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Orthopedic industry strategic report 2025-2030: Hip, Knee, Spine, Trauma, Shoulder, Extremities & Orthobiologics – Profile of 200 key players



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Section V includes 200 individual player profiles (HQ, story, acquisitions, facilities, activities, top brands, shareholders, revenues). Detailed contents of each section on the following slides.



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Orthopedic industry strategic report 2025-2030: Hip, Knee, Spine, Trauma, Shoulder, Extremities & Orthobiologics – Profile of 200 key players

Aims of the study, Methodology, Segmentation

- Hip, knee, shoulder, spine, trauma, extremities, bone substitutes & orthopedic and spine cement segmentation

Synopsis & Executive summary

- Executive summary
- Summary of the orthopedic market: Market & trends, Competitive Landscape & Player strategies, Drivers & limiters, Key Success Factors for an orthopedic player
- Synopsis: Innovation & new products, Robotics & 3D printing, Impact of inflation, Covid & FX rate
- Opportunities: gaining market share through NPIs, level of Ebitda margin, long market visibility, solvency of payers, high barriers to entry & very active M&A

I – Orthopedic environment (p. 26)

- Orthopedics Macro environment: Political, Economic, Social / Culture, Technology, Environment, Legal & Regulatory
- Risks: regulatory burden, ASP almost frozen or declining, significant capex for instruments & CNC machines for orthopedic end-user market
- Milestones in the orthopedic industry: major acquisitions, recalls, divestments, new-comers
- Product withdrawal cases over the past 20 years, 2000-2020
- Market drivers: population growth, population over 65 years, health expenses, obesity, product mix impact
- Market drivers: demographic & economic: Global population growth 1950-2050 and people over 65
- Market drivers: health expenses & obesity rates, USA, France & UK, 1980-2025
- Market drivers: innovation and new products are the differentiating factors on the orthopedic market: innovative, advanced and mature products
- Market drivers: innovative surgeons, follower surgeons and conservative surgeons
- Market limiters: regulatory & certification, details, impact on the market
- Market limiter: reimbursement, a worldwide pricing regulation detailed for the USA, Germany, UK, Sweden, Italy, Belgium, Switzerland and France – Date of launch, Classification system and targets
- Market limiter: MDR (Medical Device Regulation): impact in Europe for implants and for instruments
- Market limiter: MDR: New deadline for Class III products fixed in December 2027
- Market limiter: Hip ASP erosion 2012-2024 in developed countries, USA, Australia, Japan & Europe
- Market limiter: Knee ASP erosion 2012-2024 in developed countries, USA, Australia, Japan & Europe

II – Orthopedic & spine market by region & forecasts (p. 41)

- Forecast Price for hip & knee 2024-2030: USA, Australia, Japan, Europe
- Drivers & limiters for Orthopedic products: matrix summarizing (volume, price) x (driver, argument, past impact & future impact)
- Worldwide implants market in 2024 in value by region (US\$Bn): knee, hip & spine – USA, Europe & ROW
- Worldwide implants market in 2024 in value by region (US\$Bn): trauma, shoulder & extremities – USA, Europe & ROW
- Hip & Knee by region (US\$Bn): USA, Europe, Japan, Australia, South Korea & ROW
- Hip & knee ratio for 10,000 inhabitants, USA, Europe, South Korea, Australia, Japan, China & ROW. Growth by area for hip & knee CAGR 2024-2030
- Spine & trauma by region in 2024 (US\$Bn): USA, Europe, South Korea, Australia, Japan – Rest Of the World
- Spine procedures: fusion (trauma, deformation, degenerative), non-fusion (spine dynamic) & vertebroplasty-kypophasty
- Shoulder & Extremities by region (US\$Bn): USA, Europe, Japan, Australia, South Korea & ROW
- The life cycle of orthopedic products: growth forecasts 2024-2030 for hip, knee, spine, trauma & extremities
- Worldwide orthopedic market in 2024 and forecasts 2024-2030 for hip, knee, spine, trauma, shoulder, extremities, orthobiologics and other

III – Player strategies: competitive landscape, players' ranking & dispersion (p. 52)

