

STRATEGIC REPORT

ORTHOPEDIC END-USER MARKETS & TECHNOLOGIES 2023-2030: HIP, KNEE, SPINE, TRAUMA, SHOULDER, EXTREMITIES, ORTHOBIOLOGICS & PROFILE OF 140 KEY PLAYERS

**Who needs to buy this report ?
What are the benefits?**

For orthopedic companies:

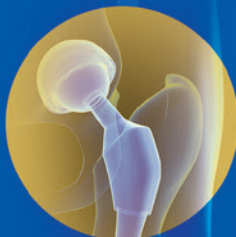
- Understand the market in terms of volume, value, ASP and the weight of each player in different areas.
- Determine key trends: ASC in the USA, Robotics and surgical aids, penetration of 3D printing implants, single-use, etc.
- M&A opportunities among 140 companies that represent over 90% of the orthopedic end-user market

For contract manufacturers:

- Identify future high-growth customers with details of their activity
- Tracking market trends by product and by region

Private Equities:

- Identify high-growth & high-profitability segments & companies
- Investment opportunities



320 PAGES - 400 EXHIBITS & PROFILES



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DEEP DIVE INTO THE ORTHOPEDIC MARKETS, TECHNOLOGIES AND COMPETITIVE LANDSCAPE

DETAILED REPORT OVERVIEW

Aims of the study, Methodology, Synopsis,

Executive summary

1- Orthopedic environment, drivers & limiters

- Segmentation: Hip, knee, shoulder
- Segmentation: Spine, trauma & extremities
- Segmentation: Bone grafts & arthroplasty cement
- 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
- Risks: regulatory burden, ASP almost frozen or declining, significant capex for instruments & CNC machines for arthroscopic end-user market
- Orthopedics Macro environment: Political, Economic, Social / Culture, Technology, Environment, Legal & Regulatory
- Milestones in the orthopedic industry: major acquisitions, recalls, divestments, new-comers
- Product withdrawal cases over the past 20 years, 2000-2020
- Some product recall cases over the past 20 years, 2000-2020
- 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, refers to European directive 93/2 & ISO 13485, 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
- MDR (Medical Device Regulation): impact in Europe for implants and for instruments
- MDR: New deadline for Class III products fixed in December 2022
- Market limiter: Hip ASP erosion 2012-2023 in developed countries, USA, Australia, Japan & Europe
- Market limiter: Knee ASP erosion 2012-2023 in developed countries, USA, Australia, Japan & Europe

2- Orthopedic & spine market by region & forecasts

- Forecast Price for hip & knee 2023-2030: USA, Australia, Japan, Europe
- Drivers & limiters for Orthopedic products: matrix summarizing (volume, price) x (driver, argument, past impact & future impact)
- Worldwide implants market in 2023 in value by region (US\$Bn): knee, hip & spine – USA, Europe & ROW
- Worldwide implants market in 2023 in value by region (US\$Bn): trauma, shoulder & extremities – USA, Europe & ROW
- Hip & Knee by region (US\$Bn): USA, Europe, South Korea, Australia, Japan & ROW
- Hip & knee ratio for 10000 inhabitants, USA, Europe, South Korea, Australia, Japan, China & ROW. Growth by area for hip & knee CAGR 2023-2030
- Spine procedures: fusion (trauma, deformation, degenerative), non-fusion (spine dynamic) & vertebroplasty-kyphoplasty
- Spine & trauma by region (US\$Bn): USA, Europe, South Korea, Australia, Japan – Rest Of the World
- Extremities & Shoulder by region: USA, Europe, South Korea, Australia, Japan – Rest Of the World
- The life cycle of orthopedic products: growth forecasts by 2030 for hip, knee, spine trauma & extremities
- Worldwide orthopedic market 2000-2023 and forecasts 2024-2030 for hip, knee, spine, trauma, shoulder, extremities, orthobiologics and other

