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Non-invasive orthopaedics leader turned medtech?!

Fitore Zeciri (45163)

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Professor Rosário André

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Abstract
The following paper represents an Equity Research report on Össur hf. The below section is the second part of a two-part series and focuses on the market analysis of the company.
The aim of this part is to provide an in-depth overview of the non-invasive orthopedics market to facilitate the final valuation conducted in part two of the Equity Research. The market analysis includes a company and product overview, a competitive landscape as well as underlying company risk factors and other strategic considerations.

Keywords: Equity Research, Valuation, Health Care, Medical Equipment

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This report is part of the Össur Equity Research report (annexed) and should be read has an integral part of it.

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Company Analysis

Company Overview

Founded in 1971 as a prosthetic clinic and headquartered in Reykjavik, Össur hf. (Össur) has established itself as a self-proclaimed global leader in non-invasive orthopaedics. Being a global leader in this market also represents the company's vision, while its mission is to improve people's mobility. Since 2009, Össur has been listed in Copenhagen, where its majority shareholder (52%), William Demant Invest A/S, is located. The company employs 3,385 people, operates in over 30 countries across Americas (49% of 2020 net revenue), EMEA (42%), and APAC (9%), and generated total revenues of USD 711 m as of 2021 (Figure 1). Its business can be divided into two synergistic segments, prosthetics and bracing & supports, contributing to 59% and 41% of total revenue in 2020, respectively (Figure 2).

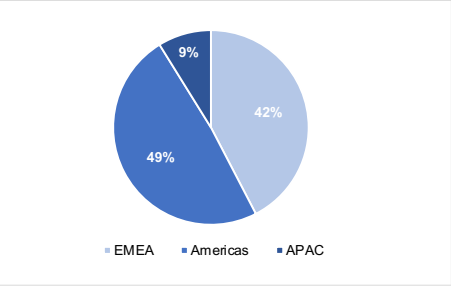

Figure 1 – 2021 Revenue split by region
Source: Company data

The **prosthetics** business unit includes artificial limbs and related products, catering to individuals who were born without limbs or who have had limbs amputated. Össur's prosthetics products range from lower- to upper-limb prosthetics including feet, knees, and hands. This business unit can be divided into two sub-segments – mechanical products and bionic products. Mechanical products, solely available for lower extremities, react based on detected muscle movements in the residual limb or upper body and do not rely on batteries in contrast to bionic products.

The **bracing & supports** (B&S) business unit includes products used to support joints and other body parts for therapeutic and preventative purposes. Össur's product portfolio in this market ranges from spinal, knee, hip, foot, ankle to hands. This business unit can also be divided into two sub-segments – injury solutions and osteoarthritis (OA) solutions. Injury solutions provides products which stabilize joints and improve healing for people recovering from fractures, ligament injuries or need a post-operative treatment. OA solutions provides braces for people affected with osteoarthritis, a disease where the protective cartilage that cushions the ends of the bones wears down over time. OA bracing unload affected joints and provided patients with a non-surgical treatment.

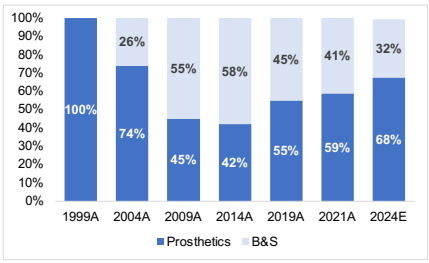

Figure 2 – Historical revenue split by segment
Source: Company data

The primary distribution channel for both divisions are specialized healthcare providers who provide and fit individuals with Össur products. Prosthetics are distributed solely through orthopaedics and prosthetic (O&P) clinics, some of which even owned by Össur. Bracing & supports products are distributed through

O&P clinics, hospitals, surgery centres, and Össur's online shop. The B&S products which require more fitting are not sold over-the-counter (OTC).

As the company heavily relies on the prescriptions and recommendations of its products by healthcare professionals, Össur has developed and maintained close relationships with numerous O&P clinics. Since 2013, Össur owns and operates its own O&P clinics in certain markets which have been added to the company's portfolio through acquisition. Moreover, Össur offers services and business solutions to O&P clinics through their Orthotic & Prosthetic Services (OPS). All O&P clinics owned by Össur are automatically part of the OPS network, however, most OPS members are independent O&P clinics. There are several key services for OPS members, the first being the outsourcing of fabrication. The company customizes full and partial prosthetics to the respective amputee, for both legs and arms. In addition, Össur offers a supporting technology called Design Studio for scanning, modifying, and fabrication purposes. The second OPS service is the empower software, a combination of inventory management, reimbursement, and consulting service solution. The third OPS offering is Össur's PRO App (Prosthetic Rehabilitation Outcomes Application), a patient outcomes management tool, which helps O&P clinics to administer, store, and analyse patient outcomes. Lastly, Össur shares its business expertise (e.g. regulatory, compliance audit etc.) with OPS customers.