- Three types of Challengers compete with the Majors: Challengers type 1 (country leader) / Challengers type 2 (country player) / Challengers type 3 (local vendors)
- Hip, knee & shoulder challengers growth: Corin, Medacta, Enovis and FX Solutions revenues
- Spine & Orthobiologics challengers are grabbing market share from the Majors and emerging as top players: Globus, Alphatec Spine, Depuy “Spine & other” and Bonesupport revenues
- Challengers have continuously gained market share except in 2020 due to Covid impact: challengers market shares collapsed for hip, knee, spine, trauma & total ortho
- Challengers have continuously gained market share except in 2020 due to Covid impact: challengers market shares evolution from 2018 to 2025 for hip, knee, spine, trauma & total ortho
- Majors vs. Challengers: Majors saved their margins while Challengers got the growth, position of each player in terms of market shares and ortho & spine revenues growth from 2019 to 2025
- 2019-2024: Stryker is the only Major that has been growing at 6.5% per year since 2019. Globus merged with Nuvasive. The other Majors experienced slower growth or decline. Taken together, the challengers experienced moderate growth, but many of them have achieved double-digit growth
- Reasons why Challengers are growing faster than Majors

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III – Player strategies: competitive landscape, players' ranking & dispersion (cont.)

- The hip implant market is highly concentrated, with the 4 majors: ranking & dispersion: Top 4 / Top 5-10 / Other
- The knee implant market is highly concentrated, with the 4 majors: ranking & dispersion: Top 4 / Top 5-10 / Other
- The spine implant market is highly concentrated, with the 4 majors: ranking & dispersion: Top 4 / Top 5-10 / Other
- The trauma implant market is highly concentrated, with the 4 majors: ranking & dispersion: Top 5 / Top 6-10 / Other
- The shoulder implant market is highly concentrated, with the 4 majors: ranking & dispersion: Top 5 / Top 6-10 / Other
- The extremities implant market is moderately concentrated, the 4 leaders: ranking & dispersion: Top 4 / Top 5-10 / Other
- The Orthobiologics market is moderately concentrated, the 4 leaders: ranking & dispersion: Top 4 / Top 5-10 / Other

IV – Innovations & new technologies in orthopedics (p. 67)

- History of disruptive innovations: ceramics, hip dual mobility cup, short stem, anterior approach surgery, 3D printing for hips, cementless products, robotics, specific ceramic parts for the knee, reversed for shoulder, disk, 3D printing cages for spine
- Market drivers: orthopedics is generally risk-averse with few disruptive innovations, often coming from small players, but many small incremental innovations
- For Alphatec Spine 82% of revenues are driven by New Products
- Smith & Nephew: average new products launched per year
- Innovation level comparison between Smith & Nephew and Alphatec Spine
- **Orthopedic robotics**
 - Orthopedic robotic market: MAKO from Stryker, ROSA from Zimmer Biomet, Navio of Smith & Nephew, Mazor from Medtronic and Velys from Depuy robotic systems, Omni robotic from OMNIlife science, Apollo from Corin, Tinavi...
 - Navigation vs. robotic assisted surgery comparison: tools description, features, end-user price, easy to use, pros & cons
 - Stryker with Mako's acquisition boosted the orthopedic robotic market and had a huge impact on the instruments market
 - Orthopedic robotics surgeries: Stryker opened the mass market, Smith & Nephew, Zimmer Biomet, Depuy and many others have followed

IV – Innovations & new technologies in orthopedics – Orthopedic robotics (cont.)