3- Competitive landscape & players' ranking & dispersion

- 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 revenues 2014-2023, Medacta revenues 2014-2023, Lima revenues 2014-2023, Wright revenues 2014-2019
- Spine challengers are grabbing market share from the Majors and emerging as top players: Globus revenues 2014-2023, Nuvasive revenues 2014-2022, K2M revenues 2014-2018
- Challengers have continuously gained market share except in 2020 due to Covid impact: challengers market shares collapsed between 3% to 6% 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 2017 to 2023 for hip, knee, spine, trauma & total ortho
- Majors vs Challengers: Majors saved their margins while Challengers got the growth, position of each players in terms of market shares and ortho & spine revenues growth from 2014 to 2023
- Majors saved their margins, position of each players in terms of market shares and ortho & spine revenues growth from 2014 to 2023 and EBITDA margin details for Zimmer Biomet and for Stryker
- Stryker growth for 2019-2023, Depuy Synthes, Zimmer Biomet and Smith & Nephew. The challengers growth
- The hip implant market is highly concentrated, with the 4 majors accounting for 68% of the market: ranking & dispersion in 2023: Top 4 / Top 5-10 / Other
- The knee implant market is highly concentrated, with the 4 majors accounting for 73% of the market: ranking & dispersion in 2023: Top 4 / Top 5-10 / Other
- The spine implant market is highly concentrated, with the 4 majors accounting for 69% of the market: ranking & dispersion in 2023: Top 4 / Top 5-10 / Other
- The trauma implant market is highly concentrated, with the 4 majors accounting for 62% of the market: ranking & dispersion in 2023: Top 4 / Top 5-10 / Other
- The shoulder implant market is highly concentrated, with the 4 majors accounting for 70% of the market: ranking & dispersion in 2023: Top 4 / Top 5-10 / Other
- The extremities implant market is moderately concentrated, the 4 leaders accounting for only 42% of the market: ranking & dispersion in 2023: Top 4 / Top 5-10 / Other
- The Orthobiologics market is moderately concentrated, the 4 leaders accounting for only 32% of the market: ranking & dispersion in 2023: Top 4 / Top 5-10 / Other
- Market by products: Hip market in details with 49 players / Knee market in details with 38 players / Spine market in details with 46 players / Trauma market in details with 42 players / Shoulder market in details with 21 players / Extremities market in details with 43 players / Orthobiologics market in details with 41 players

4- Innovations & new technologies in orthopedics

- History of disruptive innovations: ceramics, hip dual mobility cup, short stem, anterior approach surgery, 3D printing for hip, cementless products, robotics, specific ceramic parts for the knee, reversed for shoulder, disk, 3D printing cages for spine
- Innovation and new products are the differentiating factors on the orthopedic market
- Innovation level: comparison between Smith & Nephew and Alphasec Spine
- Orthopedic robotics: MAKRO from Stryker, ROSA from Zimmer Biomet, Navio of Smith & Nephew, Mazor from Medtronic and Vels from Depuy theatre systems
- Navigation Vs robotic assisted surgery comparison: tools description, features, end-user price, easy to use, procons
- Stryker with Mako's acquisition 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 and many others have followed
- The Trauma market of Mako for shoulder and spine surgery planned for the coming years & Stryker Mako installed base machines: 2017-2023 for hip & knee
- Robotic-assisted surgeries: the USA is by far the leading country for robotics usage. Knee surgery is the first targeted number of surgeries conducted in US 2015-2027 for Stryker, Smith & Nephew, Zimmer Biomet, Depuy, Think Surgical & other companies
- 3D Printing
- 3D Printing in Orthopedics: Zimmer opened up this market with Trabecular Tantalum then Lima & Adler; Italian-based companies, started mass market sales
- Story of Zimmer spinal Trabecular Tantalum 1897-2025
- Zimmer Trabecular metal product portfolio: Patellar knee implant, femoral et 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 orthopedic industry at Lima 2007-2023 and % of hip cups and shoulder glenoid made by 3D printing machines
- Number of EBM installed base at AK MEDICAL 2010-2020

