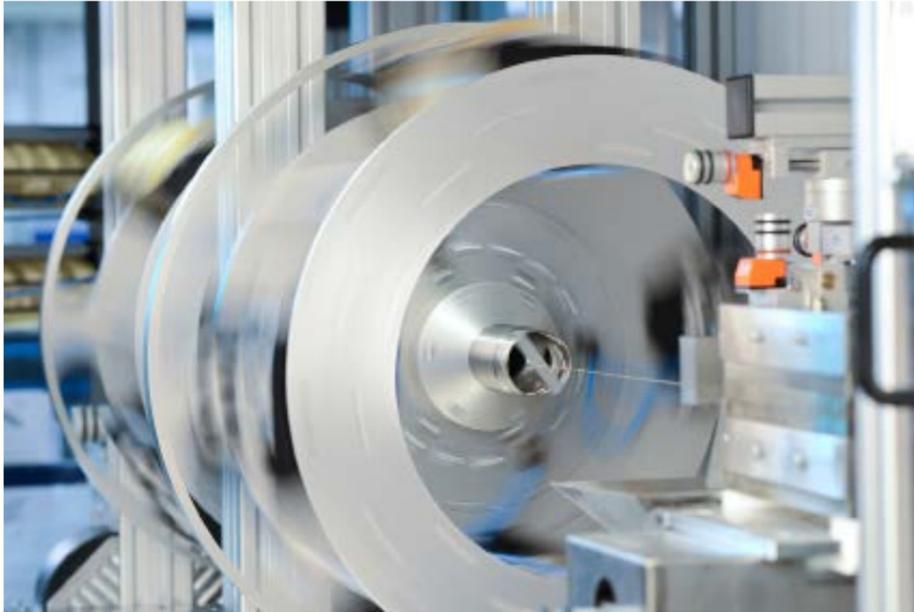


Welcome to the OPENMIND project



Dear reader,

We are proud to present to you the first newsletter of our project "OPENMIND – On-demand production of entirely customised minimally invasive medical devices". This project is funded by the European Commission in the "Technologies for Factories of the Future (FoF)" area of the Horizon 2020 programme.

With us in this issue

The cardiologist GIUSEPPE AUGELLO, Istituto Clinico Città Studi Milan, Italy.

"Dr Augello, cardiovascular diseases are still the number one cause of death globally. At the same time, more and more people survive heart attacks and strokes due to minimally invasive methods, such as stenting, valve replacement and resolving aneurysms. As an expert, how do you evaluate the importance of minimally invasive surgery in modern medicine? And more specifically, how do you evaluate the potentialities of the OPENMIND project?"

Also in this issue

Meet the PARTNERS: a brief description of who they are and what they do in the project.

NEWS & EVENTS
Exhibitions, conferences and other public occasions where you can meet them and ask more about the project.

Our main goal is to develop a new production system that will bring individualisation to a new field: the manufacturing of medical disposables. In our vision, the OPENMIND system will give doctors the opportunity to define their dream device on-demand, in small quantities and at a reasonable cost. This will help to make minimally invasive surgery even more effective and efficient.

The project combines several outstanding approaches: the replacement of metallic components with fibre-reinforced plastics (FRP) will allow the use of the same device in numerous modern imaging methods, including Magnetic Resonance Imaging (MRI). In order to reduce the manufacturing costs for such individualised devices, the system will run in an endless parts machining process; thus, the product will not be cut to length until the very end of the process. Lastly, to ensure product quality and to fulfil medical device manufacturing requirements, a powerful data management tool will be installed using data mining strategies adapted for small series production.

