

## Medical Technology

## Medtech market by market - what's driving growth

Industry Overview

## What drove high-single-digit growth in Q4

With Q4 earnings in the books, we go back and look at all the major medtech markets and update our market models. Medtech Q4 revenue grew high-single-digits on average (similar to Q3). Street models 2024 revenue growth more mid-single-digits. Afib ablation, ISRG procedures, LAAC (watchman/amulet), and diabetes are top four large growth markets. See inside for a deeper look per market.

## Medtech market growth at a glance – much more inside

**Hips:** In 4Q23, US Hips grew 7% y/y and WW Hips grew 5%. In 3Q23, US Hips grew 5% y/y and WW Hips grew 4%.

**Knees:** In 4Q23, US Knees grew 6% y/y and WW Knees grew 8%. In 3Q23, US Knees grew 5% y/y and WW Knees grew 8%.

**Spine:** In 4Q23, US Spine grew 6% y/y and WW Spine grew 7%. In 3Q23, US Spine grew 5% y/y and WW Spine grew 4%.

**TAVR:** In 4Q23, US TAVR grew 11% y/y and WW TAVR grew 12%. In 3Q23, US TAVR grew 7% y/y and WW TAVR grew 10%.

**Mitral & Tricuspid (TMTT):** In 4Q23, US TMTT grew 10% y/y and WW TMTT grew 20%. In 3Q23, US TMTT grew 14% y/y and WW TMTT grew 22%.

**Afib ablation:** In 4Q23, WW Afib grew 23% y/y. In 3Q23, WW Afib grew 18% y/y.

**LAAC:** In 4Q23, US LAAC grew 22% y/y and WW LAAC grew 22%. In 3Q23, US LAAC grew 23% y/y and WW LAAC grew 21%.

**ISRG Da Vinci Procedures:** In 4Q23, US procedures grew 17% y/y and WW procedures grew 21%. In 3Q23, US procedures grew 17% y/y and WW procedures grew 19%.

**CGM:** In 4Q23, US CGM grew 27% y/y and WW CGM grew 26%. In 3Q23, US CGM grew 25% y/y and WW CGM grew 28%.

**Insulin Pumps:** In 4Q23, US pumps grew 18% y/y and WW pumps grew 14%. In 3Q23, US pumps grew 13.5% y/y and WW pumps grew 12%.

**Low Power CRM:** In 4Q23, US low power grew 10% y/y and WW low power grew 8.5%. In 3Q23, US low power grew 6% y/y and WW low power grew 8.5%.

**High Power CRM:** In 4Q23, US high power was flat y/y and WW high power grew 4%. In 3Q23, US high power declined -2% y/y and WW high power grew 1%.

**SCS:** In 4Q23, US SCS grew 8% y/y and WW SCS grew 7%. In 3Q23, US SCS grew 10% y/y and WW SCS grew 9%.

**US SNM:** In 4Q23, US SNM grew 6% y/y. In 3Q23, US SNM grew 10% y/y.

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. Refer to important disclosures on page 33 to 35.

12667589

Timestamp: 06 March 2024 06:58AM EST

06 March 2024

Equity  
United States  
Medical Technology

**Travis Steed**  
Research Analyst  
BofAS  
+1 404 607 3251  
[travis.steed@bofa.com](mailto:travis.steed@bofa.com)

**Craig Bijou**  
Research Analyst  
BofAS  
+1 646 855 2590  
[craig.bijou@bofa.com](mailto:craig.bijou@bofa.com)

**Stephanie Piazzola**  
Research Analyst  
BofAS  
+1 646 855 4568  
[stephanie.piazzola@bofa.com](mailto:stephanie.piazzola@bofa.com)

**Carolyn Huszagh**  
Research Analyst  
BofAS  
+1 312 259 7414  
[carolyn.huszagh@bofa.com](mailto:carolyn.huszagh@bofa.com)

## Companies mentioned

ABT = Abbott  
AXNX = Axonics  
BLCO = Bausch + Lomb  
BSX = Boston Scientific  
COO = Cooper Companies  
DXCM = Dexcom  
EW = Edwards Lifesciences  
GMED = Globus Medical  
INSP = Inspire  
ISRG = Intuitive Surgical  
MDT = Medtronic  
NVRO = Nevro  
PODD = Insulet  
SILK = Silk Road Medical  
SWAV = Shockwave Medical  
SYK = Stryker  
TNDM = Tandem  
ZBH = Zimmer Biomet

## Acronym glossary (continues at end of report)

Afib = atrial fibrillation  
CC = constant currency  
CGM = continuous glucose monitoring  
CRM = cardiac rhythm management  
EP = electrophysiology  
FDA = Food & Drug Administration

# Contents

Medtech Market Growth Summary Tables	3
Intuitive Surgical (ISRG) Procedures	6
Atrial fibrillation (Afib) Market	7
Cardiac Rhythm Management (CRM)	9
Left Atrial Appendage Closure (LAAC) Market	11
Left Ventricular Assist Device (LVAD) Market	12
Transcatheter Aortic Valve Replacement (TAVR) Market	13
Transcatheter Mitral & Tricuspid Therapies (TMTT) Market	14
Continuous Glucose Monitoring (CGM) Market	16
Insulin Pumps Market	17
Spine Market	19
Hips Market	20
Knees Market	22
Spinal Cord Stimulation (SCS) Market	24
Sacral Neuromodulation (SNM) Market	25
Intravascular Lithotripsy (IVL) Markets	26
Peripheral Thrombectomy Market	27
Transcarotid Artery Revascularization (TCAR) Market	29
Sleep Apnea Stimulation Market	30
Contact Lens Market	31

# Medtech Market Growth Summary Tables

## Exhibit 1: Worldwide (WW) Medtech market growth

On average\*, WW medtech markets grew 16% y/y in Q4, up from 14% y/y in Q3. On a 2-year stacked basis, WW medtech markets grew 13% in Q4, an acceleration from Q3's 2-year stacked growth of 12%.

WW Markets (\$m)	1Q21A	2Q21A	3Q21A	4Q21A	2021A	1Q22A	2Q22A	3Q22A	4Q22A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>Hips</b>	<b>\$1,267</b>	<b>\$1,381</b>	<b>\$1,283</b>	<b>\$1,364</b>	<b>\$5,294</b>	<b>\$1,316</b>	<b>\$1,388</b>	<b>\$1,303</b>	<b>\$1,400</b>	<b>\$5,407</b>	<b>\$1,410</b>	<b>\$1,446</b>	<b>\$1,343</b>	<b>\$1,472</b>	<b>\$5,671</b>
y/y	1%	51%	-3%	2%	9%	6%	5%	7%	9%	7%	10%	6%	4%	5%	6%
2-year average	0%	9%	0%	-2%	0%	4%	28%	2%	5%	8%	8%	5%	6%	7%	6%
<b>Knees</b>	<b>\$1,555</b>	<b>\$1,716</b>	<b>\$1,610</b>	<b>\$1,817</b>	<b>\$6,698</b>	<b>\$1,697</b>	<b>\$1,777</b>	<b>\$1,665</b>	<b>\$1,894</b>	<b>\$7,032</b>	<b>\$1,934</b>	<b>\$1,934</b>	<b>\$1,782</b>	<b>\$2,057</b>	<b>\$7,708</b>
y/y	-7%	79%	-1%	5%	12%	11%	8%	8%	9%	9%	16%	10%	8%	8%	10%
2-year average	-7%	16%	-2%	-3%	-3%	2%	44%	4%	7%	11%	14%	9%	8%	9%	10%
<b>Spine</b>	<b>\$1,992</b>	<b>\$2,048</b>	<b>\$1,934</b>	<b>\$2,045</b>	<b>\$8,020</b>	<b>\$2,002</b>	<b>\$1,957</b>	<b>\$1,983</b>	<b>\$2,055</b>	<b>\$7,997</b>	<b>\$2,110</b>	<b>\$2,071</b>	<b>\$2,065</b>	<b>\$2,211</b>	<b>\$8,458</b>
y/y	17%	39%	-6%	2%	11%	2%	-2%	6%	3%	2%	7%	6%	4%	7%	6%
2-year average	2%	6%	-1%	0%	1%	10%	19%	0%	3%	7%	4%	2%	5%	5%	4%
<b>Low Power</b>	<b>\$829</b>	<b>\$849</b>	<b>\$838</b>	<b>\$785</b>	<b>\$3,301</b>	<b>\$864</b>	<b>\$835</b>	<b>\$829</b>	<b>\$800</b>	<b>\$3,328</b>	<b>\$897</b>	<b>\$901</b>	<b>\$907</b>	<b>\$877</b>	<b>\$3,582</b>
y/y	33%	25%	7%	7%	17%	7%	3%	5%	8%	6%	7%	9%	8%	9%	8%
2-year average	7%	6%	3%	1%	4%	20%	14%	6%	7%	11%	7%	6%	7%	8%	7%
<b>High Power</b>	<b>\$1,151</b>	<b>\$1,140</b>	<b>\$1,132</b>	<b>\$1,087</b>	<b>\$4,510</b>	<b>\$1,146</b>	<b>\$1,067</b>	<b>\$1,047</b>	<b>\$1,062</b>	<b>\$4,322</b>	<b>\$1,155</b>	<b>\$1,103</b>	<b>\$1,067</b>	<b>\$1,114</b>	<b>\$4,439</b>
y/y	20%	23%	4%	2%	12%	3%	-2%	-2%	3%	1%	4%	4%	1%	4%	3%
2-year average	-1%	1%	0%	-1%	-1%	11%	11%	1%	3%	6%	3%	1%	0%	4%	2%
<b>Transcatheter Aortic Valve Replacement (TAVR)</b>	<b>\$1,212</b>	<b>\$1,347</b>	<b>\$1,260</b>	<b>\$1,319</b>	<b>\$5,138</b>	<b>\$1,362</b>	<b>\$1,361</b>	<b>\$1,335</b>	<b>\$1,373</b>	<b>\$5,431</b>	<b>\$1,482</b>	<b>\$1,529</b>	<b>\$1,482</b>	<b>\$1,549</b>	<b>\$6,042</b>
y/y	14%	44%	11%	14%	20%	14%	5%	11%	8%	9%	11%	13%	10%	12%	12%
2-year average	10%	15%	6%	6%	9%	14%	24%	11%	11%	14%	13%	9%	10%	10%	10%
<b>Transcatheter Mitral &amp; Tricuspid Therapy (TMTT)</b>	<b>\$215</b>	<b>\$252</b>	<b>\$229</b>	<b>\$237</b>	<b>\$933</b>	<b>\$233</b>	<b>\$249</b>	<b>\$235</b>	<b>\$245</b>	<b>\$961</b>	<b>\$268</b>	<b>\$295</b>	<b>\$289</b>	<b>\$296</b>	<b>\$1,148</b>
y/y	16%	92%	9%	18%	28%	11%	2%	7%	8%	7%	18%	19%	22%	20%	20%
2-year average	16%	31%	10%	9%	14%	14%	47%	8%	13%	18%	14%	11%	15%	14%	13%
<b>Left Atrial Appendage Closure (LAAC)</b>	<b>\$180</b>	<b>\$228</b>	<b>\$224</b>	<b>\$250</b>	<b>\$882</b>	<b>\$253</b>	<b>\$280</b>	<b>\$297</b>	<b>\$316</b>	<b>\$1,146</b>	<b>\$324</b>	<b>\$352</b>	<b>\$360</b>	<b>\$386</b>	<b>\$1,422</b>
y/y	31%	251%	53%	45%	69%	41%	24%	36%	27%	31%	29%	26%	21%	22%	24%
2-year average	24%	101%	28%	29%	33%	36%	138%	44%	36%	50%	35%	25%	29%	24%	28%
<b>Atrial Fibrillation</b>	<b>\$1,609</b>	<b>\$1,688</b>	<b>\$1,639</b>	<b>\$1,703</b>	<b>\$6,639</b>	<b>\$1,887</b>	<b>\$1,852</b>	<b>\$1,819</b>	<b>\$1,782</b>	<b>\$7,341</b>	<b>\$2,069</b>	<b>\$2,205</b>	<b>\$2,145</b>	<b>\$2,352</b>	<b>\$8,771</b>
y/y	24%	61%	11%	16%	27%	15%	5%	12%	9%	11%	12%	21%	18%	23%	19%
2-year average	8%	18%	8%	9%	10%	20%	33%	12%	13%	19%	14%	13%	15%	16%	15%
<b>Continuous Glucose Monitoring (CGM)</b>	<b>\$1,578</b>	<b>\$1,734</b>	<b>\$1,843</b>	<b>\$1,939</b>	<b>\$7,094</b>	<b>\$1,850</b>	<b>\$1,988</b>	<b>\$2,033</b>	<b>\$2,193</b>	<b>\$8,064</b>	<b>\$2,185</b>	<b>\$2,441</b>	<b>\$2,607</b>	<b>\$2,765</b>	<b>\$9,997</b>
y/y	28%	36%	30%	24%	29%	17%	15%	10%	13%	14%	18%	23%	28%	26%	24%
2-year average	34%	33%	29%	25%	30%	23%	25%	20%	18%	22%	18%	19%	19%	20%	19%
<b>Insulin Pumps</b>	<b>\$778</b>	<b>\$753</b>	<b>\$790</b>	<b>\$838</b>	<b>\$3,158</b>	<b>\$802</b>	<b>\$788</b>	<b>\$841</b>	<b>\$903</b>	<b>\$3,334</b>	<b>\$876</b>	<b>\$900</b>	<b>\$941</b>	<b>\$1,027</b>	<b>\$3,745</b>
y/y	22%	15%	16%	6%	14%	3%	5%	7%	8%	6%	9%	14%	12%	14%	12%
2-year average	13%	9%	10%	12%	11%	13%	10%	11%	7%	10%	6%	9%	9%	11%	9%
<b>Left Ventricular Assist Device (LVAD)</b>	<b>\$171</b>	<b>\$155</b>	<b>\$156</b>	<b>\$167</b>	<b>\$649</b>	<b>\$157</b>	<b>\$168</b>	<b>\$154</b>	<b>\$152</b>	<b>\$631</b>	<b>\$175</b>	<b>\$183</b>	<b>\$171</b>	<b>\$185</b>	<b>\$714</b>
y/y	-6%	5%	-13%	0%	-4%	-8%	8%	-1%	-9%	-3%	11%	9%	11%	22%	13%
2-year average	-7%	-10%	-11%	-7%	-9%	-7%	7%	-7%	-4%	-3%	2%	9%	5%	6%	5%
<b>ISRG Da Vinci Procedures</b>															
y/y	16%	68%	20%	19%	31%	19%	14%	20%	18%	18%	26%	22%	19%	21%	22%
2-year average	13%	25%	14%	13%	16%	18%	41%	20%	19%	24%	23%	18%	20%	20%	20%
<b>Sleep Apnea Stimulation</b>	<b>\$40</b>	<b>\$53</b>	<b>\$62</b>	<b>\$78</b>	<b>\$233</b>	<b>\$69</b>	<b>\$91</b>	<b>\$109</b>	<b>\$138</b>	<b>\$408</b>	<b>\$128</b>	<b>\$151</b>	<b>\$153</b>	<b>\$193</b>	<b>\$625</b>
y/y	89%	335%	72%	71%	102%	72%	73%	77%	76%	75%	84%	65%	40%	40%	53%
2-year average	60%	151%	72%	71%	71%	80%	204%	75%	73%	89%	78%	69%	59%	58%	64%
<b>Peripheral Intravascular Lithotripsy (IVL)</b>	<b>\$16</b>	<b>\$19</b>	<b>\$18</b>	<b>\$21</b>	<b>\$74</b>	<b>\$23</b>	<b>\$32</b>	<b>\$37</b>	<b>\$41</b>	<b>\$132</b>	<b>\$46</b>	<b>\$52</b>	<b>\$48</b>	<b>\$48</b>	<b>\$194</b>
y/y	78%	189%	44%	52%	76%	42%	70%	109%	89%	79%	102%	64%	29%	19%	47%
2-year average	92%	97%	60%	57%	68%	60%	129%	76%	71%	77%	72%	67%	69%	54%	63%
<b>Coronary Intravascular Lithotripsy (IVL)</b>	<b>\$15</b>	<b>\$37</b>	<b>\$47</b>	<b>\$62</b>	<b>\$161</b>	<b>\$70</b>	<b>\$88</b>	<b>\$93</b>	<b>\$103</b>	<b>\$354</b>	<b>\$114</b>	<b>\$126</b>	<b>\$136</b>	<b>\$153</b>	<b>\$529</b>
y/y	165%	905%	575%	661%	557%	359%	139%	97%	65%	119%	62%	43%	47%	49%	49%
2-year average	140%	455%	321%	358%	307%	262%	522%	336%	363%	338%	211%	91%	72%	57%	84%
<b>Spinal Cord Stimulation</b>	<b>\$511</b>	<b>\$573</b>	<b>\$535</b>	<b>\$559</b>	<b>\$2,179</b>	<b>\$516</b>	<b>\$549</b>	<b>\$545</b>	<b>\$593</b>	<b>\$2,203</b>	<b>\$557</b>	<b>\$589</b>	<b>\$593</b>	<b>\$633</b>	<b>\$2,372</b>
y/y	16%	65%	-6%	-5%	12%	1%	-4%	2%	6%	1%	8%	7%	9%	7%	8%
2-year average	-2%	14%	-3%	-5%	-1%	9%	31%	-2%	1%	7%	4%	2%	5%	6%	4%
<b>Peripheral Thrombectomy</b>	<b>\$113</b>	<b>\$123</b>	<b>\$137</b>	<b>\$149</b>	<b>\$522</b>	<b>\$166</b>	<b>\$170</b>	<b>\$173</b>	<b>\$187</b>	<b>\$696</b>	<b>\$207</b>	<b>\$215</b>	<b>\$242</b>	<b>\$260</b>	<b>\$924</b>
y/y	98%	147%	71%	48%	82%	47%	38%	26%	25%	33%	25%	26%	40%	39%	33%
2-year average	92%	93%	81%	75%	82%	72%	93%	49%	37%	57%	36%	32%	33%	32%	33%