- 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 cup & customized cutting blocks in 2023 to manufacture customized cutting blocks and hip revision cup
- 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
- Depuy 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 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 base 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, Lima, Exactech, Adler Ortho, etc.
- FDA clearance for medical devices using 3D Printing in USA 2010-2023
- 3D Printing has reached the mass market for a few key products: hip cups, tibial knee, spine cages, shoulder glenoid and several trauma have switched to 3D Printing
- 3D Printing and impact on the forging, casting & machining of implants.
- Cages for spine surgeries in the five main European countries
- 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 products
- 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 2015-2023
- 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 says that a CMR substance
- Cobalt-Chrome usage in the main orthopedic products
- REACH regulation: ban on Co-Cr for implants ?
- 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
- Synthetic or natural bone substitutes, allografts
- Main bone grafts on the market: injectables and antibiotics are the main drivers: injectable & non-injectable
- Covid & Inflation impact
- Impact of inflation on the end-user market and on contract Manufacturing: Majors OEMs & Majors CMOs quotes
- FX rate variation from January 2018 to September 2022: The Euro has devalued by almost 20% Vs the US Dollar! In the year 2023, Swiss franc, Yens, etc.
- Impact of exchange rate fluctuations on the major orthopedic companies

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

Amulatory Surgery Center – ASC in the USA

- Amulatory Surgery Center – ASC in the USA, expected to skyrocket for hip, knee, spine and trauma non-complex surgeries!

5- Player profiles

6 MAJORS

Zimmer Biomet:

- Split of orthopedic in 2023 by product hip, knee, shoulder, trauma and extremities and by area (US\$Bn)
- Zimmer Biomet financial analysis: revenues, COGS, R&D expenses, SGA, Ebitda, Ebit 2019-2023
- Main facilities: surface, number of CNCs per location, manufacture of hip, knee, spine, trauma and other products for each site, with special focus on R&D centers
- Top brands in hip and knee, number of products sold in 2023 and per region USA, Europe & ROW
- SWOT analysis: strengths & weaknesses for its orthopedic business, opportunities & threats
- Depuy Synthes:
- Split of orthopedic in 2023 by product hip, knee, shoulder, spine, trauma and extremities and by area (US\$Bn)
- Main facilities: surface, number of CNCs per location, manufacture of hip, knee, spine, trauma and other products for each site, with special focus on R&D centers
- Top brands in hip and knee, number of products sold in 2023 and per region USA, Europe & ROW
- SWOT analysis: strengths & weaknesses for its orthopedic business, opportunities & threats

Stryker:

- Split of orthopedic in 2023 by product hip, knee, shoulder, spine, trauma and extremities and by area (US\$Bn)
- Stryker financial analysis: revenues, COGS, R&D expenses, SGA, Ebitda, Ebit 2019-2023
- Main facilities: surface, number of CNCs per location, manufacture of hip, knee, spine, trauma and other products for each site, with special focus on R&D centers
- Top brands in hip and knee, number of products sold in 2023 and per region USA, Europe & ROW
- SWOT analysis: strengths & weaknesses for its orthopedic business, opportunities & threats

Smith & Nephew:

- Split of orthopedic in 2023 by product hip, knee, shoulder, trauma and extremities and by area (US\$Bn)
- Smith & Nephew financial analysis: revenues, COGS, R&D expenses, SGA, Ebitda, Ebit 2019-2023
- Main facilities: surface, number of CNCs per location, manufacture of hip, knee, spine, trauma and other products for each site, with special focus on R&D centers
- Top brands in hip and knee, number of products sold in 2023 and per region USA, Europe & ROW
- SWOT analysis: strengths & weaknesses for its orthopedic business, opportunities & threats

Medtronic:

