

# NEWSLETTER II.

NanoTI Project—Development of a titanium dental implant with superior antibacterial properties

February, 2015

## NanoTI Project status update

The first year of the project has been passed, and within this year there were a lot of significant events happened. The project's first period has ended, and after the submission of the 1st report the Research Executive Agency has evaluated the results of the first 9 months.

### In-vitro examination launch

First part of the demonstration activities

**Q: What is the main objective of the in-vitro studies?**

A: The aim is to gain the first indications about the biological performance of the newly developed nano-surfaces in comparison to the stat-of-the-art implant surfaces as reference. On the first hand, we aim to investigate the affinity for biofilm formation and the strength of bacterial attachment. On the second hand we will investigate the attachment of bone cells and other surface properties relevant for effective osseointegration.

### Project website

Further public information will be available soon on the official website of the project: [www.nanoti.eu](http://www.nanoti.eu)

*Members of the consortium:*



## Funding

The two year initiative has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration



The review meeting in Brussels

## The strategy

Using a proprietary electrochemical equipment and controlled process, we can program and standardize the physical and chemical properties of TiO<sub>2</sub> nano-surfaces on 3-dimensional dental implants. Such a novel TiO<sub>2</sub> nano-surface should have the capability of killing bacteria upon contact, while exhibit extraordinary biocompatibility with the stromal cells, such as bone and epithelial cells.

## Period 1 finished

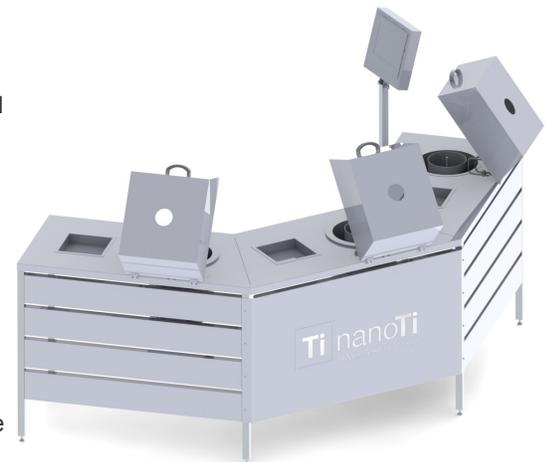
The NanoTi Project is segmented into two periods. From these periods, we have just finished the first (by month 9 of the project lifetime) period. Basically it means, that the first part of the project is over, we could re-organize the technical development and the project finances, and after the evaluation of the deviations occurred, it turned out, that we have to change our plans for the future slightly. Thanks to the highly qualified partners, the management board, and the coordinator, the project got under way, and the second period could begin with new perspectives, but with the same aim.

## New activity, more opportunities

With the beginning of the 2nd period, a new type of activity has been started: the demonstration. Armed with an elementary prototype, the partners could start to treat the first implants. A lot of experiment will be happening in the following couple of months, the aim is to find out the best circumstances to treat the titanium implants, maximizing the impact on bacterial contamination and on osseointegration.

## Intellectual Property Rights

While the IPR strategy plays an important role in planning for the future use of the NanoTi results as it supports market entry and provide a strong negotiation position when it comes to entering into business partnerships. The consortium has not yet decided about the protection procedure as the in vivo and in vitro tests demonstrating the technology will fall under the second period of the project and the results gained through this will play an important role in further innovation strategy planning. In principle ITM plans to patent any method or product related subject matters that may allow the reverse engineering or copy of the NanoTi technology.



"The Prototype"

## Introduction of NanoTI SMEs:

# ITM

ITM is a Hungarian SME partner participating in the project as an expert “surface treatment service provider”. Based on the experience in the field of nanotechnology and medical equipment development, ITM became the leader of the management board of the NanoTi consortium, and in addition ITM honored the partners with the transmission of the common interests toward the wider public as Exploitation Manager.



Miklós WESZL and Krisztián TÓTH, co-founders of NanoTi, a startup emerged from the project

## Where will be NanoTI in the future?

If you became interested, or just simply want to know more about the NanoTI project, it's partners and achievements, you shouldn't miss the following events, where we have been invited, or where we plan to disseminate the outcomes of our activities!

The list of the planned events where we will take part:

- Symposium of International Congress of Oral Implantologists 14-16/08/2015
- 4th TERMIS 08-11/09/2015
- 21st International Biomedical Science and Technology Symposium 22/10/2015
- International Osteology Symposium 21-23/04/2016
- ITI Congress 28-30/04/2016
- World Biomaterial Congress 18/05/2016
- International Dental Show and Implant Expo 25-26/11/2016

## Coordination

Just like in every successful team, there is a leader of the consortium in NanoTI project too. Besides the fulfillment of research and technical development activities, ATEKNEA is responsible for the smooth coordination of the project. The company has a long and very successful history in the coordination of similar projects in the Seventh Framework Programme. The aim in NanoTI is the same: to provide quality work, to finetune the project process, to communicate and to solve both usual and unusual situations to ensure the best possible outcome for all of the stakeholders involved in the project.



Ateknea —Building Innovative Solutions Together.

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