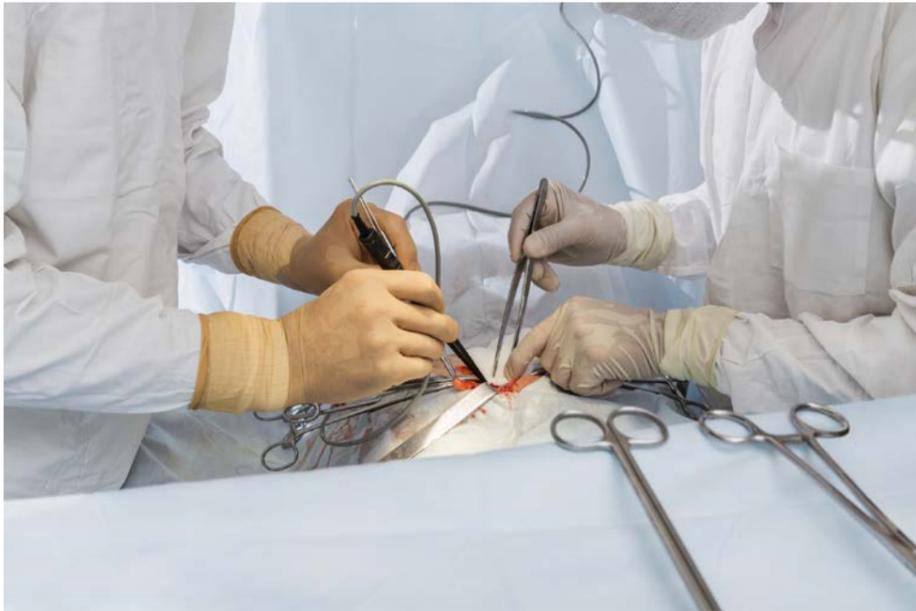
This complex project cannot achieve its goals without the participation of highly qualified experts. Therefore, since September 2015 and for a total duration of 3 years, the OPENMIND project operates in partnership with 9 innovative SMEs and research institutions from 6 different countries across Europe.

Thanks for joining us. We promise to keep you up to date on our website www.openmind-project.eu

The coordinator,
Fraunhofer IPT

partners

With us in this issue



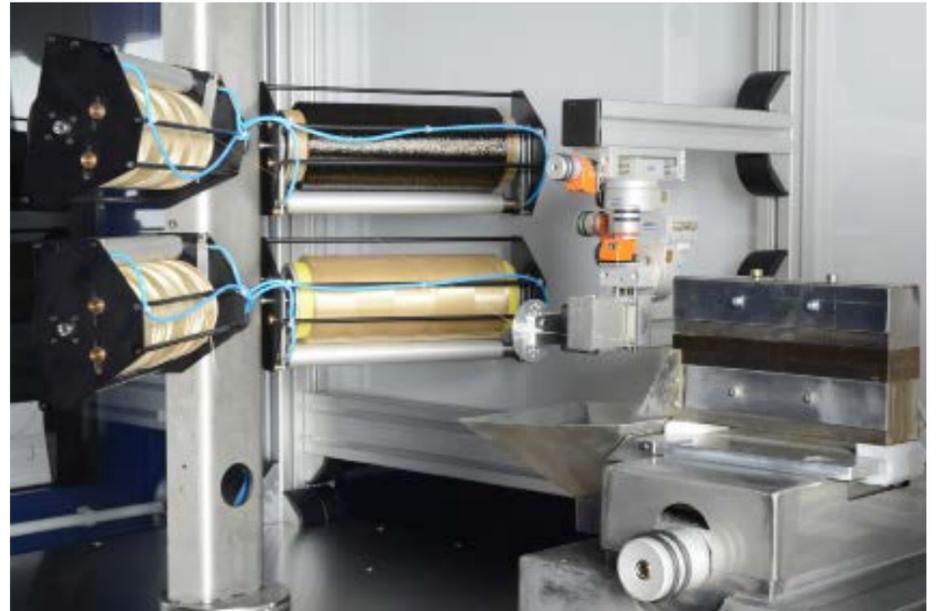
Giuseppe Augello
Chief of Electrophysiology and Cardiac Pacing Unit
Istituto Clinico Città Studi, Milan, Italy

Dr Augello, cardiovascular diseases are still the number one cause of death globally. At the same time, more and more people survive heart attacks and strokes due to minimally invasive methods, such as stenting, valve replacement and resolving aneurysms. As an expert, how do you evaluate the importance of minimally invasive surgery in modern medicine? And more specifically, how do you evaluate the potentialities of the OPENMIND project?

Of course, mini- or non-invasive procedures to treat heart disease are expanding year by year in every field: treatment of coronary artery diseases with stenting; treatment of peripheral vascular diseases with angioplasty and stenting in every district, including cerebral arteries, treatment of heart failures with valve “repair” or replacement, or with different kinds of cardiac stimulation; treatment of atrial fibrillation and cardiac arrhythmias with catheter ablation; occlusion of part of the heart where thrombus can form and develop; insertion of totally self-contained intracardiac pacemakers, etc. In the future, invasive surgery will remain a secondary option for patients who cannot be treated with non-invasive procedure.

Openmind project is appealing as, in the future, real-time MRI will be able to guide many of these procedures to safely and effectively improve their outcome. Indeed, MRI is the best way to image the cardiovascular system in general and the heart in particular. Finding new materials compatible with MRI to develop cardiac devices, wires, stents, balloons, catheters and so on will be the future of MRI-guided surgery.