Source: Company filings, BofA Global Research. \*Average excludes Peripheral IVL, Coronary IVL, and Sleep Apnea Stimulation.

**Exhibit 2: US Medtech market growth**

On average\*, US medtech markets grew 12% y/y in Q4, up from 11% y/y in Q3. On a 2-year stacked basis, US medtech markets grew 12%, flat from Q3's 2-year stacked growth of 12%.

US Markets (\$m)	1Q21A	2Q21A	3Q21A	4Q21A	2021A	1Q22A	2Q22A	3Q22A	4Q22A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>Hips</b>	<b>\$687</b>	<b>\$777</b>	<b>\$705</b>	<b>\$749</b>	<b>\$2,918</b>	<b>\$727</b>	<b>\$796</b>	<b>\$764</b>	<b>\$812</b>	<b>\$3,099</b>	<b>\$811</b>	<b>\$835</b>	<b>\$790</b>	<b>\$870</b>	<b>\$3,306</b>
y/y	0%	58%	-9%	1%	8%	5%	3%	8%	9%	6%	11%	5%	5%	7%	7%
2-year average	-3%	12%	0%	-2%	0%	3%	30%	0%	5%	7%	8%	4%	6%	8%	7%
<b>Knees</b>	<b>\$917</b>	<b>\$1,060</b>	<b>\$966</b>	<b>\$1,119</b>	<b>\$4,061</b>	<b>\$1,035</b>	<b>\$1,104</b>	<b>\$1,066</b>	<b>\$1,222</b>	<b>\$4,428</b>	<b>\$1,211</b>	<b>\$1,190</b>	<b>\$1,113</b>	<b>\$1,306</b>	<b>\$4,820</b>
y/y	-9%	86%	-6%	3%	10%	12%	4%	10%	10%	9%	16%	8%	5%	6%	9%
2-year average	-7%	20%	-2%	-3%	-2%	2%	45%	2%	6%	9%	14%	6%	8%	8%	9%
<b>Spine</b>	<b>\$1,436</b>	<b>\$1,480</b>	<b>\$1,402</b>	<b>\$1,505</b>	<b>\$5,823</b>	<b>\$1,451</b>	<b>\$1,453</b>	<b>\$1,528</b>	<b>\$1,586</b>	<b>\$6,019</b>	<b>\$1,593</b>	<b>\$1,546</b>	<b>\$1,598</b>	<b>\$1,687</b>	<b>\$6,425</b>
y/y	19%	42%	-7%	2%	11%	1%	-2%	9%	5%	3%	10%	6%	5%	6%	7%
2-year average	3%	8%	-1%	0%	1%	10%	20%	1%	4%	7%	5%	2%	7%	6%	5%
<b>Low Power</b>	<b>\$346</b>	<b>\$356</b>	<b>\$348</b>	<b>\$316</b>	<b>\$1,366</b>	<b>\$378</b>	<b>\$350</b>	<b>\$368</b>	<b>\$335</b>	<b>\$1,431</b>	<b>\$396</b>	<b>\$367</b>	<b>\$389</b>	<b>\$369</b>	<b>\$1,521</b>
y/y	40%	27%	4%	4%	17%	9%	-2%	6%	6%	5%	5%	5%	6%	10%	6%
2-year average	8%	7%	1%	-1%	3%	24%	13%	5%	5%	11%	7%	2%	6%	8%	6%
<b>High Power</b>	<b>\$656</b>	<b>\$648</b>	<b>\$653</b>	<b>\$604</b>	<b>\$2,561</b>	<b>\$662</b>	<b>\$604</b>	<b>\$634</b>	<b>\$632</b>	<b>\$2,532</b>	<b>\$669</b>	<b>\$609</b>	<b>\$620</b>	<b>\$630</b>	<b>\$2,528</b>
y/y	28%	22%	2%	-1%	12%	1%	-7%	-3%	5%	-1%	1%	1%	-2%	0%	0%
2-year average	0%	1%	-1%	-4%	-2%	15%	8%	0%	2%	5%	1%	-3%	-3%	2%	-1%
<b>Transcatheter Aortic Valve Replacement (TAVR)</b>	<b>\$650</b>	<b>\$748</b>	<b>\$704</b>	<b>\$705</b>	<b>\$2,806</b>	<b>\$714</b>	<b>\$730</b>	<b>\$763</b>	<b>\$761</b>	<b>\$2,969</b>	<b>\$781</b>	<b>\$814</b>	<b>\$820</b>	<b>\$845</b>	<b>\$3,260</b>
y/y	11%	48%	6%	10%	17%	10%	-2%	8%	8%	6%	9%	11%	7%	11%	10%
2-year average	10%	16%	3%	1%	7%	10%	23%	7%	9%	11%	10%	5%	8%	10%	8%
<b>Transcatheter Mitral &amp; Tricuspid Therapy (TMTT)</b>	<b>\$97</b>	<b>\$117</b>	<b>\$104</b>	<b>\$107</b>	<b>\$425</b>	<b>\$101</b>	<b>\$110</b>	<b>\$107</b>	<b>\$112</b>	<b>\$430</b>	<b>\$116</b>	<b>\$120</b>	<b>\$122</b>	<b>\$123</b>	<b>\$480</b>
y/y	16%	117%	1%	9%	26%	4%	-6%	3%	5%	1%	14%	9%	14%	10%	12%
2-year average	14%	39%	5%	0%	9%	10%	55%	2%	7%	13%	9%	2%	8%	7%	6%
<b>Left Atrial Appendage Closure (LAAC)</b>	<b>\$149</b>	<b>\$192</b>	<b>\$185</b>	<b>\$214</b>	<b>\$740</b>	<b>\$219</b>	<b>\$244</b>	<b>\$259</b>	<b>\$279</b>	<b>\$1,001</b>	<b>\$288</b>	<b>\$309</b>	<b>\$318</b>	<b>\$341</b>	<b>\$1,256</b>
y/y	39%	289%	62%	53%	80%	47%	27%	40%	30%	35%	32%	26%	23%	22%	25%
2-year average	27%	119%	33%	35%	38%	43%	158%	51%	41%	58%	39%	27%	31%	26%	30%
<b>Continuous Glucose Monitoring (CGM)</b>	<b>\$702</b>	<b>\$809</b>	<b>\$870</b>	<b>\$925</b>	<b>\$3,306</b>	<b>\$842</b>	<b>\$966</b>	<b>\$1,051</b>	<b>\$1,128</b>	<b>\$3,987</b>	<b>\$1,050</b>	<b>\$1,167</b>	<b>\$1,318</b>	<b>\$1,433</b>	<b>\$4,968</b>
y/y	28%	27%	26%	20%	25%	20%	19%	21%	22%	21%	25%	21%	25%	27%	25%
2-year average	29%	29%	25%	19%	25%	24%	23%	24%	21%	23%	22%	20%	23%	24%	23%
<b>Insulin Pumps</b>	<b>\$417</b>	<b>\$410</b>	<b>\$449</b>	<b>\$499</b>	<b>\$1,775</b>	<b>\$420</b>	<b>\$446</b>	<b>\$501</b>	<b>\$548</b>	<b>\$1,916</b>	<b>\$510</b>	<b>\$533</b>	<b>\$568</b>	<b>\$646</b>	<b>\$2,257</b>
y/y	20%	11%	13%	7%	12%	1%	9%	12%	10%	8%	21%	19%	13%	18%	18%
2-year average	11%	8%	11%	12%	11%	11%	10%	12%	8%	10%	11%	14%	13%	14%	13%
<b>Left Ventricular Assist Device (LVAD)</b>	<b>\$112</b>	<b>\$107</b>	<b>\$104</b>	<b>\$105</b>	<b>\$428</b>	<b>\$109</b>	<b>\$112</b>	<b>\$109</b>	<b>\$100</b>	<b>\$430</b>	<b>\$118</b>	<b>\$120</b>	<b>\$110</b>	<b>\$118</b>	<b>\$466</b>
y/y	-5%	11%	-14%	-1%	-3%	-3%	5%	5%	-5%	0%	8%	7%	1%	18%	8%
2-year average	-9%	-8%	-11%	-10%	-10%	-4%	8%	-4%	-3%	-1%	3%	6%	3%	7%	4%
<b>ISRG Da Vinci Procedures</b>															
y/y	14%	77%	16%	16%	27%	16%	11%	18%	18%	16%	26%	19%	17%	17%	20%
2-year average	12%	27%	12%	11%	13%	15%	44%	17%	17%	21%	21%	15%	18%	18%	18%
<b>Sleep Apnea Stimulation</b>	<b>\$38</b>	<b>\$49</b>	<b>\$58</b>	<b>\$76</b>	<b>\$221</b>	<b>\$66</b>	<b>\$88</b>	<b>\$106</b>	<b>\$134</b>	<b>\$395</b>	<b>\$124</b>	<b>\$145</b>	<b>\$148</b>	<b>\$189</b>	<b>\$606</b>
y/y	96%	349%	76%	77%	108%	76%	78%	82%	78%	79%	87%	65%	39%	41%	54%
2-year average	65%	160%	77%	74%	76%	86%	214%	79%	77%	93%	82%	71%	61%	59%	66%