- Split of orthopedic in 2023 by spine and by area (US\$Bn)
- Medtronic financial analysis: revenues, COGS, R&D expenses, SGA, Ebitda, Ebit 2019-2023
- Main facilities: surface, number of CNCs per location, manufacture of spine, 3D printed products, robotics, instruments, etc. for each site, with special focus on R&D centers
- SWOT analysis: strengths & weaknesses for its orthopedic business, opportunities & threats

Globus-Nuvasive:

- Split of orthopedic in 2023 by spine, trauma and orthobiologics and by area (US\$Bn) & Main facilities

US CHALLENGERS (48)

For each player: contact name in details, HQ & facilities location, headcount, main shareholder, story, main acquisition, activities in details, orthopedic activities by products, main brands and products, historic turnovers on several years, etc..

EUROPEAN CHALLENGERS (55)

For each player: contact name in details, HQ & facilities location, headcount, main shareholder, story, main acquisition, activities in details, orthopedic activities by products, main brands and products, historic turnovers on several years, etc..

ASIAN & LATIN AMERICA CHALLENGERS (31)

For each player: contact name in details, HQ & facilities location, headcount, main shareholder, story, main acquisition, activities in details, orthopedic activities by products, main brands and products, historic turnovers on several years, etc..

CONCLUSIONS, EXECUTIVE SUMMARY

COMPREHENSIVE REPORT CONTAINING 320 PAGES, 400 EXHIBITS & PROFILES



DETAILED PROFILES OF 140 COMPANIES

WOULD YOU LIKE TO CHECK IF A COMPANY IS IN THE LIST OF THE 140 KEY PLAYER PROFILES ANALYSED? JUST ASK US!



You will find in these profiles:

- Financial data & Player analysis
- Leading products
- Sales history
- Sales split by product
- Location of manufacturing sites
- SWOT analysis &
- Top decision-makers

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ORTHOPEDIC END-USER MARKETS & TECHNOLOGIES 2023-2030: HIP, KNEE, SPINE, TRAUMA, SHOULDER, EXTREMITIES AND ORTHOBIOLOGICS & PROFILE OF 140 KEY PLAYERS

AUGUST 2024 - 2ND EDITION

- Orthopedic macro environment, drivers & limiters
- 320 pages & 400+ graphs & exhibits
- Orthopedic market by region: orthopedic players' ranking & dispersion for hip, knee, spine, trauma, shoulder, extremities & orthobiologics
- Player strategies & dynamics: split by product for each player, main facilities for the Major with their core business
- 6 Majors analysis: Zimmer Biomet, Depuy Synthes, Stryker, Smith & Nephew, Medtronic, Globus-Nuvasive
- 48 US Challenger analysis: Exactech, Enovis, Arthrex, etc.
- 55 European Challenger: Aesculap, Link, Medacta, Corin, Amplitude, etc.
- 31 Asian & Latin America Challengers: Microport, United, AK Medical, Teijin Nakashima, etc.
- Profile of 140 key players in total

AVAILABLE

EUROPEAN ORTHOPEDIC MARKET 2021-2026

HIP, KNEE & SHOULDER

SEPTEMBER 2022 - 19TH EDITION

- First published in 1993
- 860 pages & 1550+ graphs & exhibits detailing the European Market in Germany, France, Italy, Spain, UK and other countries
- Up-dated yearly
- Hip, Knee and Shoulder
- Based on 100+ interviews
- Special focus on the worldwide orthopedic market, player dynamics and global market shares
- Analysis of the drivers & limiters of the market, price pressure and regulatory trends, MDR impact in Europe. Comprehensive analysis of the key companies
- Impact of COVID in orthopedic markets: 2020, 2021 and beyond