Meet the partners



Openmind is a demanding project, whose goals can be achieved only with the combined effort of a qualified team. Indeed, the consortium has been carefully selected to cover all fields of expertise needed. Except for Fraunhofer IPT and Fondazione Politecnico di Milano, the industrial partners are SMEs with significant R&D capabilities. The team involves 6 European countries: Germany, Czech Republic, France, Ireland, Italy and Spain.

The partners are highly regarded specialists in their areas of activity and complement each other through this cooperation, thus creating local and European added value. The fact that each of them leads at least one of the 12 work packages underlines the evenly distributed risks as well as potential benefits among the members of the consortium.

Do you want to know who they are and what they do in the project?



partners



Production and process management:

Fraunhofer IPT coordinates and manages the whole project. It is responsible for the description of process and quantification of inputs and outputs as well as definition of demonstrator devices, design of experiments (DoE) for pre-trials and final demonstration, implementation and demonstration of the developed OPENMIND process and all implemented software and data structure analysis.

Algorithm development

IRIS is an advanced engineering and R&D company. In OPENMIND it is responsible for developing suitable data mining approaches to support optimisation of the process for the personalised parts that doctors need. IRIS is also involved in obtaining the necessary inputs for the developed models and provides assistance on use of the developed software for process optimisation.

IN-CORE Systèmes is a leading technology company in computer vision. In the OPENMIND project it identifies the most appropriate optical metrology system conditions during pre-trials. IN-CORE Systèmes manages the design and building of FRP-compatible inspection solutions and the development of image evaluation algorithms. The company will be also involved in process design and implementation.

Data acquisition

Diribet Diribet is a leader in the field of online pre-processing and analysis of large measurement data, using both standard statistical methods for industrial process control and proprietary algorithms for special technologies. In the OPENMIND project, Diribet provides the definition of process monitoring methods and of specific requirements, and provides support in the definition of special software interfaces

Process development

Blueacre, Gimac, TamponColor & Fraunhofer IPT

Quality management

Diribet & IPT

End-user

Nano4Imaging is a start-up based in Aachen and its focus area is minimally invasive medical devices. As the end user, Nano4Imaging will on the one hand support the development of a practicable process model and on the other hand give guidance on the implementation and demonstration of the OPENMIND project, with regard to its utilisation. Furthermore, it will contribute to the development of the marker printing module.

Dissemination & exploitation

Fondazione Politecnico di Milano was founded in 2003 as a joint venture between the Politecnico di Milano, major city and regional institutions and important corporations. In the OPENMIND project, Fondazione Politecnico di Milano leads the dissemination and exploitation activities.

Hardware development

Blueacre Technology is a specialised in the development and manufacture of dedicated, highly accurate, laser micromachining equipment used to process various materials, primarily for the medical device industry. In the OPENMIND project, Blueacre develops contactless laser ablation stations for the 360-degree machining of FRP micro profiles in a running process.

TamponColor is a company that designs, produces and markets pad printing, as well as peripheral devices, consumables and accessories. In OPENMIND it is responsible for the development of an inline printing solution based on the flying saw principle running process development and support in integrating the module into the overall process chain.

Gimac is a company focused on the medical device and pharmaceutical industry. It has a vast experience in the manufacturing of extrusion and micro extrusion equipment, and offers integrated solutions for polymer processing. In OPENMIND, GIMAC adapts an existing micro-extrusion system. This will require modifications to the micro-extrusion system hardware to allow FRP micro profile processing and extensive process development activities

partners

News & Events

Do you want to meet the partners and know more about the project?
Make a note of the following events.

You'll find **GIMAC** and the OPENMIND PROJECT here:

Stuttgart, 12-14 April 2016
Medtec Europe

<http://www.medteceurope.com/>

Tokyo, 20-22 April 2016
Medtec Japan

<http://www.medtecjapan.com/en>

You'll find **FRAUNHOFER IPT** and the OPENMIND PROJECT here:

Paris, 8-10 March 2016
JEC world

<http://www.jeccomposites.com/events/jec-world-2016>

Budapest, 24 May - 27 May 2016
HUNGEXPO

<http://iparnapjai.hu/en>

You'll find **NANO4IMAGING** and the OPENMIND PROJECT here:

Florence, 12-14 May 2016
EuroCMR 2016 - The 14th EACVI annual meeting on CMR

<http://www.escardio.org/Congresses-%26-Events/Upcoming-congresses/EuroCMR/EuroCMR>



To keep updated on the project visit our website at www.openmind-project.eu
and subscribe to our [newsletter!](#)

This newsletter was released in February 2016 | |FOR MORE INFO: info@openmind-project.eu

partners