<b>Sacral Neuromodulation (SNM)</b>	<b>\$183</b>	<b>\$197</b>	<b>\$177</b>	<b>\$196</b>	<b>\$753</b>	<b>\$174</b>	<b>\$203</b>	<b>\$191</b>	<b>\$231</b>	<b>\$800</b>	<b>\$191</b>	<b>\$218</b>	<b>\$211</b>	<b>\$245</b>	<b>\$865</b>
y/y	123%	140%	0%	0%	40%	-5%	3%	8%	18%	6%	10%	7%	10%	6%	8%
2-year average	43%	49%	14%	16%	18%	59%	72%	4%	9%	23%	3%	5%	9%	12%	7%
<b>Peripheral Intravascular Lithotripsy (IVL)</b>	<b>\$14</b>	<b>\$16</b>	<b>\$16</b>	<b>\$19</b>	<b>\$65</b>	<b>\$21</b>	<b>\$28</b>	<b>\$33</b>	<b>\$36</b>	<b>\$117</b>	<b>\$41</b>	<b>\$46</b>	<b>\$43</b>	<b>\$43</b>	<b>\$172</b>
y/y	85%	200%	41%	49%	76%	42%	68%	111%	90%	79%	98%	65%	31%	19%	47%
2-year average	99%	103%	60%	58%	70%	64%	134%	76%	70%	78%	70%	67%	71%	55%	63%
<b>Coronary Intravascular Lithotripsy (IVL)</b>	<b>\$7</b>	<b>\$26</b>	<b>\$37</b>	<b>\$51</b>	<b>\$121</b>	<b>\$58</b>	<b>\$72</b>	<b>\$77</b>	<b>\$82</b>	<b>\$289</b>	<b>\$91</b>	<b>\$99</b>	<b>\$104</b>	<b>\$115</b>	<b>\$409</b>
y/y						777%	174%	109%	62%	140%	57%	37%	34%	40%	41%
2-year average											417%	106%	72%	51%	91%
<b>Transcatheter Artery Revascularization (TCAR)</b>	<b>\$22</b>	<b>\$26</b>	<b>\$25</b>	<b>\$28</b>	<b>\$101</b>	<b>\$28</b>	<b>\$33</b>	<b>\$37</b>	<b>\$40</b>	<b>\$139</b>	<b>\$40</b>	<b>\$45</b>	<b>\$44</b>	<b>\$47</b>	<b>\$177</b>
y/y	16%	75%	23%	34%	35%	27%	25%	51%	42%	37%	43%	37%	19%	18%	28%
2-year average	32%	38%	20%	24%	27%	22%	50%	37%	38%	36%	35%	31%	35%	30%	32%
<b>Spinal Cord Stimulation (SCS)</b>	<b>\$415</b>	<b>\$458</b>	<b>\$435</b>	<b>\$459</b>	<b>\$1,767</b>	<b>\$421</b>	<b>\$444</b>	<b>\$446</b>	<b>\$484</b>	<b>\$1,795</b>	<b>\$454</b>	<b>\$481</b>	<b>\$492</b>	<b>\$522</b>	<b>\$1,949</b>
y/y	18%	62%	-7%	-5%	11%	1%	-3%	3%	6%	2%	8%	8%	10%	8%	9%
2-year average	-1%	13%	-4%	-5%	-2%	10%	29%	-2%	0%	6%	5%	3%	6%	7%	5%

Source: Company filings, BofA Global Research. \*Average excludes Peripheral IVL, Coronary IVL, and Sleep Apnea Stimulation.

BofA GLOBAL RESEARCH



**Exhibit 3: Large cap Medtech organic growth (green is consensus)**

On average, the Street is modeling 9.1% y/y growth in 2024E and 7.8% y/y growth in 2025E.

**Organic CC Growth Rates - Calendar Qtrs / Yrs**

Company	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A	2024E	2025E
Alcon	3.0%	5.0%	5.3%	-7.5%	20.0%	11.0%	11.0%	12.0%	9.0%	10.0%	10.0%	6.7%	5.9%
2-Yr Avg	1.0%	4.0%	5.1%	-1.1%	6.3%	15.5%	14.5%	11.0%	9.0%	8.5%	10.5%	8.3%	6.3%
Zimmer Biomet	0.2%	0.9%	2.3%	-12.6%	10.6%	6.7%	12.2%	6.4%	6.2%	5.1%	7.5%	5.2%	4.7%
2-Yr Avg	1.2%	0.5%	1.6%	-5.2%	-1.0%	8.6%	8.9%	6.2%	5.6%	7.6%	7.1%	6.4%	5.0%
JNJ Medical Devices Segment	1.9%	2.6%	3.9%	-11.5%	19.6%	6.0%	6.6%	10.0%	6.0%	9.1%	7.9%	6.0%	5.6%
2-Yr Avg	2.8%	2.2%	3.2%	-3.8%	4.1%	12.8%	7.6%	6.7%	7.1%	6.5%	7.0%	7.0%	5.8%
Abbott Medical Devices	5.7%	9.1%	10.5%	-3.7%	20.7%	8.1%	12.4%	14.2%	14.7%	15.4%	14.2%	11.4%	10.0%
2-Yr Avg		7.4%	9.8%	3.4%	8.5%	14.4%	12.0%	10.9%	10.6%	11.4%	11.2%	11.9%	12.1%
Intuitive Surgical	15.5%	18.5%	20.3%	-2.5%	31.0%	11.5%	17.0%	16.7%	12.0%	17.0%	15.7%	13.3%	16.4%
2-Yr Avg	14.6%	17.0%	19.4%	8.9%	14.3%	21.3%	16.1%	11.4%	13.5%	13.5%	13.6%	14.5%	14.8%
Boston Scientific	6.5%	7.2%	7.3%	-11.3%	18.9%	8.7%	14.0%	11.6%	10.2%	13.6%	12.3%	8.7%	9.2%
2-Yr Avg	7.8%	6.9%	7.3%	-2.0%	3.8%	13.8%	11.9%	9.1%	10.9%	10.4%	10.5%	10.5%	8.9%
Becton Dickinson Base Business	5.2%	6.4%	4.5%	-2.9%	9.1%	7.1%	7.0%	6.3%	7.0%	2.8%	5.8%	6.2%	5.8%
2-Yr Avg	5.4%	5.8%	5.4%	0.8%	3.1%	8.1%	8.3%	7.6%	6.9%	2.9%	6.4%	6.0%	6.0%
Stryker	8.0%	7.9%	7.8%	-5.1%	12.6%	9.7%	12.6%	11.9%	10.2%	11.4%	11.5%	8.5%	7.8%
2-Yr Avg	7.1%	7.9%	7.9%	1.4%	3.7%	11.1%	10.9%	9.0%	10.1%	12.3%	10.6%	10.0%	8.1%
Baxter	4.5%	3.8%	5.0%	2.8%	7.0%	2.0%	2.0%	4.0%	2.0%	3.0%	3.0%	-3.7%	-2.2%
2-Yr Avg	4.8%	4.1%	4.4%	3.9%	4.9%	4.5%	2.5%	3.5%	1.0%	2.5%	2.5%	-0.4%	-3.0%
Edwards LifeSciences	15.7%	10.1%	15.1%	0.9%	17.8%	7.7%	12.6%	12.1%	10.9%	13.0%	12.1%	9.5%	9.7%
2-Yr Avg	17.1%	12.9%	12.6%	8.0%	9.3%	12.7%	12.7%	8.3%	8.8%	10.2%	9.9%	10.8%	9.6%
Medtronic	4.2%	6.3%	3.5%	-11.1%	13.8%	1.0%	5.6%	6.0%	5.0%	4.6%	5.3%	4.4%	4.6%
2-Yr Avg	4.1%	5.3%	4.9%	-3.8%	1.3%	7.4%	3.5%	1.2%	3.6%	4.4%	3.2%	4.9%	4.5%
Teleflex	3.5%	3.1%	8.1%	-2.8%	6.6%	4.3%	7.1%	5.3%	6.8%	7.0%	5.9%	4.7%	5.6%
2-Yr Avg	3.8%	3.3%	5.6%	2.6%	1.9%	5.4%	6.5%	4.4%	5.3%	5.7%	5.1%	5.3%	5.1%
Dexcom	25.0%	42.1%	44.7%	32.3%	26.0%	20.0%	19.0%	26.0%	26.0%	26.0%	24.0%	19.2%	19.7%
2-Yr Avg	34.9%	33.6%	43.4%	38.5%	29.1%	23.0%	20.5%	21.0%	23.0%	23.0%	22.0%	21.6%	19.5%
<b>Average, Excl. ISRG, DXCM, ABMD and EW</b>	<b>4.3%</b>	<b>5.2%</b>	<b>5.8%</b>	<b>-6.6%</b>	<b>13.9%</b>	<b>6.5%</b>	<b>9.0%</b>	<b>8.8%</b>	<b>7.7%</b>	<b>8.2%</b>	<b>8.3%</b>	<b>5.8%</b>	<b>5.7%</b>
2-Year Avg, Excl. ISRG, DXCM, ABMD and EW	4.4%	4.7%	5.5%	-0.4%	3.7%	10.2%	8.6%	6.9%	7.0%	7.2%	7.4%	7.1%	5.8%
Overall Average	9.3%	11.3%	10.9%	-2.7%	17.0%	8.0%	10.7%	11.0%	9.7%	10.6%	10.4%	7.7%	7.9%
<b>Overall 2-Year Average</b>	<b>9.2%</b>	<b>10.3%</b>	<b>11.1%</b>	<b>4.1%</b>	<b>7.1%</b>	<b>12.5%</b>	<b>10.5%</b>	<b>8.7%</b>	<b>8.9%</b>	<b>9.1%</b>	<b>9.2%</b>	<b>9.1%</b>	<b>7.8%</b>

Source: Company filings, BofA Global Research, Visible Alpha. \*MDT and BDx on CY basis. Adjusted for selling days.