AVAILABLE

WORLDWIDE ORTHOPEDIC & SPINE CONTRACT MANUFACTURING MARKET REPORT 2023-2030 & TOP 100 SUPPLIER PROFILES

APRIL 2024 - 13TH EDITION

- First published in 2014
- 400 pages & 1000+ graphs & exhibits
- OEMs' strategy for outsourcing & in-house manufacturing
- Detailed markets & sizing for:
 - Forging: hip stem, hip cup, femoral knee...
 - Casting: femoral knee, tibial knee, hip cup...
 - Hip, knee machining & finishing
 - Spine, trauma & shoulder machining & finishing
 - Instrument manufacturing
 - Cases & trays manufacturing
 - 3D printing: spine cages, hip cups
 - Coating: stem, cup, femoral, tibial
 - Ceramics: hip heads, hip liner
 - Cleaning & packaging...
- Special focus on Robotics usage for orthopedics, Co-Cr alternative solutions, inflation & FX impact
- Top 100 Contract manufacturers detailed profiles

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WORLDWIDE 3D PRINTING FOR ORTHOPEDICS 2021-2026 & PLAYER PROFILES

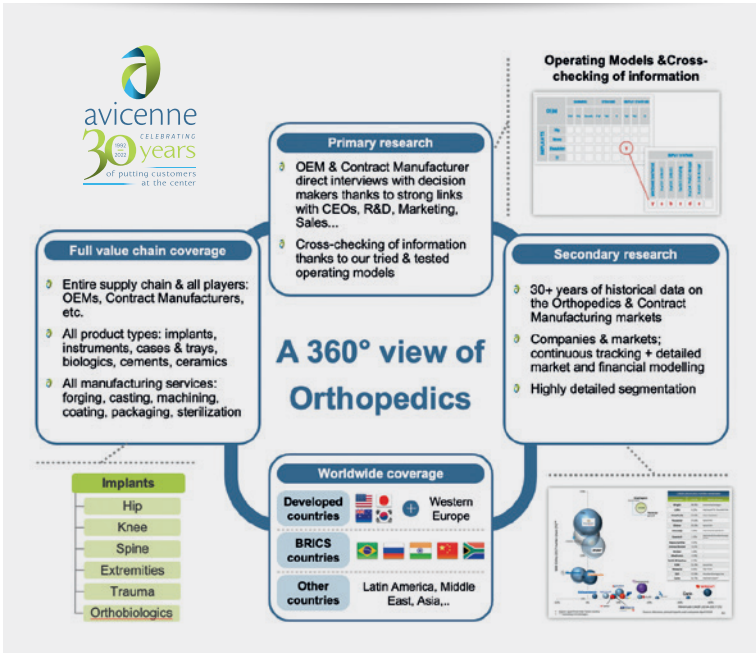
JANUARY 2023 - 2ND EDITION

- First published in 2018 – January 2023, 2nd edition
- 150 pages and over 200 graphs and profiles
- Market for 3D Printing for Orthopedics and forecasts in 2026
- Market for hip cups, tibial knees, shoulder glenoids, spine cages and other products made by 3D printing
- Based on 50+ interviews of:
- 3D printing machine suppliers
- Contract Manufacturer leaders in 3D printing
- Orthopedic companies operating in 3D printing
- Other Contract Manufacturers operating in 3D printing
- Top 80 detailed players

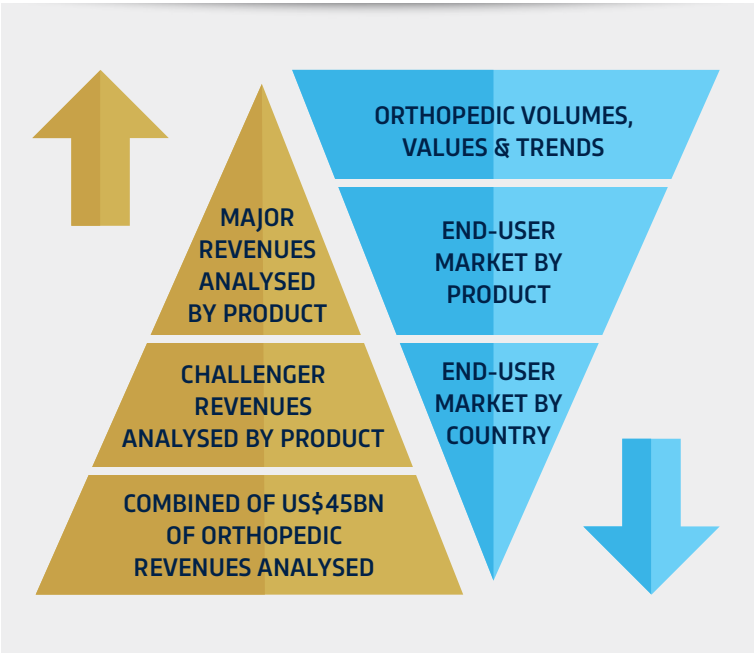
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WHY CHOOSE THIS REPORT?

