FW)

The programming challenge of firmware lies on interfacing with changeable front end signal sensing devices on different applications while providing a homogeneous framework that support different sets of reusable libraries for domain specific application like FFR, Intra-vascular ultrasound, implantable modulators (i.e. neuromodulation) **We are looking for a software approach that is able to provide a mechanism to integrate all supported peripherals seamlessly with configuration management and not rely on code customization.**

7. Energy Technologies (EN)

- Primary energy storage with energy densities in excess of $1\text{W}/\text{cm}^3$, with overall cell volumes less than 1 cm^3
- Ultra-low power electronics
- Micro batteries for wearable sensors

8. Any Other Technologies

Besides the indicated topics, Boston Scientific is very interested and open to discuss about any innovative technologies, contributing to a better solution:

- For monitoring and electronically sensing the chronic patient at home (in particular the chronic heart patients)
- For minimally invasive oncology
- For neurological signal processing

Application Procedure

Companies or research institutes wanting to participate, are kindly requested to fill out the registration and application form. The application form has to include a precise and concrete description of your offering and your motivation to enter into contact with Boston Scientific.

Please return your registration and application form to DSP Valley or to the Silicon Europe cluster you are member of. After reception of your registration and application form, you will be informed about your contact person in one of the clusters (if you are a member of a Silicon Europe cluster, your contact person will be a staff member of this cluster).

The Silicon Europe clusters, together with Boston Scientific, will make a selection of companies and research institutes who will be formally invited to participate in the Open Innovation Day. The target is to allow the 50 most relevant companies to participate.

All selected companies will be scheduled for B2B meetings with the relevant experts of Boston Scientific, with a personalized agenda. In addition, a subselection of the participants will be invited to have a short pitch for the full audience of the Boston Scientific experts and the other participants.

Only the companies and research organizations invited to participate, will have to pay the participation fee.

The selected companies will have a chance to

Learn about Boston Scientific's business facts and orientations:

- Market segments and applications at stake
- Innovation that Boston Scientific is seeking for its development of products and services

Pitch their unique and innovative capabilities and know-how

Meet Boston Scientific experts during B2B meetings to discuss and explore opportunities for cooperation

Network with the other participating European innovative SMEs and start-ups and research institutes in the domain of (implantable) medical devices.

Program

09:00 am – 10:00 am: Boston Scientific presentation

- Boston Scientific overview
- Focus on Boston Scientific needs:
 - Innovation strategy
 - Technological orientations: the CTO's point of view
 - Applications and offer (market segments, products, services, solutions)

10:00 am – 12:30 am: Pitch session (6' pitch per company + 3' questions)

12:30 am – 02:00 pm: Lunch break

02:00 pm – 05:00 pm: individual B2B meetings with Boston Scientific experts:

- Sensor technologies and monitoring devices
- Innovative microsystems
- Novel processing technologies

In parallel, also B2B matchmakings can be set up with the other participants to the Open Innovation Day. The scheduling of these B2Bs will be done on the spot.

05:00 pm – 05:30 pm: short wrap up by Boston Scientific and networking drink

Boston Scientific Participants

Jeffrey Stahmann	Sr R&D Fellow, CRM R&D Systems & SW Development , exploratory leader Cardiac rhythm management	Arden Hills, Minnesota
Keith Maile	Sr R&D Fellow , Fellow, Sr R&D, R&D Systems & SW Development	Arden Hills, Minnesota
Michael Kane	EE	Arden Hills, Minnesota
Arnholt Devon	R&D fellow : Electrofysiology advanced development	Arden Hills, Minnesota
Scott Healy	Director R&D Cardiac Rhythm management	Arden Hills, Minnesota
Jim Blood	Electrical engineering fellow	Arden Hills, Minnesota
Wyatt Stahl	Fellow, Product Manager IC	Arden Hills, Minnesota
Daniel Burgess	Packaging Engineering Fellow	Maple grove, Minnesota
Wenguang Li	Sr R&D Fellow : Imaging group	Fremont, California

John Rivera	Director R&D firmware development neuromodulation	Valencia, California
Mark Boden	Sr Fellow specialist polymer systems, USA technology scout	Marlborough, Massachusetts
Thomas Hasenberg	Sr R&D Fellow Urology	Marlborough, Massachusetts
George Duval	Principal Engineer Endo	Marlborough, Massachusetts
Anming Cai	Fellow, Imaging Systems	Boston, Massachusetts
Jonathan Goldstein	Director R&D corporate & Venture capital	Tel Aviv , Israel
Michael Keane	Director	Clonmel, Ireland
Noel Smith	Electronics Engineering Fellow	Clonmel, Ireland
Jan Weber	Sr R&D Fellow & European Technology Scout, Corporate Research	Kerkrade , Netherlands
Frank Moonen	Director process engineering	Kerkrade , Netherlands
Frank van Velden	Technology Manager	Kerkrade, Netherlands
Alexander Hermann	Business Scout	Berlin , Germany
Yingbo Li	Technology Scout, Principal Research Scientist	Shanghai, China
Crispina Tay	Technology & Business Scout	Singapore

Venue

Health House
Arenberg Science Park
Gaston Geenslaan 11
3001 Leuven (Belgium)
<http://www.health-house.be/en/practical-info>

Participation Fees

Member of Silicon Europe Alliance cluster: 100 € (excl. VAT)

The clusters of the Silicon Europe Alliance are:

Business Cluster Semiconductors (NL), DSP Valley (BE), Fondazione Distretto Green & High Tech Monza-Brianza (IT), GAIA (ES), HighTech NL (NL), MESAP (IT), MIDAS (IE), Minalogic (FR), TechWorks (UK), SCS (FR), Silicon Alps (AT), Silicon Saxony(DE)

Non-member of Silicon Europe Alliance : 400 € (excl.VAT)

Only the selected participants will be invoiced.

Boston Scientific (NYSE: BSX) transforms lives through innovative medical solutions that improve the health of patients around the world. As a global medical technology leader for more than 30 years, we advance science for life by providing a broad range of high performance solutions that address unmet patient needs and reduce the cost of healthcare. For more information, visit us at www.bostonscientific.com. Boston Scientific is a member of the DSP Valley cluster.

DSP Valley is the Low Countries' cluster organization on smart electronic systems and IoT solutions. An important application domain is Smart Health, with a special emphasis on body wearable and body implantable medical devices. DSP Valley stimulates innovation by bringing businesses and research institutes together in new innovation projects. For more information, visit us at <http://www.dspvalley.com/> and <https://blog.dspvalley.com/>

Silicon Europe is a collaboration of European clusters bringing together the technological expertise and resources of Europe's leading research institutes and companies in the digital technologies and IoT areas such as micro and nanoelectronics, photonics, ICT and software. The 12 clusters represent more than 2500 members, including a large group of high tech SMEs. The Silicon Europe clusters are active in Austria, Belgium, France, Germany, Ireland, Italy, the Netherlands, Spain, the UK. For more information, visit us at <https://www.silicon-europe.eu/home/>