BofA GLOBAL RESEARCH

# Intuitive Surgical (ISRG) Procedures

ISRG Q4 procedure growth of 21% was ahead of Street's 18.6%. US procedures grew 17% and OUS procedures grew 29%. OUS growth of 29% was largely attributed to China which grew above the OUS avg partly off an easier comp due to covid in the prior period. But OUS non-urology procedures also grew 35% as OUS continues to see growth in benign procedures. Bariatrics slowed to positive MSD growth, a modest decline from prior growth (bariatrics grew 19% in Q2'23 and grew double digits in Q3'23). There were 44 Ion systems placed in Q4 which was a bit below prior quarters (55-59 Ion placements in Q1-Q3) but this was intentional due to supply constraints on the catheter (ISRG didn't want new customers to get a new system and not have catheters to use). ISRG has been addressing supply constraints and saw a nice backlog of signed Ion contacts exiting Q4.

## Exhibit 4: Intuitive Surgical (ISRG) Model Summary

In 4Q23, US procedures grew 17% y/y and WW procedures grew 21%. In 3Q23, US procedures grew 17% y/y and WW procedures grew 19%.

Model Summary	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>Procedure Volume</b>										
Ion Procedures	0	0	380	6,460	23,191	10,200	12,700	14,500	16,500	53,900
Ion Y/Y Growth				1600%	259%	159%	144%	127%	116%	132%
Total da vinci Procedures	1,037,120	1,229,031	1,242,388	1,594,668	1,875,602	539,315	567,170	565,757	614,717	2,286,959
da vinci Y/Y Growth	18%	18%	1%	31%	18%	26%	22%	19%	21%	22%
US Y/Y Growth	17%	17%	-1%	27%	16%	26%	19%	17%	17%	20%
OUS Y/Y Growth	22%	21%	6%	32%	22%	28%	28%	24%	29%	27%
da vinci rev/procedure	\$1,892	\$1,959	\$1,977	\$1,932	\$1,846	\$1,780	\$1,840	\$1,830	\$1,805	\$1,814
Revenue Per Procedures Y/Y Growth	1%	4%	1%	(2%)	(4%)	(5%)	(3%)	2%	(1%)	(2%)
<b>Da Vinci I&amp;A Revenue</b>	<b>\$1,962</b>	<b>\$2,410</b>	<b>\$2,456</b>	<b>\$3,081</b>	<b>\$3,463</b>	<b>\$960</b>	<b>\$1,044</b>	<b>\$1,035</b>	<b>\$1,110</b>	<b>\$4,148</b>
Ion Procedure Revenue	\$0	\$0	\$0	\$0	\$55	\$26	\$32	\$36	\$40	\$134
<b>Total I&amp;A Revenue</b>	<b>\$1,962</b>	<b>\$2,408</b>	<b>\$2,456</b>	<b>\$3,101</b>	<b>\$3,518</b>	<b>\$986</b>	<b>\$1,076</b>	<b>\$1,071</b>	<b>\$1,144</b>	<b>\$4,277</b>
<b>WW Ion Systems Placed</b>	0	10	26	93	192	55	59	55	44	213
<b>Ion Installed Base</b>	<b>0</b>	<b>10</b>	<b>36</b>	<b>129</b>	<b>321</b>	<b>376</b>	<b>435</b>	<b>490</b>	<b>534</b>	<b>534</b>
Ion shipped under operating lease					77	23	30	9	20	82
% of placements leased					40%	42%	51%	16%	45%	38%
Lease Installed Base					132	155	185	194	214	214
<b>WW da vinci Systems Placed</b>	<b>926</b>	<b>1,119</b>	<b>936</b>	<b>1,347</b>	<b>1,264</b>	<b>312</b>	<b>331</b>	<b>312</b>	<b>415</b>	<b>1,370</b>
WW da vinci trade-ins	277	442	447	509	345	67	60	62	51	240
De Novo da vinci Systems	649	677	489	838	919	245	271	250	364	1,130
Y/Y Growth in de novo systems	24.8%	4.3%	(27.8%)	71.4%	9.7%	20.7%	21.5%	6.8%	40.5%	23.0%
Trade-ins as % of systems sold	29.9%	39.5%	47.8%	37.8%	27.3%	21.5%	18.1%	19.9%	12.3%	17.5%
Trade-ins as % of installed base	5.9%	8.4%	7.7%	8.0%	4.8%	3.6%	3.1%	3.1%	2.5%	3.0%
WW shipped under operating leases	229	384	317	517	492	131	164	163	201	659
% of WW placements leased	25%	34%	34%	38%	39%	42%	50%	52%	48%	48%
<b>WW Installed Base</b>	<b>4,986</b>	<b>5,582</b>	<b>5,989</b>	<b>6,730</b>	<b>7,544</b>	<b>7,779</b>	<b>8,042</b>	<b>8,285</b>	<b>8,606</b>	<b>8,606</b>
Y/Y Growth in Systems Sold	35%	21%	-16%	44%	-6%	0%	19%	2%	12%	8%
WW Utilization - proc/system/year	221	233	215	251	263	282	287	277	291	283
y/y change	4.8%	5.4%	(7.7%)	16.8%	4.8%	12.2%	8.4%	5.7%	7.0%	7.8%
System ASP	\$1.45	\$1.52	\$1.50	\$1.55	\$1.49	\$1.47	\$1.39	\$1.40	\$1.42	\$1.42
<b>Total Systems Revenue</b>	<b>\$1,127</b>	<b>\$1,346</b>	<b>\$1,179</b>	<b>\$1,693</b>	<b>\$1,680</b>	<b>\$427</b>	<b>\$393</b>	<b>\$379</b>	<b>\$480</b>	<b>\$1,680</b>
Services Revenue	\$635	\$724	\$724	\$916	\$1,024	\$283	\$287	\$293	\$304	\$1,168
<b>Total Revenue</b>	<b>\$3,724</b>	<b>\$4,479</b>	<b>\$4,358</b>	<b>\$5,710</b>	<b>\$6,222</b>	<b>\$1,696</b>	<b>\$1,756</b>	<b>\$1,744</b>	<b>\$1,928</b>	<b>\$7,124</b>
Revenue Growth	19%	20%	(3%)	31%	9%	14%	15%	12%	17%	14%
<b>Income Statement</b>										
Gross Margin	71.5%	71.7%	68.4%	71.2%	69.2%	67.2%	68.5%	68.8%	68.0%	68.1%
Operating Margin	42.0%	39.9%	34.8%	40.5%	34.5%	31.5%	35.2%	35.8%	32.2%	33.6%
Opex growth	16.9%	29.7%	2.8%	19.3%	23.3%	20.0%	12.1%	8.4%	15.2%	13.9%
Tax Rate	19.6%	19.5%	22.5%	22.2%	21.8%	22.1%	22.3%	22.5%	15.9%	20.6%
<b>EPS (non-GAAP)</b>	<b>\$3.72</b>	<b>\$4.26</b>	<b>\$3.39</b>	<b>\$4.96</b>	<b>\$4.68</b>	<b>\$1.23</b>	<b>\$1.42</b>	<b>\$1.46</b>	<b>\$1.60</b>	<b>\$5.71</b>
EPS Y/Y Growth	24.0%	14.4%	(20.4%)	46.5%	(5.7%)	8.9%	24.6%	23.1%	30.3%	22.0%
Diluted Shares Outstanding (m)	356.2	358.4	360.9	365.7	362.0	356.0	357.3	358.2	358.2	357.4

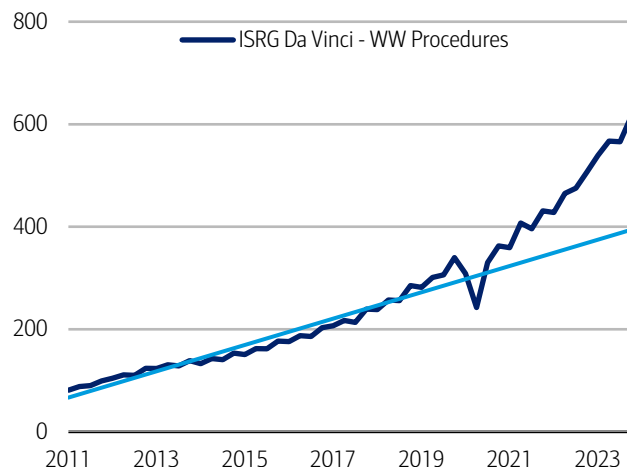
Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH



**Exhibit 5: WW Da Vinci Procedures vs Pre-COVID Trend**

WW Da Vinci procedures are above pre-COVID trend

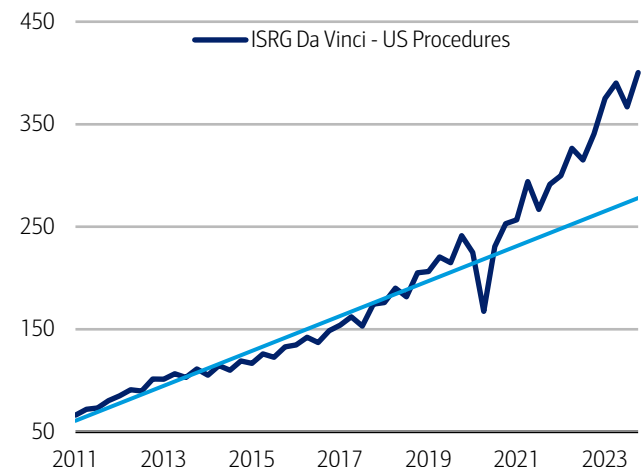


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 6: US Da Vinci Procedures vs Pre-COVID Trend**

US Da Vinci procedures are above pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Atrial fibrillation (Afib) Market

BSX's EP business grew 43% on an organic worldwide basis. US EP grew 40% organically driven by the first full quarter of the PolarX launch and ongoing momentum with Access Solutions technologies. International EP growth accelerated into Q4 2023, growing 46% organically (from 33% in Q3), fueled by improved Farapulse console supply. There have now been over 40k patients treated globally with Farapulse (up from 25k as of September). Farapulse received FDA approval was announced with Q4 EPS and limited market release happened immediately. Farapulse is expected to have somewhat of an impact in Q1 but much more significant of an impact as the year goes on. Approval in China and Japan for Farapulse is expected in 2H'24.

ABT's EP business grew 21% driven by double-digit growth across all major geographic regions (US, China, Europe), including more than 20% growth in Europe. ABT notes growth in China has been very strong despite VBP pricing impacts which have been more than offset by volume. ABT notes strength of the EP portfolio coming from EnSite mapping and recently launched TactiFlex catheter. ABT expects uptake of the recently approved PFA products in the US but notes some challenges with these first-generation products. In Europe ABT has seen broader adoption of PFA first in the cryo segment of the market and then moving beyond that and expects a similar dynamic in the US.

MDT US cryo business was down low DD due to competition from BSX's PolarX cryo device (FDA approved in Aug 2023). This is roughly \$15-20m of MDT rev lost vs its historical growth trend. We note BSX's Q4 US EP business grew \$31m y/y and \$21m q/q when historically US EP revs in Q4 from Q3 have been flat to up \$6m. MDT also notes customers held back on purchases as they wait for the launch of PulseSelect (commercialization started in FQ4). MDT believes this was a trough in EP growth and expects improvement as the next-gen cryo console and PulseSelect roll out. MDT also notes the OUS EP business continued to grow low DD. We expect Affera could be approved in US later this calendar year (data this spring).