Market Analysis

Bracing & Support

According to company estimates, the orthopaedic bracing & supports market has a size of USD 2.7-3.0 bn with a market growth of 3-5%. It states as main growth driver volumes and a positive product mix with increased penetration of high-end, innovative products where there is less competition. Össur currently estimates its market share to be around 5-7%. The company states to have lost one percent in market share with the 2020 divestment of its French subsidiary Gibaud, a designer and manufacturer of orthopaedics. Up until the divestment in Q3 of 2020, Össur used to report to have the second largest market share in the B&S segment. According to management, the divestment was conducted to enhance Össur's overall profitability.

▪ Össur's B&S Product Catalogue

In general, Össur's product portfolio consists of five brands: Rebound, Formfit, Miami, CTi, and Unloader. The latter includes product solutions for Osteoarthritis, whereas the other four lines offer injury solutions except for the CTi product line which offers one OA solution product as well.

Össur entered the injury solutions market in 2003 by acquiring Generation II. In 2006, the company ventured into the OA solutions field with the launch of its first-generation Unloader One knee brace, a pain relief product for patients with knee OA. The current knee OA product line includes nine different products. The products target different customers based on the severity of OA and, depending on the product, other medical issues as well. In 2016, it launched the Unloader hip brace, the first ever brace in the market for mild and moderate hip OA.

The Miami product line includes eight braces for spinal injuries whereas the CTi line mostly consists of knee braces for post-operative preventative care, targeting people who need rigid, functional knee support. The Formfit line focuses on post-operative, recovery, pain relief braces for numerous body parts. Össur extended this product line through the launch of Formfit Pro, which uses an innovative knit technique to produce sports compression braces while remaining breathable and providing a cooling effect. The Rebound product line protects the bone and soft tissue during healing and is available for feet & ankles, hips, and knees. In 2014, Össur started introducing innovative, high-end knee injury braces to the Rebound line, which are part of the so-called Functional Healing family. This range of injury solutions is designed to enhance the body's natural healing while maintaining mobility and is therefore intended to be used as a supplement to current treatment options. All in all, it is evident that Össur's B&S product portfolio has become increasingly high-end over the years with the entrance to the OA solutions market and the introduction of innovative injury solutions lines such as the Functional Healing or the Formfit Pro line.

Moreover, Össur will soon launch a new walker boot, which is expected to set new standards, differentiate itself from competing products, and address unmet needs in the marketplace.

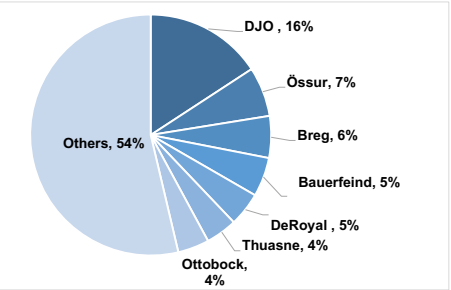

Figure 3 – Global Market Share of B&S Product Manufacturers as of 2021
Source: Analysts

- Competitive Environment

The B&S market is much more fragmented in comparison to the prosthetics market. This is primarily due to the much higher entry barriers in the prosthetics market as these products are much more complex and costly in the development stage. This deters potential new competitors from entering the market, especially when it comes to bionic prosthetics. All market participants are privately held companies with the only exception being Össur which is why data on competitors, especially financial data, is limited.

