

Technology Transfer to Russia – a Win-Win Situation

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Fig. 1
Machining of the ceramic ball-head

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Keywords

Russia, ceramic hip prostheses, ZTA compound

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Starting situation

As a basis, BBL – Technology Transfer GmbH was able to build on patents for a further developed ZTA compound. In terms of personnel, two freelance employees and up to five consultants – essentially former professionals from the sector – were on hand. The complete development and manufacturing expertise of the company OxiMaTec and the toolmaker Leonhardt was also called in.

The project partner in Novosibirsk – NEVZ Ceramics – is regarded as a leading Russian ceramics company. The clinic partner is the orthopaedic clinic in Novosibirsk, which with around 12 000 implants is the largest user of artificial hips in Russia. NEVZ had already invested large sums of money with a Russian financial investor, however, on account of a lack of know-how and the specific product situation, they had critically reviewed continuation of the project.

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Fig. 2 a–b
Ceramic ball-head for hip prosthesis

A constellation of strength in Russia was the local concentration of ceramic manufacturers, Russian approval authorities and the largest clinic in Novosibirsk.

The company group OxiMaTec, Leonhardt Werkzeugbau and BBL Technology Transfer are not only the know-how carriers of key material patents for this application, they are also familiar with the complex approval process for hip prostheses. Of the market stakeholders so far, no one was prepared to set up ceramic production for implants in Russia. In May 2013 the German partner concluded a contract with the Russian consortium on a project the objective of which was to set up a production line for around 100 000 ceramic hip implants including approval by 2017.

Course of the project

First, the current technology was analysed, then re-engineering performed, a new improved material developed and the production costs lowered substantially. In terms of the manufacturing costs, from today's perspective an estimated advantage of around 25 % is achieved compared to the international competition. The product portfolio is limited to standard products that have already reached technological maturity.

Specific to this project is that per Russia firm involved there is a contact person, no sales or marketing department and the admin overheads could be outsourced completely.

The following functional units are currently available:

Manufacturing, approval and quality department, customer contact partner, cost management.

Everything else is bought in by the functional unit that has needs the things. Cost management helps here and performs a controlling function.

The organization, however, complies with all requirements of the regulatory authorities. With this organization, the German partners were able to install a competitive production line. In the first quarter of 2015, Nevz Ceramics Organisation was granted approval for the production of medical products in Russia.

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