- New generations of Mako for shoulder and spine surgery launched & Stryker Mako installed base machines 2017-2025 for hip & knee
- New generations of Rosa for shoulder surgery launched & Zimmer Biomet Rosa installed base machines 2017-2025 for hip & knee
- New generations of Cori pre-operative planning and modelling which allows image-free and image-based planning launched in 2024 & Smith & Nephew Navio & Cori installed base machines 2020-2025 for hip & knee
- New generations of Velys for spine surgery launched & Depuy Synthes Velys installed base machines 2021-2025 for hip & knee
- Robotic orthopedic system benchmark: several families of orthopedic robots, handheld or with a robotic arm. Mako, Rosa and Velys have chosen the robotic arm, while Cori is handheld. Another variant is the need for a CT scan or not (imageless); only Mako uses a CT scan. Finally, the use of cutting guides is eliminated for Mako and Velys, which operate direct cuts by the robot, while Cori uses several cutting guides and Rosa only for tibial cuts
- Mako, Rosa, Velys and Cori benchmark by operating cost and acquisition cost
- Product benchmarking: Mako is the robot with the most extensive clinical track record, but the acquisition cost is high
- Australia was always a pioneer in the use of innovations in orthopedics. Germany and Japan will be the fastest-growing markets. In France, the robotized knee ratio lags far behind. Australian, Japanese, German, Italian, UK and French knee surgeries performed with robotics (in K units) 2020-2030
- Robotic-assisted surgeries outside the US: forecasts of the number of robotic knee operations outside the USA between 2025 and 2030. Germany and the UK will lead the way in Europe in terms of volume. Outside-US knee surgeries performed with robotics (in K units) 2020-2030: Australia, Japan, Germany, Italy, UK, France, Rest of Europe & Rest of the World
- **3D Printing**
 - 3D Printing in Orthopedics: Zimmer opened up this market with Trabecular Tantalum, then Lima (Enovis) & Adler, Italian-based companies, started mass market sales
 - Story of Zimmer and Trabecular Tantalum 1997-2025
 - Zimmer Trabecular metal product portfolio: patellar knee implant, femoral & tibial cone augments, acetabular revision system, acetabular cup, reversed shoulder system, shoulder glenoid part, knee tibial plate, primary hip stem
 - Metal 3D Printing: technologies and major players, EOS, Arcam, SLM Solutions, Concept Laser, other players by raw materials used and technologies
 - Number of Arcam EBM installed base for the orthopedic industry at Enovis 2007-2025 and % of hip cups and shoulder glenoids made by 3D printing machines
 - Number of EBM installed base at AK Medical & Implantcast

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IV – Innovations & new technologies in orthopedics – 3D Printing (cont.)

- Illustrative build-up speed and resolution of selected metal 3D Printing systems: EBM vs. Selective Laser Melting (SLM) comparison between maximum build-up speed in cm³/h and resolution
- Smith & Nephew uses 3D Printing: 20 EOS M290 for metal and 3 for plastic to produce hip cups & customized cutting blocks, and to manufacture customized cutting blocks and hip revision cups
- Stryker has announced massive investments in 3D Printing: in 2016, a US\$400 million plan to build a 3D printing manufacturing facility in Cork, Ireland was released. Today, many of Stryker's products are made by 3D printing
- Current Stryker products made by 3D Printing: knee tibial plate, patellar knee implant, knee augment, cages, other
- Depuy Spine uses 3D Printing for prototyping complex surgical tools and announced investments in 3D printing
- DePuy Synthes has acquired 3D printing technology from Tissue Regeneration Systems
- DePuy Synthes launched 3D printed titanium facial reconstruction implants in the US
- XILLOC for cranio-maxillofacial applications using PEEK and titanium alloys
- 3D printing machine suppliers for orthopedics, installed base: EOS, Arcam, Concept Laser, SLM Solutions, 3D Systems and their customers. Number of installed machines per machine manufacturer
- Addressable market should increase with lower 3D Printing cost: cost and complexity curve linked with addressable market
- 3D Printing is attractive for reconstructive implants to accelerate and improve osteo-integration
- Number of implants produced using 3D Printing: Stryker, Zimmer Biomet, Enovis, Advita, Adler Ortho, etc.
- FDA clearance for medical devices using 3D Printing in the USA
- 3D Printing has reached the mass market for a few key products: hip cups, tibial knee, spine cages, shoulder glenoid and several trauma products have switched to 3D Printing
- 3D Printing today has a slight impact on the forging, casting & machining of implants. Our research shows that Stryker and challengers are most advanced in the use of 3D printing, particularly for hip cups, tibial knee plates and spinal cages. % of implants produced using 3D printing worldwide
- 3D printing cages are gaining market share over PEEK and titanium cages
- 3D Printing and impact on the forging, casting & machining of hip cups
- Hip: manufacturing process and raw materials, 3D printing is not a threat to the forging of hip stems
- Knee: manufacturing process and raw materials, 3D printing is not a threat to the forging of tibial plates
- Cages for spine surgeries in the five main European countries

IV – Innovations & new technologies in orthopedics – 3D Printing (cont.)