Össur's biggest competitors are DJO, Breg, Bauerfeind, Thuasne, DeRoyal and Ottobock with the two first ones being the biggest competitors in both size and product portfolio. We estimate Össur to have 7% of market share in the B&S market (Figure 3). This number was based on Össur's USD 2.7-3 bn market size estimation as well as our estimated B&S revenues for 2021, which were adjusted

Figure 4 – OA competitive positioning as of 2021
Source: Analysts

Figure 5 – Injury Solutions competitive positioning as of 2021
Source: Analysts

by 30% to exclude O&P clinic revenues. DJO is the market leader with a considerable market share of 16% as suggested by our estimates. When the company was acquired by Colfax in 2018, it disclosed that its Bracing and Vascular division generated revenues amounting to USD 496,141 k in fiscal year 2018. The company also mainly operates in the US with 72.02% of net revenue in 2018 stemming from this region. DJO enjoys particularly great brand recognition there as Don Joy Orthopaedics, in short DJO, stands for the classical leg brace for leg injuries. Breg considers itself the company with the 2nd largest market share in the US market after DJO. We estimate a global market share of 6% for Breg. Both Breg and DJO's product portfolios come closest to Össur's in terms of product portfolio depth and high-end positioning (Figure 4 and 5). Breg just lags a little behind in terms of product selection for OA solutions. DJO's is the more similar here as just like Össur, DJO's OA solutions product portfolio includes nine high-end products for four different OA severity levels. However, Össur remains the only player to have entered the hip OA solutions market. The other competitors in the high-end OA solutions market such as DeRoyal and Bauerfeind with a market share of 5%, respectively, lag in terms of portfolio depth (Figure 4). Ottobock covers the mid-range in OA solutions while Thuasne (4% market share, see Figure 4) covers the low-end spectrum (Figure 4). The positioning in the injury solutions market is much more distinct. Ottobock, Bauerfeind, Thuasne, and DeRoyal cater to the low-end segment with only small differentiation in terms of product range while DJO, Breg, and Össur are positioned in the high-end segment (Figure 5). Moreover, we see Össur as best positioned in the high-end category even in comparison to Breg and DJO due to innovations such as the Functional Healing line which retails up to USD 1,500. It is important to note that for Ottobock we excluded its exoskeleton products from the analysis as they are the only player to have entered this market. Ottobock was able to leverage its technological knowledge from its prosthetics products to enter the bionic bracing market, where Ottobock has a head start over Össur and is considered the technology leader. In 2015, Ottobock launched its C-Brace, an orthotropic mobility system which strengthens the leg of a person with only partial motor control.

Prosthetics

Össur estimates the overall prosthetics market size to be around USD 1.3-1.4 bn with an expected growth rate of 3-5%. Typical market characteristics are stable pricing, technological innovations, and a moderate volume growth. The latter is

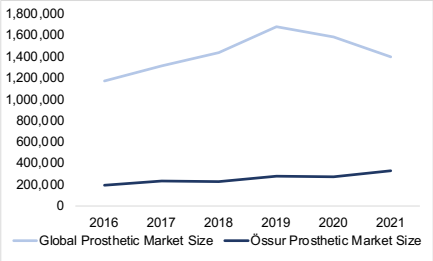

Figure 6 – Historical prosthetics market size
Source: Analysts

determined by the limited number of new amputees who are fitted with a prosthetic device (only 30-40%).[1]

- Össur's Prosthetics Product Catalogue

Össur offers upper and lower limb prosthetic solutions. For both, various product lines were developed to provide tailored solutions addressing different mobility needs. In general, the prosthetic leg (lower limb) consists of three main components (liner, knee, and foot) as well as accessories. In 2007, Össur introduced its first bionic foot, symbolising a new milestone for Össur's product portfolio, setting it apart from the industry's standard mechanical leg. For instance, the PROPRIO Foot consists of a microprocessor-controlled ankle which is designed to improve walking safety. Another recent innovation as of 2020 is the Cheetah Foot**.** This crossover foot is available in nine different models and is designed to allow patients to engage in various sports and daily activities without having to change the foot. In 2016, Össur entered the upper limb prosthetics market through the acquisition of TouchBionics. The company's upper limb product portfolio consists of two bionic solutions – i-Digits and i-Limb. Both prostheses have sensors attached to the patient's skin to mimic natural hand movements. Depending on the used raw materials, the hand carry load, grip force, and speed can be increased. The hand movement is powered through a battery which needs approximately 90 to 180 minutes to recharge and should be replaced yearly.

Moreover, in 2020, Össur started developing different knee solutions for different mobility needs. For instance, the Mobil Knee will cater to elderly and the Power Knee should improve mobility for active patients. Both solutions are planned to launch during the fiscal year of 2021.

Furthermore, Össur invests and sponsors many collaborations with start-ups, scientists, and foundations in the field of mind-controlled prosthetic devices. For instance, in 2019, Össur formed a joint venture with the Alfred Mann Foundation (AMF) to further develop and license AMF's implanted myoelectric sensor system. Another important project involved SpringActive. From this partnership Össur acquired technology related to the development of a powered ankle prosthesis. This technology allows the user to balance and perform natural ankle positions resulting in major improvements within several products such as the RHEO Knee, POWER Knee, and the PROPRIO Foot.