JNJ's EP business delivered double-digit growth of 25.2% with strong growth in all regions, including Europe. This growth was driven by JNJ's global market-leading portfolio, including the most recently launched QDOT RF ablation and OCTARAY catheters. Varipulse CE Mark should come any day/week now. Varipulse US PMA submission is expected soon (FDA approval likely this year). JNJ feels ready on the supply side to meet demand for both consoles and catheters in Europe once CE Mark comes as well as in the US if needed by year end. The complete 12-month results from the



admIRE trial (US Varipulse study) are expected to be presented in May. The afIRE study (Varipulse in China) has completed enrollment. The European trial for the dual energy (RF/PFA) Thermocool SmartTouch SF has completed enrollment and the US trial is currently enrolling (SmartPulse trial began enrollment in Dec 2023). The Omnipulse trial in EMEA and Canada is currently enrolling and US enrollment is to come. The Omnipulse catheter is a large tip catheter, in between focal and single shot, which JNJ believes will be versatile with use in PVI ablations and other areas of the atrium and potentially for VT. See inside for our PFA trials tracker and device landscape.

#### Exhibit 7: AFib Market Model

In 4Q23, WW Afib grew 23% y/y. In 3Q23, WW Afib grew 18% y/y.

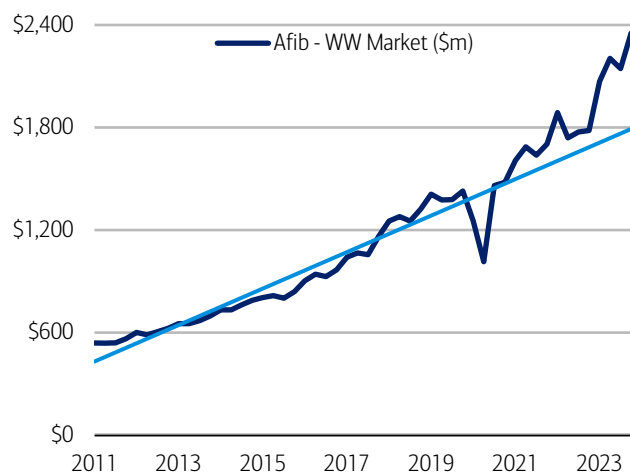
	1Q20A	2Q20A	3Q20A	4Q20A	1Q21A	2Q21A	3Q21A	4Q21A	1Q22A	2Q22A	3Q22A	4Q22A	1Q23A	2Q23A	3Q23A	4Q23A
<b>WW AFib Sales (\$m)</b>																
JNJ	645	469	731	697	824	844	837	823	1,002	968	973	860	1,093	1,196	1,160	1,239
ABT	388	299	441	450	431	487	485	504	485	486	469	487	505	553	544	593
BSX	74	52	76	85	83	95	86	100	118	152	148	167	176	193	190	240
MDT	116	165	179	213	236	219	188	232	246	206	190	226	251	215	204	230
ATRC	32	31	34	35	35	42	42	44	36	40	40	42	44	47	46	50
<b>Total</b>	<b>1,255</b>	<b>1,016</b>	<b>1,461</b>	<b>1,479</b>	<b>1,609</b>	<b>1,688</b>	<b>1,639</b>	<b>1,703</b>	<b>1,887</b>	<b>1,852</b>	<b>1,819</b>	<b>1,782</b>	<b>2,069</b>	<b>2,205</b>	<b>2,145</b>	<b>2,352</b>
<b>AFib y/y CC Growth (%)</b>																
JNJ	2%	-22%	12%	9%	24%	74%	13%	19%	17%	6%	18%	12%	13%	26%	20%	25%
ABT	-3%	-30%	3%	-4%	7%	58%	9%	14%	17%	5%	4%	5%	9%	17%	17%	21%
BSX	-5%	-39%	-8%	-2%	8%	79%	10%	16%	11%	9%	26%	25%	31%	28%	27%	43%
MDT	-48%	-20%	-2%	-2%	99%	29%	5%	11%	7%	-1%	7%	3%	5%	5%	6%	1%
ATRC	-7%	-20%	-9%	-9%	7%	35%	26%	26%	2%	-3%	-4%	-2%	24%	19%	16%	18%
<b>AFib Market Growth</b>	<b>-8%</b>	<b>-25%</b>	<b>6%</b>	<b>2%</b>	<b>24%</b>	<b>61%</b>	<b>11%</b>	<b>16%</b>	<b>15%</b>	<b>5%</b>	<b>12%</b>	<b>9%</b>	<b>12%</b>	<b>21%</b>	<b>18%</b>	<b>23%</b>
<b>AFib Market Share</b>																
JNJ	51%	46%	50%	47%	51%	50%	51%	48%	53%	52%	53%	48%	53%	54%	54%	53%
ABT	31%	29%	30%	30%	27%	29%	30%	30%	26%	26%	26%	27%	24%	25%	25%	25%
BSX	6%	5%	5%	6%	5%	6%	5%	6%	6%	8%	8%	9%	9%	9%	9%	10%
MDT	9%	16%	12%	14%	15%	13%	11%	14%	13%	11%	10%	13%	12%	10%	10%	10%
ATRC	3%	3%	2%	2%	2%	2%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%

Source: Company filings, BofA Global Research. \*JNJ does not provide Biosense Webster sales, only growth rates. Revenue and market share is BofA estimate.

BofA GLOBAL RESEARCH

#### Exhibit 8: WW AFib Market vs Pre-COVID Trend

WW AFib market is above pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH



## Cardiac Rhythm Management (CRM)

ABT's rhythm management business grew 12% in Q4. Growth was led by double-digit growth in pacemaker sales led by Aveir, ABT's recently launched leadless pacemaker that can be used for both single-chamber and dual-chamber.

BSX's CRM business grew 5% organically on a global basis in Q4 and 6% organically on a global basis for the full year. In Core CRM, the high-voltage franchise grew low-single digits, and low-voltage franchise grew mid-single digits in Q4 and FY 2023. Looking ahead, BSX expects core CRM to be in line with the market performance in 2024. The Diagnostics franchise outpaced the market and grew double digits in FY 2023 vs FY 2022, driven by BSX's broad portfolio.

MDT's defibrillation solutions grew low single digits in the qtr. The Aurora EV-ICD limited market release is underway in the US and EU. MDT expects the EV-ICD to reaccelerate their defibrillation solutions growth in the coming quarters.

In Q4 the high power market was flat y/y in the US, grew 10% OUS, and grew 4% WW.  
In Q4 the low power market grew 10% y/y in the US, grew 7% OUS, and grew 8.5% WW.

### Exhibit 9: High Power Market Model

In 4Q23, US high power was flat y/y and WW high power grew 4%. In 3Q23, US high power declined -2% y/y and WW high power grew 1%.

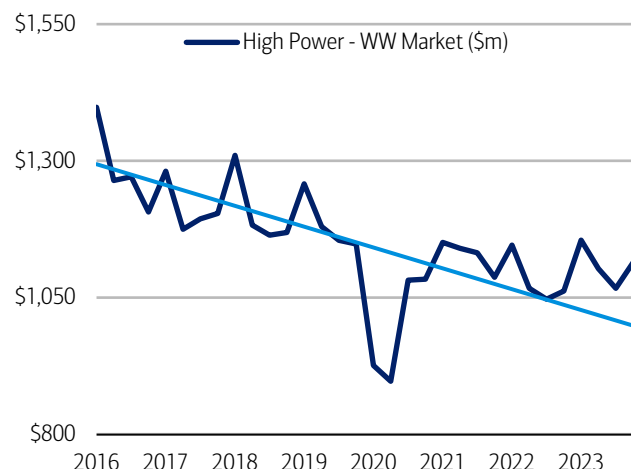
	2016A	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US High Power Market</b>												
ABT	842	698	710	656	569	636	629	158	158	152	158	626
BSX	797	803	879	880	771	789	784	211	206	193	199	809
MDT	1549	1448	1307	1176	952	1136	1119	300	245	275	273	1093
<b>Total US Revenue</b>	<b>3,188</b>	<b>2,949</b>	<b>2,896</b>	<b>2,712</b>	<b>2,292</b>	<b>2,561</b>	<b>2,532</b>	<b>669</b>	<b>609</b>	<b>620</b>	<b>630</b>	<b>2,528</b>
<b>US Market Growth y/y</b>	-	<b>-7.5%</b>	<b>-1.8%</b>	<b>-6.3%</b>	<b>-15.5%</b>	<b>11.8%</b>	<b>-1.1%</b>	<b>1.1%</b>	<b>0.8%</b>	<b>-2.2%</b>	<b>-0.3%</b>	<b>-0.2%</b>
<b>OUS High Power Market</b>												
ABT	585	539	524	506	486	568	519	137	151	133	144	565
BSX	477	502	546	559	495	561	519	139	144	129	134	546
MDT	890	864	860	792	716	820	752	210	199	185	206	800
<b>Total OUS Revenue</b>	<b>1,952</b>	<b>1,905</b>	<b>1,930</b>	<b>1,857</b>	<b>1,697</b>	<b>1,949</b>	<b>1,790</b>	<b>486</b>	<b>494</b>	<b>447</b>	<b>484</b>	<b>1,911</b>
<b>OUS Market CC Growth y/y</b>	-	<b>(3.1%)</b>	<b>(0.7%)</b>	<b>0.8%</b>	<b>(8.8%)</b>	<b>11.2%</b>	<b>2.7%</b>	<b>7.7%</b>	<b>8.7%</b>	<b>5.9%</b>	<b>10.0%</b>	<b>8.1%</b>
<b>WW High Power Market</b>												
ABT	1427	1237	1234	1162	1055	1204	1148	295	309	285	302	1191
BSX	1274	1305	1425	1439	1266	1350	1303	350	350	322	333	1355
MDT	2439	2312	2167	1968	1668	1956	1871	510	444	460	479	1893
<b>Total WW Revenue</b>	<b>5,140</b>	<b>4,854</b>	<b>4,826</b>	<b>4,569</b>	<b>3,989</b>	<b>4,510</b>	<b>4,322</b>	<b>1,155</b>	<b>1,103</b>	<b>1,067</b>	<b>1,114</b>	<b>4,439</b>
<b>WW Market CC Growth y/y</b>	-	<b>(5.8%)</b>	<b>(1.4%)</b>	<b>(3.5%)</b>	<b>(12.8%)</b>	<b>11.5%</b>	<b>0.5%</b>	<b>3.9%</b>	<b>4.2%</b>	<b>1.0%</b>	<b>3.8%</b>	<b>3.3%</b>
<b>Market Share (Revenue)</b>												
ABT	27.8%	25.5%	25.6%	25.4%	26.5%	26.7%	26.6%	25.5%	28.0%	26.7%	27.1%	26.8%
BSX	24.8%	26.9%	29.5%	31.5%	31.7%	29.9%	30.1%	30.3%	31.7%	30.2%	29.9%	30.5%
MDT	47.5%	47.6%	44.9%	43.1%	41.8%	43.4%	43.3%	44.2%	40.3%	43.1%	43.0%	42.6%

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 10: WW High Power Market vs Pre-COVID Trend**

WW high power market is above pre-COVID trend

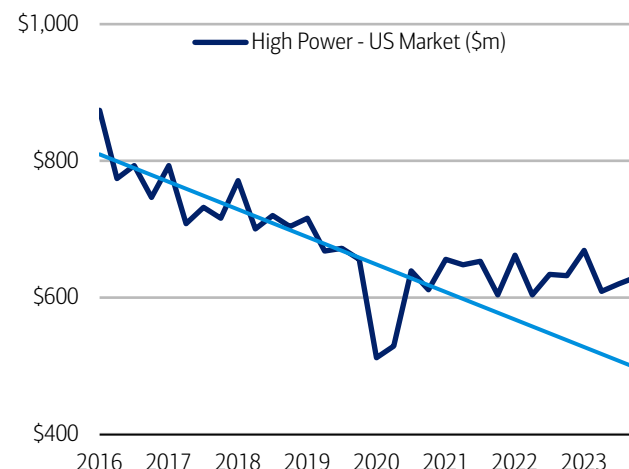


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 11: US High Power Market vs Pre-COVID Trend**

US high power market is above pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 12: Low Power Market Model**

In 4Q23, US low power grew 10% y/y and WW low power grew 8.5%. In 3Q23, US low power grew 6% y/y and WW low power grew 8.5%.

