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**STRATEGIC REPORT**

# EUROPEAN ORTHOPEDIC MARKET 2021-2026

HIP, KNEE & SHOULDER



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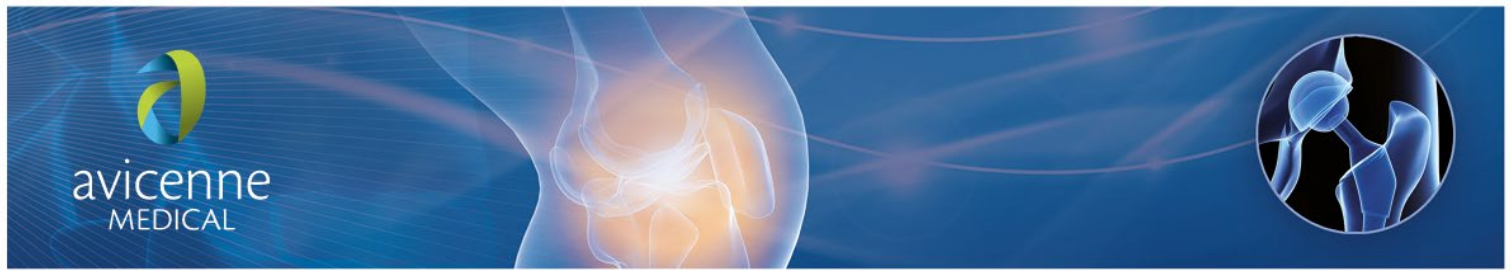
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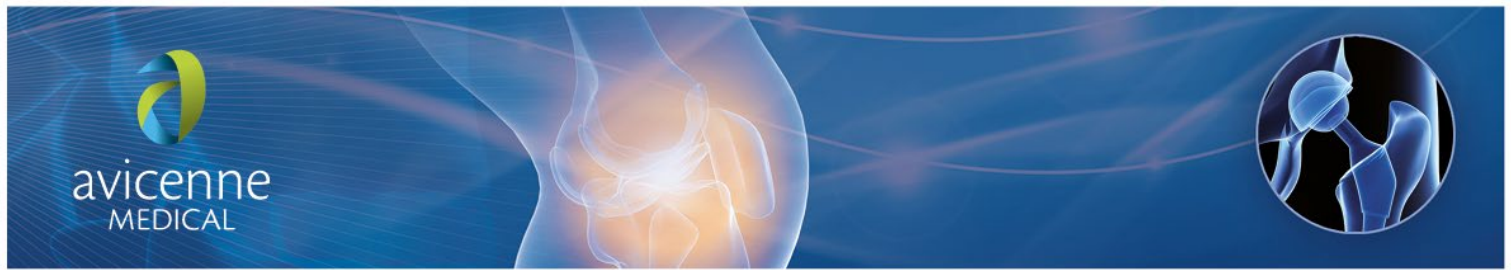
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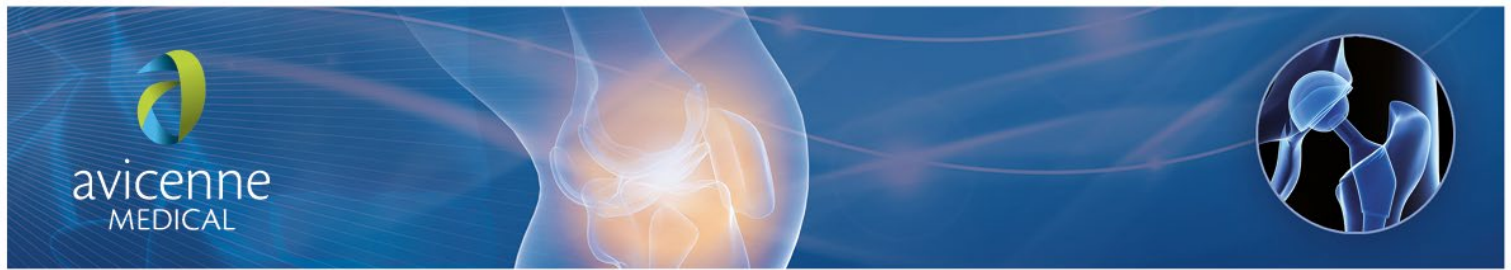
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- 🔗 The impact of Covid-19 on the Orthopedics Market
- 🔗 Bearing in mind that during the 2008 financial crisis, growth in orthopedics was merely slowed down implants and contract manufacturers largely held their ground