- Competitive Environment

[1] Össur Annual Report 2020

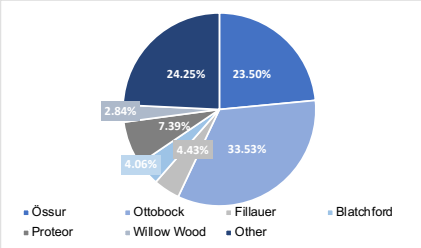

Figure 7 – Prosthetics market sizing as of 2021
Source: Analysts

The overall prosthetic market is consolidated and as all players are privately held, data availability is limited. However, there are high entrance barriers, and all relevant players differentiate themselves through price and product portfolio depth. Premium players like Össur and Ottobock have been pursuing vertical integration strategies through the acquisition of O&P clinics as an alternative route to increase market share.

Össur's biggest competitors are Ottobock, Fillauer, Blatchford, Proteor, and Willow Wood. Ottobock, however, is the largest competitor and we estimate a current market share of 34% (Figure 7). We estimate Össur's market share to account for 24% based on management's market size estimation and our 2021 prosthetic sales projections, adjusted for O&P clinic revenues. Ottobock manufactures high-end upper and lower limb prosthetics with bionic and mechanical solutions, orthotics, and wheelchairs. During the fiscal year of 2019, Ottobock generated total sales of around USD 1,135 m (+8.02% vs. 2018) with an estimated EBITDA of USD 216 m (+10% vs. 2018), resulting in an EBITDA margin of 19.04% (+0.34% vs 2018).[2] Furthermore, the company invested USD 208 m, USD 69 m of which were spent in R&D. Össur in comparison spent USD 31 m in R&D. We estimate that roughly 40% of Ottobock's total sales are contributed only by prosthetics product components, resulting in an overall market share of 34%.

Fillauer is next to Össur and Ottobock the only prosthetic manufacturer offering upper and lower limb solutions. According to our estimates, Fillauer accounts for 4% in market share. The company, however, sells only mid-range products and specializes in paediatrics and other orthotic products. In 2019, Fillauer acquired Therapeutic Recreation Systems, a manufacture of body-powered upper limb prosthetic devices, allowing Fillauer to gain market share in the upper limb segment. As Össur's strength lies within the lower limb division, another considerable competitor is Blatchford. The company manufactures mid-range bionic and mechanical lower limb prosthetics, orthotics (e.g. special footwear) and special seatings. Furthermore, similarly to Ottobock and Össur, Blatchford acquired a chain of O&P clinics across Norway in 2014. Just like Össur, Blatchford specializes in sports solutions, differentiating itself by introducing waterproof and sweat resistant solutions. Overall, we expect Blatchford's sales to account for an overall market share of 4%.

Since Proteor's acquisition of Freedom Innovations from Ottobock in 2020, the company acquired certain foot, knee, and ankle solutions. The company is expected to launch a new bionic knee solution by FY22. We currently estimate

[2] Ottobock Website

Proteor's market share to account for roughly 7% with high potential to gain market share in the upcoming years due to its microprocessor-controlled knee products. Lastly, Willow Wood competes with Össur in the lower limb division as the company manufactures mechanical mid-range prosthetics. Due to Össur's acquisition of CollegePark in 2019, the company can compete with Willow Wood within this customer segment. As Willlow Wood's product portfolio is simpler in comparison to the industry giants (Ottobock and Össur), the company accounts for only 3% of market share.

Risk Analysis

Health Insurance Coverages

High prices, eligibility and faulty reimbursement policies are setbacks to growth within the prosthetics market. According to Össur, a standard mechanical foot costs around USD 2,000. In comparison, a high-end mechanical foot can amount up to USD 8,000. The price for a bionic foot is around USD 10,000, resulting in a total cost of USD 40,000 for a complete bionic leg. The comparable bionic Genium knee by Ottobock costs around EUR 46,000, whereas its simpler C-leg model has a price of EUR 28,000.