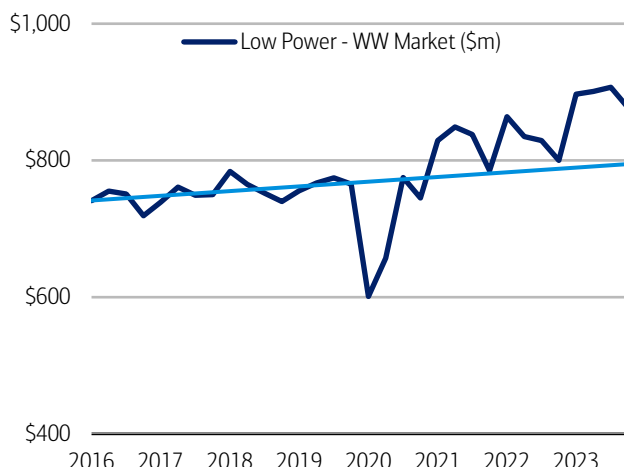
	2016A	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US Low Power Market</b>												
ABT	339	332	309	307	263	296	313	80	87	92	94	353
BSX	314	332	281	257	223	246	246	64	70	62	62	258
MDT	690	697	722	748	680	824	872	252	210	235	213	910
<b>Total US Revenue</b>	<b>1,343</b>	<b>1,361</b>	<b>1,312</b>	<b>1,312</b>	<b>1,166</b>	<b>1,366</b>	<b>1,431</b>	<b>396</b>	<b>367</b>	<b>389</b>	<b>369</b>	<b>1,521</b>
<b>US Market Growth y/y</b>	-	<b>1.3%</b>	<b>-3.6%</b>	<b>0.0%</b>	<b>-11.1%</b>	<b>17.2%</b>	<b>4.8%</b>	<b>4.8%</b>	<b>4.9%</b>	<b>5.7%</b>	<b>10.1%</b>	<b>6.3%</b>
<b>OUS Low Power Market</b>												
ABT	547	533	548	555	502	582	541	122	154	151	145	572
BSX	262	258	246	245	218	239	245	64	65	68	70	267
MDT	814	847	935	950	892	1114	1111	315	315	299	293	1222
<b>Total OUS Revenue</b>	<b>1,623</b>	<b>1,638</b>	<b>1,729</b>	<b>1,750</b>	<b>1,612</b>	<b>1,935</b>	<b>1,897</b>	<b>501</b>	<b>534</b>	<b>518</b>	<b>508</b>	<b>2,061</b>
<b>OUS Market CC Growth y/y</b>	-	<b>0.5%</b>	<b>4.1%</b>	<b>4.9%</b>	<b>(8.0%)</b>	<b>16.9%</b>	<b>6.2%</b>	<b>8.8%</b>	<b>11.6%</b>	<b>10.7%</b>	<b>7.4%</b>	<b>9.6%</b>
<b>WW Low Power Market</b>												
ABT	886	865	857	862	765	878	854	202	241	243	239	925
BSX	576	590	527	502	441	485	491	128	135	130	132	525
MDT	1504	1544	1657	1698	1572	1938	1983	567	525	534	506	2132
<b>Total WW Revenue</b>	<b>2,966</b>	<b>2,999</b>	<b>3,041</b>	<b>3,062</b>	<b>2,778</b>	<b>3,301</b>	<b>3,328</b>	<b>897</b>	<b>901</b>	<b>907</b>	<b>877</b>	<b>3,582</b>
<b>WW Market CC Growth y/y</b>	-	<b>0.9%</b>	<b>0.6%</b>	<b>2.8%</b>	<b>(9.3%)</b>	<b>17.0%</b>	<b>5.6%</b>	<b>7.0%</b>	<b>8.8%</b>	<b>8.5%</b>	<b>8.5%</b>	<b>8.2%</b>
<b>Market Share (Revenue)</b>												
ABT	29.9%	28.8%	28.2%	28.2%	27.5%	26.6%	25.7%	22.5%	26.7%	26.8%	27.3%	25.8%
BSX	19.4%	19.7%	17.3%	16.4%	15.9%	14.7%	14.8%	14.3%	15.0%	14.3%	15.1%	14.7%
MDT	50.7%	51.5%	54.5%	55.5%	56.6%	58.7%	59.6%	63.2%	58.3%	58.9%	57.7%	59.5%

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 13: WW Low Power Market vs Pre-COVID Trend**

WW low power market is above pre-COVID trend

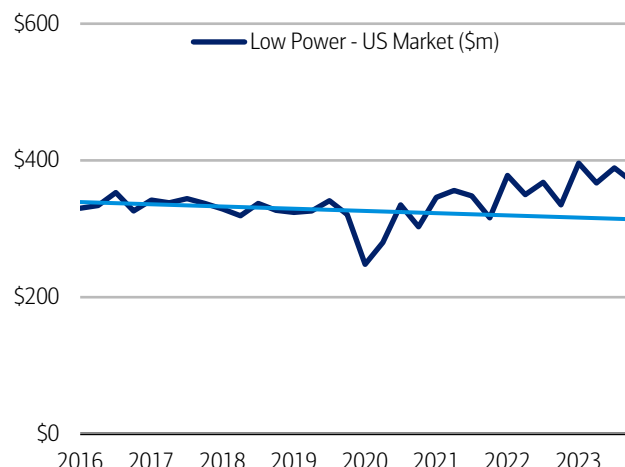


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 14: US Low Power Market vs Pre-COVID Trend**

US low power market is above pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Left Atrial Appendage Closure (LAAC) Market

Watchman sales grew 23% on an organic global basis in Q4 and grew 25% on a full year organic global basis in 2023. Growth was driven by record sales and strong utilization in all major markets in Q4. US growth of 23% was supported by initial Watchman FLX Pro launch. Full launch is expected in Q1. There have now been over 400k patients treated globally with Watchman. ABT's Amulet grew 12% on a global basis in Q4 as well as grew 12% in the US and 12% OUS.

**Exhibit 15: LAAC Market Model**

We estimate that the global LAAC market grew 22% in Q4'23 and BSX maintained ~90% global market share.

	2016A	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US LAAC Market</b>												
Boston Scientific (Watchman)	129	213	313	426	411	729	915	265	286	291	312	1,154
Abbott Laboratories (Amulet)	0	0	0	0	0	11	86	23	23	27	29	102
<b>Total US Revenue</b>	<b>129</b>	<b>213</b>	<b>313</b>	<b>426</b>	<b>411</b>	<b>740</b>	<b>1,001</b>	<b>288</b>	<b>309</b>	<b>318</b>	<b>341</b>	<b>1,256</b>
<i>y/y reported growth</i>												
Boston Scientific (Watchman)	0%	64%	47%	36%	(3%)	77%	26%	31%	27%	24%	23%	26%
Abbott Laboratories (Amulet)	0%	NA	NA	NA	NA	NA	685%	44%	19%	8%	12%	18%
<b>Total US Market</b>	<b>0%</b>	<b>64%</b>	<b>47%</b>	<b>36%</b>	<b>(3%)</b>	<b>80%</b>	<b>35%</b>	<b>32%</b>	<b>26%</b>	<b>23%</b>	<b>22%</b>	<b>25%</b>
<b>US Market Share</b>												
Boston Scientific (Watchman)	100%	100%	100%	100%	100%	99%	91%	92%	93%	92%	91%	92%
Abbott Laboratories (Amulet)	0%	0%	0%	0%	0%	1%	9%	8%	7%	8%	9%	8%
<b>OUS LAAC Market</b>												
Boston Scientific (Watchman)	23	38	55	75	73	100	103	25	30	31	33	119
Abbott Laboratories (Amulet)	11	23	32	40	35	42	41	11	13	11	12	47
<b>Total OUS Revenue</b>	<b>34</b>	<b>61</b>	<b>87</b>	<b>115</b>	<b>108</b>	<b>142</b>	<b>144</b>	<b>36</b>	<b>43</b>	<b>42</b>	<b>45</b>	<b>166</b>
<i>y/y CC growth</i>												
Boston Scientific (Watchman)	0%	63%	46%	50%	(3%)	33%	12%	17%	24%	13%	22%	19%
Abbott Laboratories (Amulet)	0%	108%	38%	28%	(13%)	18%	7%	10%	29%	6%	15%	14%
<b>Total OUS Market</b>	<b>0%</b>	<b>78%</b>	<b>43%</b>	<b>42%</b>	<b>(6%)</b>	<b>28%</b>	<b>11%</b>	<b>15%</b>	<b>26%</b>	<b>11%</b>	<b>20%</b>	<b>18%</b>
<b>OUS Market Share</b>												
Boston Scientific (Watchman)	67%	62%	63%	65%	67%	70%	71%	69%	70%	74%	73%	72%
Abbott Laboratories (Amulet)	33%	38%	37%	35%	33%	30%	29%	31%	30%	26%	27%	28%
<b>WW LAAC Market</b>												
Boston Scientific (Watchman)	152	250	368	501	484	829	1,018	290	316	322	345	1,273

**Exhibit 15: LAAC Market Model**

We estimate that the global LAAC market grew 22% in Q4'23 and BSX maintained ~90% global market share.

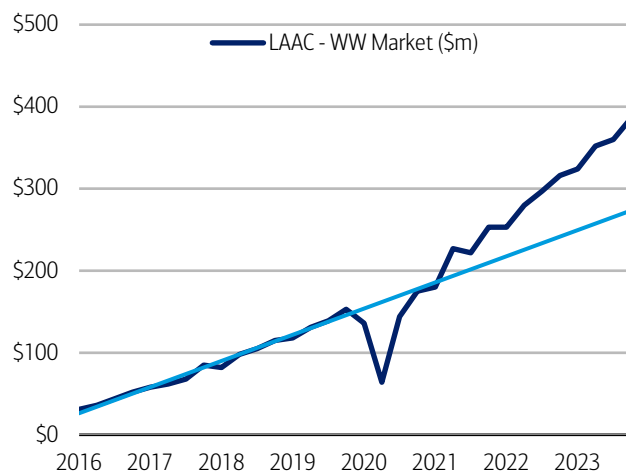
	2016A	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
Abbott Laboratories (Amulet)	11	23	32	40	35	53	128	34	36	38	41	149
<b>Total WW Revenue</b>	<b>163</b>	<b>273</b>	<b>400</b>	<b>541</b>	<b>519</b>	<b>882</b>	<b>1,146</b>	<b>324</b>	<b>352</b>	<b>360</b>	<b>386</b>	<b>1,422</b>
y/y CC growth												
Boston Scientific (Watchman)	0%	64%	47%	38%	(3%)	10%	24%	29%	27%	23%	23%	25%
Abbott Laboratories (Amulet)	0%	108%	38%	28%	(13%)	49%	148%	30%	22%	7%	12%	17%
<b>Total WW Market</b>	<b>0%</b>	<b>67%</b>	<b>46%</b>	<b>37%</b>	<b>(4%)</b>	<b>69%</b>	<b>31%</b>	<b>29%</b>	<b>26%</b>	<b>21%</b>	<b>22%</b>	<b>24%</b>
<b>WW Market Share</b>												
Boston Scientific (Watchman)	93%	92%	92%	93%	93%	94%	89%	90%	90%	89%	89%	90%
Abbott Laboratories (Amulet)	7%	8%	8%	7%	7%	6%	11%	10%	10%	11%	11%	10%

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 16: WW LAAC Market vs Pre-COVID Trend**

WW LAAC market is above pre-COVID trend

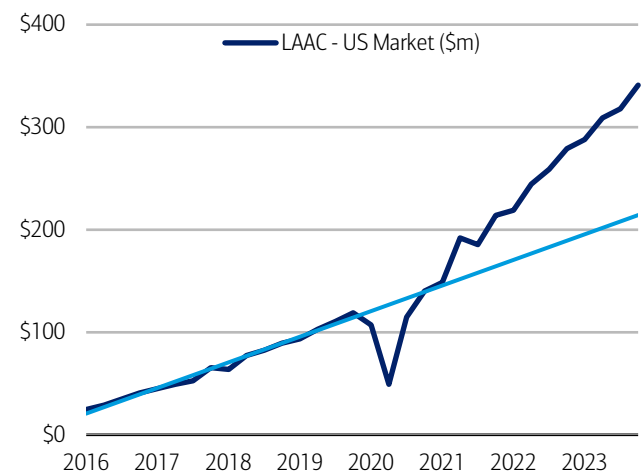


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 17: US LAAC Market vs Pre-COVID trend**

US LAAC market is above pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Left Ventricular Assist Device (LVAD) Market

In 4Q23, the US LVAD market grew 18% y/y and the WW LVAD market grew 22% y/y.