- 🔗 What is the forecast for the world economy and the orthopedic industry? Even the International Monetary Fund has said that forecasts have become very dicey and a grey area
- 🔗 The world economy will experience the worst recession since the Great Depression (1930s)
- 🔗 Growth projections
- 🔗 Latest World Economic Outlook: growth projections (1/2)
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- 🔗 The “Covid-19 effect”: orthopedic sales decline Depuy Synthes
- 🔗 The “Covid-19 effect”: orthopedic sales decline Medtronic
- 🔗 The “Covid-19 effect”: orthopedic sales decline Stryker
- 🔗 According to their forecasts, the orthopedic players will lose between x% (Best scenario) and y% (worst scenario) of their 2020 revenues, depending on their activity, area, type of customers, etc.
- 🔗 Orthopedic activity in China recovered in April, while European and US activity collapsed
- 🔗 According to the forecasts of the main players, they will lose between x% and y% of their 2020 revenues from orthopedics due to the impact of Covid-19
- 🔗 The “Covid-19 effect”: orthopedic companies sales declined in 2020
- 🔗 The “Covid-19 effect”: country impact for 2020
- 🔗 The “Covid-19 effect” on the Contract manufacturing market in 2020
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- ROSA from Zimmer Biomet
- Omni robotic cutting guide & Omni Ligament balancer from OMNIlife Science / TANVI in China
- Navio & Cori from Smith & Nephew / Mazor from Medtronic / Velys from Depuy Synthes
- MAKO's acquisition by Stryker boosted the orthopedic robotic market and have a huge impact on instruments market
- Orthopedic robotics surgeries: Stryker open the mass market, Smith & Nephew, Zimmer Biomet, Depuy Synthes and many other have followed
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- Zimmer, Trabecular Metal related implants
- Metal Additive Manufacturing: Technologies and major competitors, EOS, SLM Solutions, Concept Laser, Arcam, Other
- Arcam EBM installed base for orthopedic industry: Lima
- Beijing AK MEDICAL EBM Installed base 2010-2016
- Illustrative build-up speed and resolution of selected Metal Additive Manufacturing systems: EBM Vs Selective Laser Melting
- Smith & Nephew uses Additive Manufacturing for customized cutting blocks & Hip Cup
- Stryker has announced massive investments in 3D printing
- Current Stryker products made by 3D printing: Knee, cages, other
- Depuy Spine uses Additive Manufacturing for prototyping complex surgical tools
- Depuy announced investments of US\$41M in 3D printing in January 2021
- DePuy Synthes has acquired 3D printing technology from Tissue Regeneration Systems Inc
- DePuy Synthes Launched 3D-Printed Titanium Facial Reconstruction Implants in U.S.
- XILLOC invested in four machines for Cranio-Maxillofacial applications
- Equipment suppliers for orthopedics, Installed base per customer and per supplier: EOS, ARCAM, CONCEPT LASER, SLM Solutions, 3D Systems and their customers
- Addressable market should increase with lower Additive Manufacturing cost
- Additive Manufacturing (AM) is attractive for reconstructive implants to accelerate and improve osteo-integration. Zimmer has used Trabecular Tantalum clinically since 1997
- Number of implants produced using Additive Manufacturing: Zimmer Biomet, Lima, Exactech, Adler Ortho
- FDA clearance for medical devices using Additive Manufacturing in USA
- In 2021 Additive Manufacturing represented only a small % of all orthopedic products manufactured
- Additive Manufacturing today has a slight impact on the forging, casting & machining of implants. In 2021, we estimate that, in Europe, less than 7% of all parts of hips, knees, shoulder, and trauma are made by Additive Manufacturing
- Cages for spine surgeries in the five main European countries: as Peek and Titanium lose market share, Additive Manufacturing of cages will increase dramatically
- Is Additive Manufacturing the right option for the implant Contract Manufacturing business?
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- 🔗 Additive Manufacturing for orthopedics: synthesis