95% of Össur's products are reimbursable through public and private reimbursement systems. Health insurance policies usually vary substantially between countries and products. The problem which arises is that health care providers try to minimize costs and lag behind in updating their corresponding policies. If Össur would launch a mind-controlled leg in 2022, it would take several years until any health insurance provider would acknowledge the benefits resulting from that leg as costs are higher in comparison to a simple mechanical or bionic leg. For instance, the main reimbursement source for services in the US occurs via commercial private payors, Medicare, Medicaid or the US Department of Veterans Affairs (VA). Medicare is a federally funded health insurance program that provides health insurance coverage for patients over the age of 65. Medicaid is a public insurance provider regardless of the age. Since the US healthcare reform in 2014, around 32 m new patients are insured, allowing for better reimbursement policies. However, patients are classified into mobility levels which justify the amount and the type of prosthesis the patient receives.

Eligibility is based on the user's functional status, the so called "K-level". Key factors are age, weight, the amputation's height and the overall health and physical condition of the patient. There are four relevant functional levels ranging from limited mobility within the patient's household (Level 1) to a full mobility (Level 4). Level 4 are typically prescribed to children, active adults, and athletes. K1/ K2 patients are considered elderly, less active patients and are most likely

fitted with a mechanical solution. K3/K4 patients, on the contrary, are eligible for bionic products. As most lower limb amputations occur in patients between the age of 65 to 70, most would be classified as K1 or K2. According to management around 80% of new amputations are categorized as “low activity” and therefore, receive a mechanical leg.

Regulatory Pressures

Healthcare is a tightly regulated sector which is why Össur’s products are subject to extensive global regulations by the respective authorities in the company’s operating countries.

In January of 2021, the Durable Medical Equipment, Prosthetics, Orthotics, and Supplies (DMEPOS) Competitive Bidding Program in the US came into effect for certain off-the-shelf knee, spinal, and back braces. The DMEPOS was mandated by Congress to improve the effectiveness of the federal health insurance program, Medicare, by reducing beneficiary out-of-pocket expenses and saving the Medicare program money while ensuring beneficiary access to quality items and services. Hence why the Centers for Medicare and Medicaid Services (CMS) has contracted with certain Durable Medical Equipment (DME) manufacturers to be the sole suppliers of the above-mentioned products. Through a competitive bidding process, contracts are awarded to the DME manufacturers with the best price while meeting certain quality and financial standards. This intensifies the already existing intense price competition in the B&S market. Price competition is also fuelled by the commoditization of low-end bracing and soft-good products. This is a major reason why Össur has made increasing efforts to position itself in the high-end B&S segment since 2014.

Vertical Integration Strategy

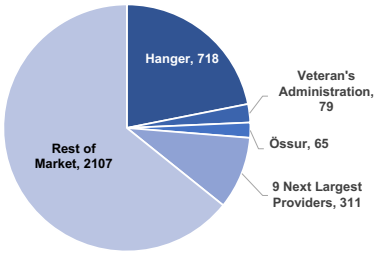

Figure 8 – O&P clinics market size as of 2021
Source: Analysts

Since 2013, Össur has been following a vertical integration strategy through the acquisition of O&P clinics. According to the company, the primary objective in entering the O&P clinic space was to gain a better understanding of end-users needs as well as provide the clinics with insights and assist them with all operational aspects. We think the strategy is an opportunity to increase market share by expanding its share of wallet in the acquired clinics. This is a rather slow process in the O&P space with replacement cycles between three to five years and most patients having rather high brand loyalty. However, upselling i.e. encouraging customers to upgrade to more high-end products is much more likely to drive profitability. Össur first added self-owned O&P clinics to its portfolio