**Exhibit 18: LVAD Market Model**

In 4Q23, US LVAD market grew 18% y/y and WW LVAD market grew 22% y/y.

	2019A	2020A	2021A	2022A	1Q23	2Q23	3Q23	4Q23	2023A
<b>US LVAD Market</b>									
Abbott Laboratories	421	373	408	430	118	120	110	118	466
Medtronic	111	68	20	0	0	0	0	0	0
<b>Total US Revenue</b>	<b>532</b>	<b>441</b>	<b>428</b>	<b>430</b>	<b>118</b>	<b>120</b>	<b>110</b>	<b>118</b>	<b>466</b>
<b>US Revenue Growth y/y</b>	<b>-4.9%</b>	<b>-17.1%</b>	<b>-2.9%</b>	<b>0.4%</b>	<b>8.3%</b>	<b>7.1%</b>	<b>0.9%</b>	<b>18.0%</b>	<b>8.4%</b>
<b>OUS LVAD Market</b>									
Abbott Laboratories	170	162	202	201	58	63	61	67	249
Medtronic	85	71	18	0	0	0	0	0	0
<b>OUS LVAD Market</b>	<b>255</b>	<b>233</b>	<b>220</b>	<b>201</b>	<b>58</b>	<b>63</b>	<b>61</b>	<b>67</b>	<b>249</b>
<b>OUS Market Growth y/y</b>	<b>8.7%</b>	<b>-8.6%</b>	<b>-5.5%</b>	<b>-8.7%</b>	<b>20.8%</b>	<b>12.5%</b>	<b>35.6%</b>	<b>28.8%</b>	<b>23.9%</b>
<b>WW LVAD Market</b>									
Abbott Laboratories	591	535	610	631	175	183	171	185	715
Medtronic	196	139	39	0	0	0	0	0	0
<b>WW LVAD Market</b>	<b>787</b>	<b>674</b>	<b>649</b>	<b>631</b>	<b>175</b>	<b>183</b>	<b>171</b>	<b>185</b>	<b>715</b>
<b>WW LVAD Market Growth y/y</b>	<b>-0.9%</b>	<b>-14.3%</b>	<b>-3.8%</b>	<b>-2.7%</b>	<b>11.5%</b>	<b>8.9%</b>	<b>11.0%</b>	<b>21.7%</b>	<b>13.3%</b>

Source: Company filings, BofA Global Research

**Exhibit 18: LVAD Market Model**

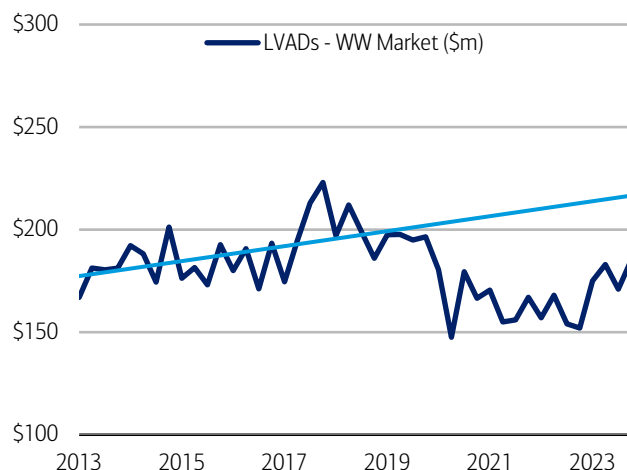
In 4Q23, US LVAD market grew 18% y/y and WW LVAD market grew 22% y/y.

	2019A	2020A	2021A	2022A	1Q23	2Q23	3Q23	4Q23	2023A
--	-------	-------	-------	-------	------	------	------	------	-------

BofA GLOBAL RESEARCH

**Exhibit 19: WW LVAD Market vs Pre-COVID Trend**

WW LVAD is below pre-COVID trend

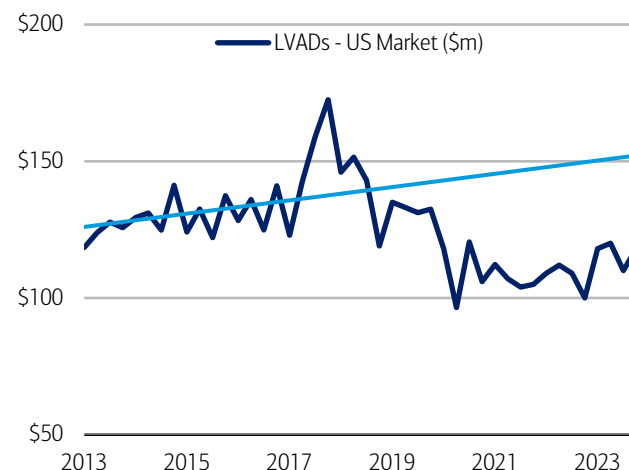


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 20: US LVAD Market vs Pre-COVID Trend**

US LVAD is below pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Transcatheter Aortic Valve Replacement (TAVR) Market

MDT's TAVR business grew high single digits WW, mid-single digits in the US and low double digits OUS. US growth was impacted by a difficult comp from the Evolut FX launch last year but grew sequentially. OUS growth was driven by Evolut FX adoption in EU & Japan. MDT is looking forward to the SMART trial results that will be presented at ACC on April 7th. Evolut FX+ was submitted to the FDA in the quarter. In Q4 EW saw WW TAVR growth of 12% with both US and OUS growing sequentially. We estimate the US TAVR market grew 11% y/y in Q4 and WW TAVR market grew 12% y/y in Q4.

**Exhibit 21: TAVR Market Model**

In 4Q23, US TAVR grew 11% y/y and WW TAVR grew 12%. In 3Q23, US TAVR grew 7% y/y and WW TAVR grew 10%.

	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US TAVR Market</b>											
Edwards (excluding royalty)	1,200	1,378	1,728	1,789	2,084	2,189	595	616	612	617	2,440
Medtronic	534	620	717	552	723	768	182	193	200	217	792
Boston Scientific	1	0	49	56	0	0	0	0	0	0	0
Abbott Laboratories	0	0	0	0	0	12	4	5	8	11	28
<b>Total US Revenue</b>	<b>1,735</b>	<b>1,998</b>	<b>2,494</b>	<b>2,397</b>	<b>2,806</b>	<b>2,969</b>	<b>781</b>	<b>814</b>	<b>820</b>	<b>845</b>	<b>3,260</b>
<b>US Market Growth y/y</b>	<b>29%</b>	<b>15%</b>	<b>25%</b>	<b>-4%</b>	<b>17%</b>	<b>6%</b>	<b>9%</b>	<b>11%</b>	<b>7%</b>	<b>11%</b>	<b>10%</b>
<b>US Market Share</b>											
Edwards (excluding royalty)	69.2%	69.0%	69.3%	74.6%	74.3%	73.7%	76.2%	75.7%	74.6%	73.0%	74.9%
Medtronic	30.8%	31.0%	28.8%	23.0%	25.7%	25.9%	23.3%	23.7%	24.4%	25.7%	24.3%
Boston Scientific	0.1%	0.0%	2.0%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Abbott Laboratories	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.5%	0.6%	1.0%	1.3%	0.9%
<b>OUS TAVR Market</b>											
Edwards (excluding royalty)	766	870	970	1,029	1,299	1,309	353	376	349	362	1,439
Medtronic	504	625	703	672	810	883	262	245	222	245	974
Boston Scientific	46	97	117	104	125	150	46	50	49	54	199
Abbott Laboratories	57	63	66	61	98	120	40	45	42	43	170
<b>Total OUS Revenue</b>	<b>1,372</b>	<b>1,654</b>	<b>1,856</b>	<b>1,866</b>	<b>2,332</b>	<b>2,462</b>	<b>701</b>	<b>716</b>	<b>662</b>	<b>704</b>	<b>2,782</b>
<b>OUS Market Growth y/y</b>	<b>23%</b>	<b>19%</b>	<b>15%</b>	<b>0%</b>	<b>25%</b>	<b>6%</b>	<b>8%</b>	<b>13%</b>	<b>16%</b>	<b>15%</b>	<b>13%</b>



**Exhibit 21: TAVR Market Model**

In 4Q23, US TAVR grew 11% y/y and WW TAVR grew 12%. In 3Q23, US TAVR grew 7% y/y and WW TAVR grew 10%.

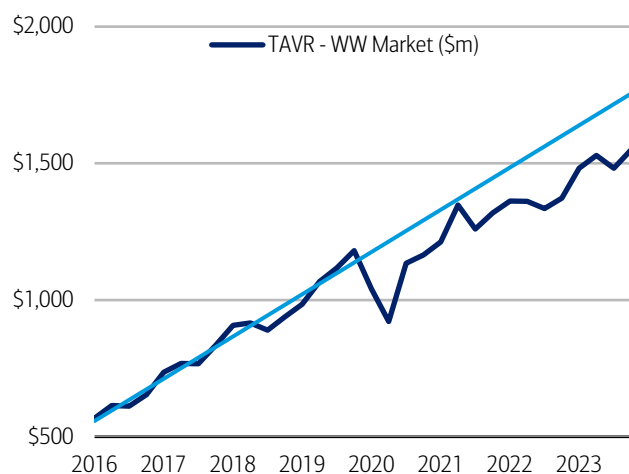
	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>OUS Market Share</b>											
Edwards (excluding royalty)	55.8%	52.6%	52.3%	55.1%	55.7%	53.2%	50.4%	52.5%	52.7%	51.4%	51.7%
Medtronic	36.7%	37.8%	37.9%	36.0%	34.7%	35.9%	37.4%	34.2%	33.5%	34.8%	35.0%
Boston Scientific	3.3%	5.8%	6.3%	5.6%	5.4%	6.1%	6.6%	7.0%	7.4%	7.7%	7.2%
Abbott Laboratories	4.2%	3.8%	3.6%	3.3%	4.2%	4.9%	5.7%	6.3%	6.3%	6.1%	6.1%
<b>WW TAVR Market</b>											
Edwards (excluding royalty)	1,965	2,248	2,698	2,817	3,383	3,498	948	992	961	979	3,880
Medtronic	1,038	1,245	1,420	1,224	1,533	1,651	444	438	422	462	1,766
Boston Scientific	47	97	166	160	125	150	46	50	49	54	199
Abbott Laboratories	57	63	66	61	98	131	44	50	50	54	198
<b>Total WW Revenue</b>	<b>3,106</b>	<b>3,653</b>	<b>4,350</b>	<b>4,262</b>	<b>5,138</b>	<b>5,431</b>	<b>1,482</b>	<b>1,529</b>	<b>1,482</b>	<b>1,549</b>	<b>6,042</b>
<b>WW Market Growth y/y</b>	<b>27%</b>	<b>17%</b>	<b>20%</b>	<b>-2%</b>	<b>20%</b>	<b>9%</b>	<b>11%</b>	<b>13%</b>	<b>10%</b>	<b>12%</b>	<b>12%</b>
<b>WW Market Share</b>											
Edwards (excluding royalty)	63.3%	61.5%	62.0%	66.1%	65.8%	64.4%	64.0%	64.8%	64.8%	63.2%	64.2%
Medtronic	33.4%	34.1%	32.6%	28.7%	29.8%	30.4%	30.0%	28.6%	28.5%	29.8%	29.2%
Boston Scientific	1.5%	2.6%	3.8%	3.8%	2.4%	2.8%	3.1%	3.3%	3.3%	3.5%	3.3%
Abbott Laboratories	1.8%	1.7%	1.5%	1.4%	1.9%	2.4%	3.0%	3.3%	3.4%	3.5%	3.3%

