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OUTLOOK



Syntellix

**TOP
ORTHOPEDIC
SOLUTION PROVIDERS
IN EUROPE**

2020

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**COMPANY
OF THE YEAR**

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*The annual listing of 10 companies that are at the
forefront of providing Orthopedic solutions and impacting the industry*



Syntellix

The Reign of Titanium Is Reaching Its End



Utz Claassen,
Founder and Chairman

“There’s nothing more powerful than an idea whose time has come.” –Victor Hugo, French poet.

This quote perfectly sheds light on a specific revolution taking place in the titanium-dominated orthopaedic implant domain of the medical device industry. Owing to its strength and lightness, titanium has established itself as the ‘titan’ of orthopaedic implants since ages. However, the reign of titanium in the medical industry is reaching its end! Although titanium components are considered to be non-reactive and to possess the loadbearing capacity needed to support bone union, they were permanent, and hence, often required subsequent surgeries after healing to remove them. To eradicate such complexities, the medical community, for more than a century, has been confounded by one question: What

could be the most eligible successor of titanium in the orthopaedic sector?

“Magnesium,” says Utz Claassen, founder and Chairman of Syntellix AG—a biomaterials science company. “It is bio-absorbable and harmless, whereas titanium, in case it becomes titanium dioxide nanoparticles, has showed in animal trials to be relatively toxic. The IARC, part of the World Health Organization, even declared it to be ‘possibly carcinogenic’. But most of all, with magnesium, you don’t have to undergo implant removal surgery.”

The Advent of a New Era in Implant Domain

Syntellix offers implants, made of a patented magnesium-based alloy, MAGNEZIX, which ensures a significant reduction in risks and costs for both patients and surgeons. The MAGNEZIX alloy began conquering the surgical implant space through compression screws and pins for the treatment of bone fractures, which had been traditionally ruled by steel and titanium. Today, thousands of patients across more than 65 countries in Europe, Asia, America, Australia, Africa, and the Middle East have already benefitted from the smooth and by far less risky treatment with MAGNEZIX implants. One of the recent ‘certificates of brilliance’ was the ‘Breakthrough Device’ designation, which has been granted by the FDA.

Several organisations still use non-permanent resorbable polymer-based implants, which were assumed to dissolve safely over time. However, this approach proved ineffective as it often did not provide sufficient strength and stability for a majority of musculoskeletal indications. But finally, after years of research, Claassen and his team at Syntellix solved the trade-off between strength and biodegradability by introducing the orthopaedic implant sector to the ‘magic’ of magnesium – MAGNEZIX.

Ushering Safety and Simplicity with Bioabsorbable Implants

MAGNEZIX has come as a saviour for thousands of patients all over the world. Even the COVID-19 pandemic, an ubiquitous topic of today’s time, can be fought by the large-scale use of MAGNEZIX implants. Hospitals expose patients to transmission risks, which not just apply to common healthcare-associated infections (HAI) but also



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Our magnesium alloy, unlike titanium or steel, is not considered a foreign component by the human body, as magnesium itself forms a crucial element within the bones

to COVID-19. By avoiding unnecessary surgeries and in-patient stays, the spread of contagious diseases can be diminished, making MAGNEZIX implants highly relevant for whole societies in our modern globalized world.

Due to the current attention on COVID-19, the general populace is unaware of the fact that HAIs are often much more severe. In Germany itself, up to 20,000 people die from HAIs every year. Many of those lives can be saved with MAGNEZIX implants, since they avoid the removal-necessity caused of titanium or steel implants. Contrasting this with approximately 15,000 deaths from COVID-19 in the country, it shows the severity of HAIs. When these statistics are considered worldwide, the number could very well be in several millions. Furthermore, statistics reveal that up to 96 percent of polled doctors report to have observed problems in implant-removal surgeries like broken implants, stripped screw heads, unpleasant scars, nerve

damages, refractures, wound infections and persisting patient complaints. But MAGNEZIX is sweeping most of these complications off the table.

“Our magnesium alloy, unlike titanium or steel, is not considered a foreign component by the human body, as magnesium itself forms a crucial element within the bones”, explains Claassen. Known for its osteoconductive properties that accelerate the bone healing process, MAGNEZIX might also inhibit infections, as studies have shown virtually no bacteria on magnesium surfaces compared to multiple colonies on titanium surfaces. The body- and bone-affine properties of magnesium prevent MAGNEZIX from causing allergies. A recent experimental study revealed that the hydrogen gas released during the degradation of magnesium could significantly reduce the risk of bone cancer, possibly making MAGNEZIX the new ‘king’ of implants.

Setting the Stage for Unprecedented Innovations

“Patients form the DNA of our company. We continually innovate ourselves keeping patients in mind,” says Claassen. But the benefits of MAGNEZIX implants are not limited to patients. Even doctors and surgeons can benefit

from shifting to a strong and bioabsorbable material over those that require additional surgeries. Judging from the feedback of patients, there is no doubt that healthcare organisations adopting the revolutionary implants based on MAGNEZIX material will inevitably witness a massive inflow of patients who are quickly becoming aware of its advantages. Besides, hospitals will be able to focus on the more lucrative surgeries, rather than focusing their valuable time and resources on implant removal procedures. This stands only to show that MAGNEZIX implants are indeed the ‘patients’ choice’ for orthopaedic implants and will soon become the ‘surgeon’s choice’ as well.

Paving a Path into the Future of Orthopaedics

Driven by its breakthrough product, Syntellix is well on its way to making inroads into the global market. The company has already established itself in Germany and Singapore, the gateway to the Asian Market. Even under the shadow of the global pandemic, the company is achieving exponential growth and founding subsidiaries in India, Brazil and China, despite the many obstacles imposed. Just in the last few years, the company has moved from a single product to over 184 derivatives of six product families. With increasing product registrations coming from highly dynamic demographics, Syntellix is firmly rooting itself in the global panorama. “And now it is time for phase four; going from a R&D company to a comprehensive market-oriented organisation and delivering the benefits of MAGNEZIX implants to patients in every corner of the world,” concludes Claassen.