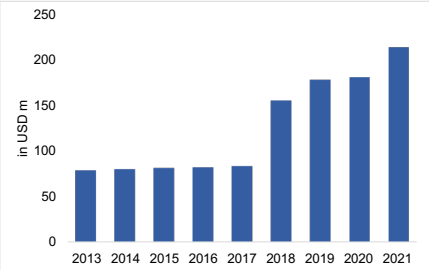

Figure 9 – O&P clinics as of 2021
Source: Analysts

through the acquisition of Swedish O&P solutions provider TeamOlmed in 2013, followed by two other O&P clinic operators in Norway and Brazil in the same year. In 2021, Össur entered the O&P clinic space in France through the acquisition of Orthoway. Generally, there are no network-wide clinics across Europe as reimbursement rules vary by nation. Hence why the US is the largestmarket for O&P clinics which Össur entered in 2018 with four undisclosed acquisitions, the first being Bulow O&P with two clinics. This was followed by three additional undisclosed acquisitions in 2019, two of which were Virginia Prosthetics & Orthotics and Next Step Bionics & Prosthetics, operating seven and three clinics, respectively. The addressable US O&P clinic market amounts to USD 4.3 bn with a total of 3,280 clinics.[3] It is growing at 1.5-2.0% annually according to estimates made by Hanger's management and is highly fragmented.[4] As seen in Figure 8, Hanger has the largest share in the US with 21.9%. The second-largest operator is the US Department of Veteran Affairs with a market share of 2.4%. We estimate Össur's US market share to amount to 2.0%. This number was derived by the number of clinics of known acquisitions and the cumulative revenue contribution of the acquisitions amounting to $70mn and $20mn for 2018 and 2019, respectively. The nine next largest O&P clinic operators own a cumulative market share of 9.5%. The rest of the market primarily of independent clinics. We estimate that Össur's O&P clinic revenue as of 2021 year-end amounts to USD 213 m (Figure 9). This number is based on the sales contributions stated by Össur in the respective acquisition years while assuming a 1.5% growth rate.

Value Drivers

Bracing & Supports

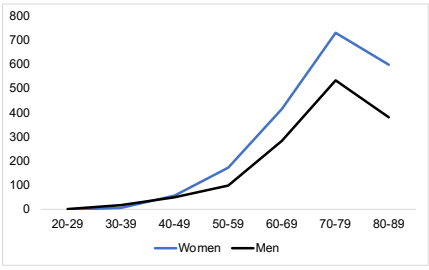

Figure 10– OA incidence by age
Source: The World Bank

Osteoarthritis is a uncurable, degenerative joint disease, resulting from the breakdown of joint cartilage and the underlying bone. OA can affect any joint but is most common for knees, hips, and feet. It represents the most common joint disease worldwide as it affects more than 240 m people worldwide, approximately 10% of which are males and 18% females over the age of 60. Olivera et al conducted a large study on the incidence of the disease. The results showed that the OA incidence increased a lot with age (Figure 10). This also translates in numbers as 33% of people older than 75 have symptomatic and radiographic knee OA.[5] Moreover, the study highlighted how knee OA is the most common type of OA with the incidence being twice that of hip or hand OA.

[3] Hanger Investor Presentation May 2021
[4] Hanger Investor Presentation May 2021
[5] Paper: Diagnosis and Treatment of Hip and Knee Osteoarthritis

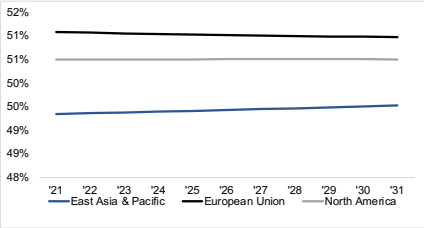

Figure 11 – Female Population (% of total population)
Source: The World Bank

Another major discovery was that women have much higher rates than men, especially after the age of 50. The female/male ratio for hand, hip, and knee OA was approximately 2:1. According to projections by the World Bank, however, the female population as a percentage of total population will remain relatively constant until 2050 (Figure 11). The decline in OA prevalence for the age group 80 to 89 as shown in Figures 12 and 13 can potentially be explained by sedentary activity levels in the older age groups, resulting in less joint injury and/or decreased joint pain. Moreover, the elderly may have increased pain thresholds, reducing the number of reported symptoms.

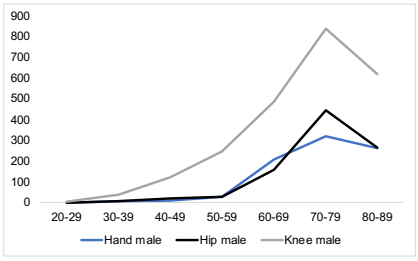

Figure 12 – OA prevalence per age group
Source: The World Bank

The treatment of the disease typically consists of non-operative (e.g. symptom relief medication, braces) and operative treatments (e.g. total knee replacement (TKR)). Surgery is usually not recommended for younger patients due to their higher activity level and the fact that TKRs need multiple revisions as one surgery usually lasts about ten years. OA bracing is seen as a cost-effective option to delay surgery. A study conducted by Lee et al followed OA patients who were treated with Össur's Unloader One knee brace. 25.4% of patients wearing the brace were able to delay TKR by 24 months (Figure 14).