- Is 3D Printing the right option for the implant Contract Manufacturing business? Analysis of different products & players for reconstructive implants, standard cages, special cages and customized implants – Benefits / Drivers & Limiters for each product
- Is 3D Printing the right option for the instruments Contract Manufacturing business? Analysis of different products & players for customized cutting guides and complex instruments: Lincotek 3D Printing activity details
- Most large contract manufacturers are investing in 3D printing and, after an initial learning curve, are moving into the scale-up phase
- The most manufactured orthopedic products by 3D Printing
- Standard manufacturing process vs. 3D Printing process: cost comparison for hip cup, knee tibial, spine cages and shoulder glenoid
- Trend of the installed bases of the main machine suppliers: the number of 3D Printing machines used in orthopedics 2015-2025
- 3D Printing in-house & Contract Manufacturing market 2015-2030 by hip cup, knee tibial plate, shoulder glenoid, spine cage, other parts: in value
- **REACH & impact on Co-Cr**
 - EU Regulation 2017/745 and CMR substances
 - Cobalt-Chrome is used today in 6 major orthopedic products: femoral knee, dual mobility liner, hip and shoulder heads, bipolar cups and tibial knee plates. The use of Co-Cr varies depending on the geographical area. REACH regulation: ban on Co-Cr for implants?
 - REACH regulation: no ban on Co-Cr for implants is expected; Co-Cr implants have to be CMR-labeled, which will not have a major impact on Co-Cr use. Co-Cr will continue to be used for implants that have been manufactured for several decades and have a very long track-record. Only new hip product development projects will be affected. Co-Cr hip implants will be flat or slightly down
 - Co-Cr has been used for decades for friction parts in implants
 - Oxinium hip & knee is a breakthrough bearing solution comparable to ceramic bearings
 - Anti-allergic solutions against nickel, cobalt, etc. have been developed for several decades
- **Orthobiologics**
 - Use of antibiotics for orthopedic cements: need for cements with new antibiotics
 - Cement price / mix: mix effect offsetting the small price erosion that is common in the orthopedic industry
 - Synthetic or natural bone substitutes, allografts, growth factors, Demineralized Bone Matrix (DBM), xenografts, autografts segmentation



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IV – Innovations & new technologies in orthopedics – Orthobiologics (cont.)

- Main bone grafts on the market: injectables and antibiotics are the main drivers: injectable & non-injectable
- **Inflation impact**
 - Impact of inflation on the end-user market and on contract manufacturing: Majors OEMs & Majors CMOs quotes
 - FX rate variation
 - Impact of exchange rate fluctuations on the major orthopedic companies
- **Tariffs impact**
 - Impact of Tariffs on OEMs and CMOs
- **Single use**
 - Single-use trend: the introduction of single-use starts with the less expensive cutting tools: drills, taps, burrs, pins, sawblades, rasps & acetabular reamers
 - Single use in the USA & Europe: trauma and extremities are the largest consumers of single-use cutting tools and disposable kits – % of single use USA and Europe 2018-2026
 - Cutting tools: 3D printing's contribution is to lighten and reduce the number of parts and generate cost savings
- **Ambulatory Surgery Center – ASC in the USA**
 - Ambulatory Surgery Centers – ASC in the USA, expected to skyrocket for hip, knee, spine and trauma non-complex surgeries

V – Player profiles (p. 142)

- 200 individual player profiles: core business, headquarters, story, main acquisitions, number of employees, main production facilities, activities (hip, knee, trauma, spine, extremities, biologics, other), main ortho top brands, main shareholders, total & orthopedic revenues
- 6 Majors (p. 144)
- Players: US\$100M -> US\$1B (p. 193)
- Players: US\$40M -> US\$100M (p. 248)
- Players: US\$20M -> US\$40M (p. 294)
- Players: US\$10M -> US\$20M (p. 341)

Conclusions, Executive summary (p. 400)

Appendices (p. 406)