



Erasmus+



OVOMAX

Online Vocational training course on design, manufacture and validation of custom-made orthopaedic, oral and cranio-maxillofacial devices

Project acronym: OVOMAX

Project full title: Online Vocational training course on design, manufacture and validation of custom-made orthopaedic, oral and cranio-maxillofacial devices.

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Coordinator: Instytut Techniki Górniczej KOMAG

Website: www.ovomax.eu

NEWSLETTER Issue I.

ABOUT

Welcome to the first OVOMAX newsletter, which will provide you with an overview of the current project phases and the current activities.

The main objective of OVOMAX proposal is the development of contents and implementation of an online free access course to assure Medical Device designers a worthy education and training along their professional career regarding design, manufacture and validation of custom-made medical devices. The e-learning tool resulting from the project will be available online in 4 European languages (English, Spanish, Polish and Hungarian) in order to increase acceptance of the course.

THE BACKGROUND

Nowadays, surgeons look for medical devices highly adapted to patient's needs. In some cases, standard implants are not sufficient because of abnormal anatomy or postoperative complications.

Fully customization of medical devices enables greater structural, functional and biological compatibility with the patient, enabling longer implant life-time; improved aesthetics, performance and patient comfort leading to improved quality of life; and often enable quicker and less invasive surgical operations; thus demonstrating higher-added value. Among others, the e-course will contain production process of custom-made medical devices.

In conclusion, this project is intended to achieve the following specific objectives set by the Erasmus+ Programme:

- To develop of high quality work-based VET.
- To increase labour market relevance of VET.

Call for professionals and students' opinion

In this first phase of the project we are interested in the opinion of professionals working in medical device manufacturing as well as students to identify the training preferences related to this field. For this reason, we request the collaboration of professionals and students working in this sector (designers, engineers etc.).

We would appreciate your participation in this survey consisting of only 14 questions about the training preferences in the field of custom manufacturing of advanced orthopaedic devices. Please click on the following link to the online survey: <https://es.surveymonkey.com/r/OVOMAX>



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THE GOAL

The production process of custom-made medical devices can be summarized in three main steps:

1. Design of the medical device by Computer-Aided Design (CAD) from medical imaging obtained mainly by Computed Tomography (CT) or Magnetic Resonance (MR).
2. Validation of the device. Custom-made design must be validated to assure that fulfill with the mechanical and functional requirements. This validation can be performed using numerical methods like Finite Element Method (FEM) or other computational methods.
3. Manufacturing process of the device. In the case of additive manufacturing techniques, prior to start with manufacture process the CAD 3D model of the device must be adapted, incorporating the necessary support structures for the device manufacture.

As can be seen, creating custom-made medical device models requires skills that many design professionals not usually have. While many of the newer, additive manufacturing machines do not require significant skill to operate, but preparation of the files and some post-processing requirements may require more ability. Thus, training about additive manufacturing is critical during the design phase.

MEETINGS

01 December 2015

KOMAG Institute organized the Kick-off and Steering Committee meeting of OVOMAX project on 1st of December in Gliwice, Poland. Each consortium member participated in the meeting.

NEWS

Since the beginning of the project, the partners have already carried out a number of dissemination activities. Using their own websites, they share information about OVOMAX. As it is essential, a website has been constructed for the project, in order to grant an important communication channel between the consortium partners and an opportunity for establishing connection between the consortium and the potential stakeholders.

KOMAG presented the OVOMAX poster on 9th International Forum on Innovative Technologies for Medicine ITMED 2015, Supraśl, Poland. Participating on relevant conferences are an important part of dissemination activities. KOMAG also created project pages for the project on several social networks (Facebook, Google+ and Twitter). Links to these websites are shown on the main OVOMAX website.

IBV released information, related to the Kick-Off Meeting and the project itself on their own website. Also they posted information about OVOMAX on their healthcare website and the 'biomecamicamente.org' website.

AIMME released two post about OVOMAX on their website.

ATEKNEA shared information about the project on their website and also on their facebook page.

FENIN made two posts about OVOMAX on their own, as well as on a health related website



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Project Consortium

Instytut Techniki
Górnictwej
KOMAG



The institutions, from which KOMAG Institute of Mining Technology originated, have been subjected to complicated organizational and restructuring changes. The origin of our Centre goes back to the Central Design Bureau in Swietochlowice and the Mining Mechanization Plant of the Central Institute of Natural Fuels in Katowice, established in 1945.

The KOMAG scope of activity includes scientific, research and development projects in the domain of minerals mining and processing as well as environment protection and work safety connected with them, but also air and ground surface protection, waste management and an adaptation of research results for a practical implementation and their dissemination in other natural and technical sciences.

Instituto de
Biomecánica de
Valencia IBV



The Instituto de Biomecánica (IBV) is a technological centre that studies the behavior of the human body and its interaction with products, environments and services. Founded in 1976, the Institute is currently coordinated under the agreement of the Valencian Institute of Business Competitiveness (IVACE) and the Universitat Politècnica de València (UPV). With the aim to improve competitiveness among the business sector, the IBV promotes people's well-being through the combination of knowledge in areas such as biomechanics, ergonomics and emotional engineering, and its application to diverse sectors.

Instituto
Tecnológico
Metalmeccánico
AIMME



AIMME, the Metalworking Technology Institute, is a private nonprofit organization that helps companies in the metalworking sector and related to improving its competitiveness through R+D, since 1987.

AIMME provides a specific solution tailored to each company, through its various technical units, laboratories and training areas.

Over 400 member companies, cutting-edge equipment and instrumentation and professionals with extensive experience in research and development are the pillars of the institute and the key to its success.



Project Consortium

Federación Española de Empresas de Tecnología Sanitaria FENIN



Fenin is a multi-sector federation that groups manufacturing, import and distribution companies and associations of healthcare technologies and products whose common characteristic is that they are suppliers to all the Spanish healthcare institutions.

The companies and business associations that make up Fenin are responsible for more than 80% of the total sales to the Spanish Health Technology market, of which about 72% corresponds to the public health sector, with an approximate volume of business of some 6.900 million Euros.

The enterprises that form Fenin employ, either directly or indirectly, some 25.000 people.

Fenin gives great importance to the research and technological development of the companies that form part of the Federation, as these companies contribute healthcare products and services that help not only to improve the patients' quality of life but also to prolong it.

A TEKNEA Solutions



Ateknea Solutions provides business and technological excellence to Small and Medium-sized Enterprises (SMEs) to develop their ideas into profitable innovative solutions. Ateknea Solutions has offices in 6 different locations: Brussels, Barcelona, Budapest, Krakow, Lisbon and Valetta.



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