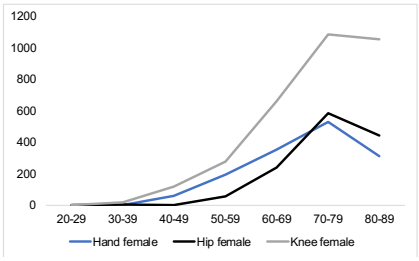

Figure 13 – OA prevalence per age group
Source: The World Bank

In contrast to OA, injury solutions is very complex to quantify. Firstly, there are numerous factors leading to injuries such as falls, sports or road traffic accidents. Secondly, there is limited data available for potential metrics. In terms of falls, we believe age is a strong risk factor. Elderly people are prone to injuries as muscle mass and strength decreases and vision deteriorates with age. In 2014, 28.7% of adults aged ≥ 65 in the US reported falling at least once in the preceding 12 months. This number tends to increase with age. 37.5% of this age group reported at least one fall that required medical treatment of restricted activity for at least one day.[6] According to the CDC, one out of five falls can result in a serious injury such as a broken bone or head injury. In addition, elderly people are likely to go through age-related physical and psychosocial changes, which is why bones and ligaments naturally become weaker. This age group is prone to develop low back pain (LBP) pathologies and/or chronic LBP. In fact, LBP is considered one of the major disabling health conditions for elderly people (age ≥ 60).[7]

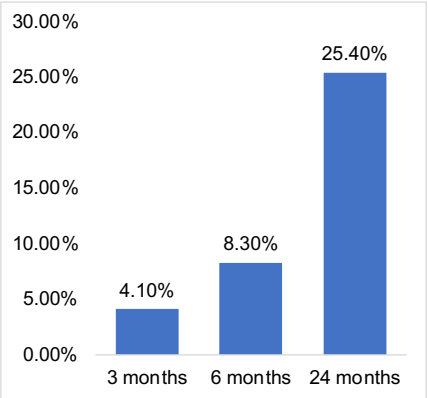

Figure 14 – Unloader One knee brace
Source: Lee et al

We believe road traffic accidents to not be a large contributor to overall injuries. According to the Association for Safe International Road Travel, merely 20 to 50 m people globally suffer non-fatal injuries from road accidents each year. In the US, non-fatally injured people in road accidents amounted to 2.74 m in 2019. This number remained relatively stable over time in the past. It grew by 500,000

[6] Paper: Falls and Fall Injuries Among Adults Aged ≥65 Years — United States, 2014
[7] Paper: Low back pain in older adults: risk factors, management options and future directions

Region	per 100k	Total procedures
France	3.32%	3.61%
Germany	1.08%	1.60%
Italy	2.19%	1.83%
Spain	2.37%	2.66%
United Kingdom	2.04%	2.73%
Europe Median	**2.19%**	**2.66%**

Table 1 – Surgical procedures (per 100k population)
Source: OECD

since 2010, primarily driven by increasing cell phone distraction during driving, for which young drivers account the most.[8] In terms of sports accidents, the WHO reports that there have been no improvements in global levels of physical activity since 2001. Moreover, it is important to note that the WHO states that low or decreasing physical activity levels often correspond with a high or rising gross national product.

A potential estimator for past injuries may be the number of surgical procedures. Looking at past data from the OECD show relative moderate increases of surgeries per 100,000 for the time frame between 2014 and 2019. The CAGRs range from 0.76% in Canada to 3.32% in France (Table 1). The median CAGR for the five European countries as shown in table 1 amounts to 2.19%.

Prosthetics

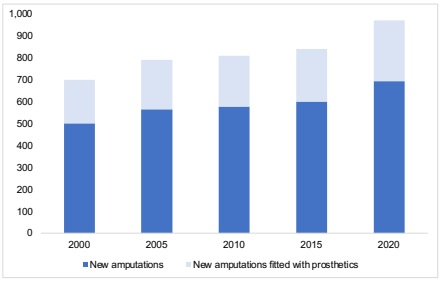

Figure 15 – Lower limb amputations
Source: Company Information

Market drivers for new amputations are aging population, diabetes, and serious road accidents. In total, worldwide 775,000 new amputations occur yearly, among only 3% or 25,000 are upper limb cases. In total, the total lower limb market share would amount to USD 150-200 m (vs. 1.3-1.4 bn total prosthetics market share).[9] Roughly 30-40% of lower limb amputees receive a prosthetic device, whereas 50-60% of upper limb patients get one (Figure 15). Potential explanations are associated with mobility needs and age.

Most upper limb amputations are caused by road accidents (Figure 16). According to the World Health Organization 20-50 m people suffer from.[10] We believe that it would be highly inaccurate to forecast lower limb growth driver due to limited data availability. Furthermore, lower limb prosthetics sales only account for 3% of the total prosthetics market. Hence, we decided to base our prosthetic growth drivers based on the lower limb prosthetic growth drivers.