LEVERAGING 30 YEARS OF HIGH LEVEL CONTACTS
MARKET TRACKING & MODELLING



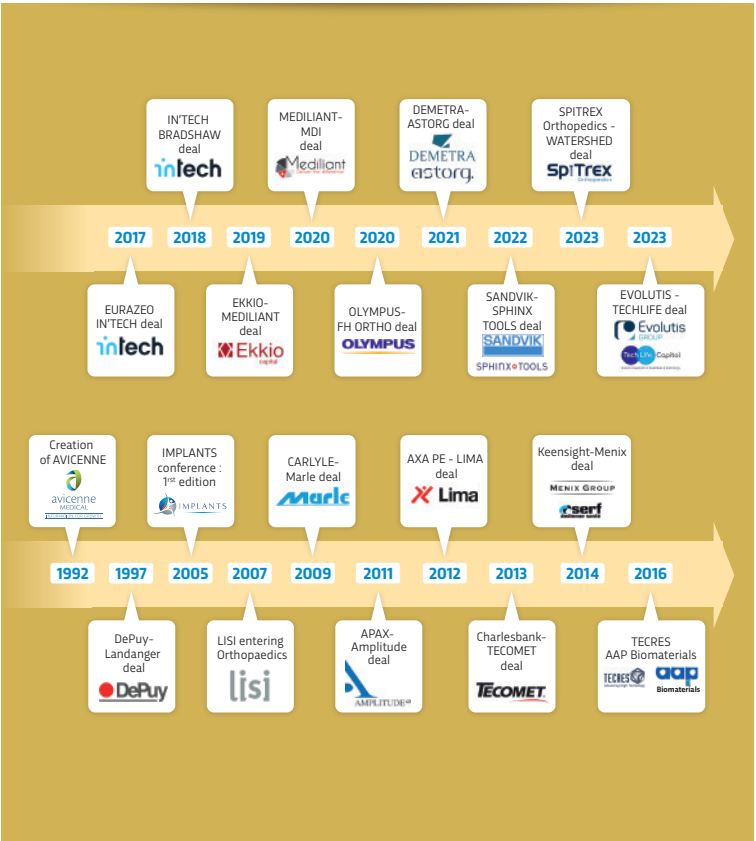
TOP-DOWN METHODOLOGY
FOR THIS SURVEY



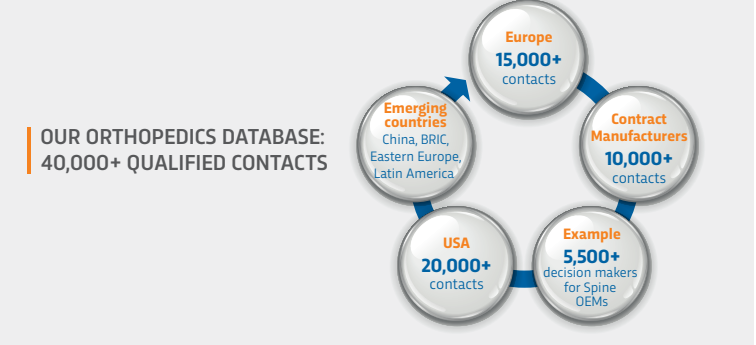
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