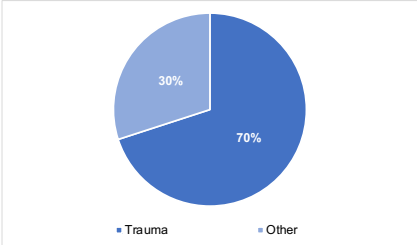

Figure 16 – Causes of upper limb amputations
Source: Company Information

On the contrary, 60%[11] of lower limb amputations are caused by vascular diseases, 2% by cancer and the remaining by trauma (Figure 17). Vascular diseases impair the body's blood flow. The main driver here is diabetes which can lead to peripheral artery disease (PAD) which reduces the blood flow to legs and feet. Other diseases range from veins and lymph vessels to blood disorders. Most patients above the age of 65 suffer from those diseases, resulting in a moderate growth and market demand. Furthermore, the International Diabetes Federation (IDF) states that patients with diabetes are 25x more likely to undergo amputations. Also, according to IFD, Middle East and Latin America will suffer

[8] Statista
[9] Össur Q1 2021 Company Report
[10] WHO
[11] Össur Annual Report 2020

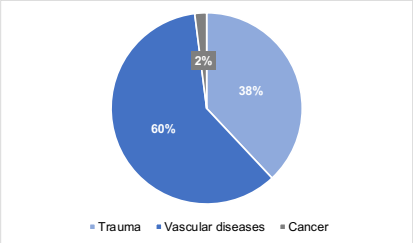

Figure 17 – Causes of lower limb amputations
Source: Company Information

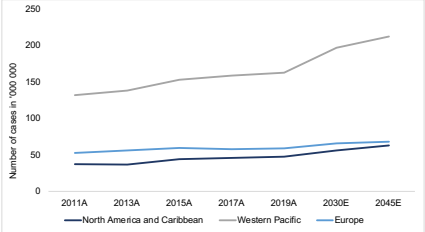

Figure 18 - Worldwide diabetes cases
Source: International Diabetes Federation

the highest number of new diabetes cases worldwide, whereas Europe shows relative low rates as stated in Figure 18. However, due to improved diabetes treatments, better surgical skills and healthier lifestyle choices, the average number of diabetes cases will slowly decrease starting 2030 in most countries. Following the previous aspect, Össur's key markets are Europe, Americas and increasingly Asia Pacific.

Besides aging population and diabetes, we leveraged an innovation growth driver. Innovation growth consists of collaboration, joint ventures, in-house developments, and M&A acquisitions. Historically, Össur's innovation growth was mainly a result of M&A activities. More details are included in the "Acquisition Strategy" Section. However, we believe that for the forecasted periods (FY22-32), M&A will become less relevant as the prosthetic market is quite consolidated and dominated by two players, leaving less opportunity to grow extensively through M&A. If potential acquisitions arise, they might be minor within the prosthetics. Hence, we believe that collaborations, joint ventures and R&D investments will dominate Össur's innovation growth. Current market trends include 3D printing of tailored prosthetics and mind-controlled prosthetic devices.

- ## Aging Population

As established above, aging population is the main growth driver for both markets. According to the projections of the World Bank, the aging population will develop as follows. Middle East and North Africa, Latin America and Caribbean and East Asia and Pacific will lead the growth of population above 65 years as a percentage of total population with a 2020 to 2025 CAGR of 4.55%, 3.76%, and 3.42%, respectively. Both North America and Europe lag behind with a CAGR of 2.94% and 1.67% for the same period. This trend seems to sustain over time. For the time frame between 2025 and 2030, there is a slight increase in East Asia and Pacific to 3.53%. In addition, there is a considerable decrease in North America to 2.27%. The numbers in the other geographics remain fairly stable over this time frame. From then onwards, decreasing numbers can be seen almost in all geographics besides East Asia & Pacific where the CAGR is still slightly increasing between 2030 and 2035 (Table 2).

Region	2020 - 2025	2025 - 2030	2030 - 2035	2035 - 2040
North America	2.9%	2.3%	1.4%	0.8%
European Union	1.7%	1.7%	1.4%	1.0%
East Asia & Pacific	3.4%	3.5%	3.6%	2.5%

Table 2 – Aging population CAGRs by region
Source: The World Bank

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Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
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Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

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