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 22: WW TAVR Market vs Pre-COVID Trend**

WW TAVR market is below pre-COVID trend

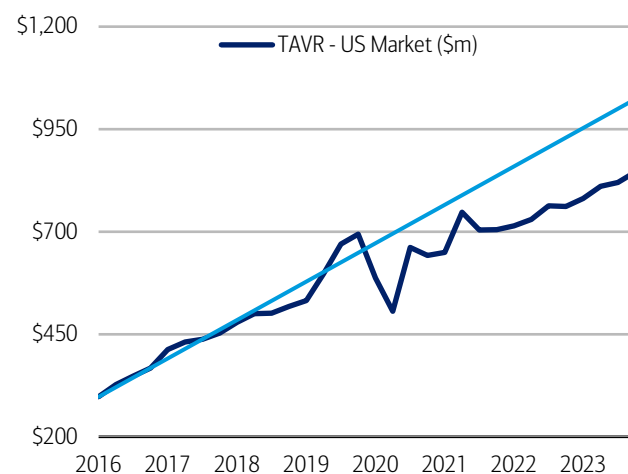


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 23: US TAVR Market vs Pre-COVID Trend**

US TAVR market is below pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Transcatheter Mitral & Tricuspid Therapies (TMTT) Market

In Q4, MitraClip grew 3% in the US, 17% OUS and 9% globally. For the full year, MitraClip sales grew high teens internationally and 10% on a global basis. EW's TMTT sales were \$56 million, driven by the accelerating adoption of Pascal, activation of more centers across the U.S. and Europe, and overall growth of transcatheter edge-to-edge repair therapy. Full year global sales of \$198 million increased more than 65% on a constant currency basis y/y. EW notes it is reaching an inflection point in TMTT with the only portfolio of approved catheter-based mitral and tricuspid technologies. A week before the Q4 EPS call Evoque was approved by the FDA, which was a main focus of the Q4 call. Evoque approval moved TMTT guidance to the high end of the previous \$280-\$320m guidance range. Evoque pricing will be at a premium to both Pascal and Sapien 3 with Resilia. EW plans to have a controlled rollout of Evoque and will start with the centers in the clinical trial (50 sites activated now in US) and gradually expand the

footprint. EW will apply for NTAP, which would become effective on October 1st if granted. EW believes the tricuspid market can continue to grow at a very strong rate and probably exceed what we've seen with mitral growth as referrals and awareness of the disease continues, especially with the two modalities (replacement with Evoque and repair with ABT's TriClip) entering the market at a similar time. EW thinks Evoque will be able to help a vast majority of patients with TR but there will still be many patients where replacement doesn't make sense for anatomical/other reasons and a closing technology or other modality may make sense. Since the trial enrolled very quickly EW knows there are patients currently looking for treatment options and over time will continue to leverage a lot of the TAVR patient activation efforts to continue to grow. We also update our model for Q4 EPS.

#### Exhibit 24: TMTT market model

W In 4Q23, US TMTT grew 10% y/y and WW TMTT grew 20%. In 3Q23, US TMTT grew 14% y/y and WW TMTT grew 22%.

	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US Mitral &amp; Tricuspid Market</b>											
Edwards	0	0	0	0	0	5	9	9	10	10	37
Abbott (MitraClip)	198	247	365	330	423	425	107	111	112	111	441
Abbott (Tendyne)	0	0	0	0	0	0	0	0	0	0	0
Abbott (TriClip)	0	0	1	8	2	0	0	0	0	2	2
<b>Total US Revenue</b>	<b>198</b>	<b>247</b>	<b>366</b>	<b>338</b>	<b>425</b>	<b>430</b>	<b>116</b>	<b>120</b>	<b>122</b>	<b>123</b>	<b>480</b>
<b>y/y reported growth</b>	<b>26.9%</b>	<b>24.8%</b>	<b>48.1%</b>	<b>-7.5%</b>	<b>25.6%</b>	<b>1.2%</b>	<b>14.4%</b>	<b>9.1%</b>	<b>13.6%</b>	<b>9.8%</b>	<b>11.6%</b>
<b>US Market Share</b>											
Edwards	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	7%	8%	8%	8%	7.7%
Abbott (MitraClip)	100.0%	100.0%	99.7%	97.6%	99.5%	98.8%	93%	93%	92%	90%	91.9%
Abbott (Tendyne)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	0%	0%	0%	0.0%
Abbott (TriClip)	0.0%	0.0%	0.3%	2.4%	0.5%	0.0%	0%	0%	0%	2%	0.4%
<b>OUS Mitral &amp; Tricuspid Market</b>											
Edwards	3	3	28	42	86	111	33	39	43	46	161
Abbott (MitraClip)	233	295	323	297	337	340	93	107	97	103	400
Abbott (Tendyne)	0	0	0	9	14	10	3	3	2	2	10
Abbott (TriClip)	0	0	0	25	71	70	23	26	26	23	98
<b>Total OUS Revenue</b>	<b>236</b>	<b>298</b>	<b>351</b>	<b>373</b>	<b>508</b>	<b>531</b>	<b>152</b>	<b>175</b>	<b>168</b>	<b>174</b>	<b>669</b>
<b>OUS cc growth y/y</b>	<b>20.3%</b>	<b>23.3%</b>	<b>24.4%</b>	<b>5.6%</b>	<b>30.7%</b>	<b>12.3%</b>	<b>20.2%</b>	<b>26.9%</b>	<b>28.5%</b>	<b>28.5%</b>	<b>26.1%</b>
<b>OUS Market Share</b>											
Edwards	1.4%	1.0%	8.0%	11.2%	16.9%	20.9%	22%	22%	26%	26%	24.0%
Abbott (MitraClip)	98.6%	99.0%	92.0%	79.7%	66.4%	64.0%	61%	61%	58%	59%	59.8%
Abbott (Tendyne)	0.0%	0.0%	0.0%	2.4%	2.8%	1.9%	2%	2%	1%	1%	1.5%
Abbott (TriClip)	0.0%	0.0%	0.0%	6.7%	14.0%	13.2%	15%	15%	15%	13%	14.7%
<b>WW Mitral &amp; Tricuspid Market</b>											
Edwards	3	3	28	42	86	116	42	48	52	56	198
Abbott (MitraClip)	431	543	688	628	760	765	200	218	209	214	841
Abbott (Tendyne)	0	0	0	9	14	10	3	3	2	2	10
Abbott (TriClip)	0	0	1	33	73	70	23	26	26	25	100
<b>Total WW Revenue</b>	<b>434</b>	<b>546</b>	<b>717</b>	<b>712</b>	<b>933</b>	<b>961</b>	<b>268</b>	<b>295</b>	<b>289</b>	<b>297</b>	<b>1,149</b>
<b>WW cc growth y/y</b>	<b>23.2%</b>	<b>24.0%</b>	<b>35.4%</b>	<b>-1.1%</b>	<b>28.3%</b>	<b>7.0%</b>	<b>17.6%</b>	<b>19.0%</b>	<b>21.8%</b>	<b>20.1%</b>	<b>19.6%</b>

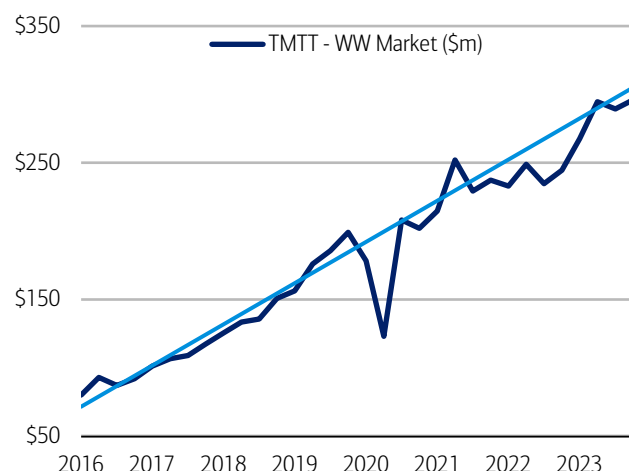
Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH



**Exhibit 25: WW Mitral & Tricuspid (TMTT) (EW & ABT MitraClip) market vs Pre-COVID Trend**

WW EW &amp; ABT MitraClip are just below pre-COVID trend

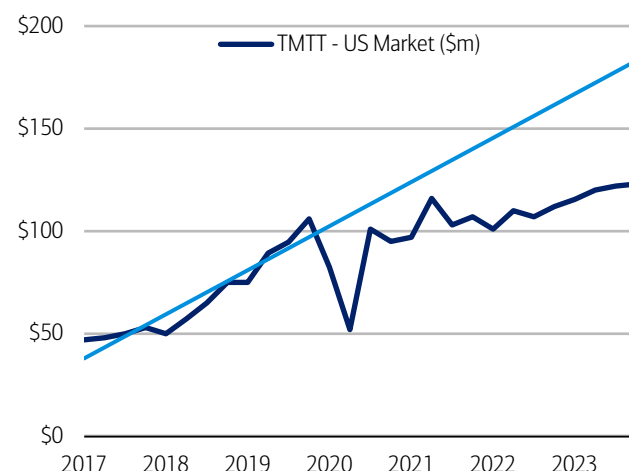


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 26: US Mitral & Tricuspid (TMTT) (EW & ABT MitraClip) market vs Pre-COVID Trend**

US EW &amp; ABT MitraClip are below pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Continuous Glucose Monitoring (CGM) Market

In Q4 ABT's Libre grew 32% in the US, 19% OUS, and 24% worldwide. DXCM grew 27% in the US, 23% OUS and 26% worldwide. DXCM notes Q4 was a record/in line with a record in terms of new patient starts. OUS growth was impacted negatively by Japan (distributor going direct) and the non-CGM business. ABT ended 2023 with 2.1m US users, 3.5m OUS users and 5.6m WW users. DXCM ended 2023 with 2.3m customers globally, up 600k from the year prior. MDT's US CGM grew double digits sequentially and MDT continues to see growth in CGM attachment rates. Mid-teens growth OUS was driven by 780G system expansion and CGM growth.

**Exhibit 27: CGM Market Model**

In 4Q23, US CGM grew 27% y/y and WW CGM grew 26%. In 3Q23, US CGM grew 25% y/y and WW CGM grew 28%.

	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US CGM Market (\$m)</b>											
Abbott	17	146	417	624	1,002	1,460	440	470	507	563	1,980
Dexcom	596	819	1,162	1,510	1,849	2,142	526	617	714	769	2,625
Medtronic	324	485	533	515	455	385	84	81	98	101	363
<b>Total US Revenue</b>	<b>937</b>	<b>1,450</b>	<b>2,112</b>	<b>2,648</b>	<b>3,306</b>	<b>3,987</b>	<b>1,050</b>	<b>1,167</b>	<b>1,318</b>	<b>1,433</b>	<b>4,968</b>
<b>y/y reported growth</b>		<b>55%</b>	<b>46%</b>	<b>25%</b>	<b>25%</b>	<b>21%</b>	<b>25%</b>	<b>21%</b>	<b>25%</b>	<b>27%</b>	<b>25%</b>
Market Share (Revenue)											
Abbott	1.8%	10.1%	19.7%	23.6%	30.3%	36.6%	41.9%	40.3%	38.5%	39.3%	39.9%
Dexcom	63.6%	56.5%	55.0%	57.0%	55.9%	53.7%	50.1%	52.8%	54.1%	53.7%	52.8%
Medtronic	34.5%	33.5%	25.3%	19.4%	13.8%	9.7%	8.0%	6.9%	7.4%	7.0%	7.3%
<b>OUS CGM Market (\$m)</b>											
Abbott	537	982	1,426	2,011	2,725	2,808	767	850	860	879	3,356
Dexcom	122	213	315	417	573	709	203	244	251	265	963
Medtronic	193	272	353	407	489	559	166	179	177	187	710
<b>Total OUS Revenue</b>	<b>852</b>	<b>1,467</b>	<b>2,093</b>	<b>2,835</b>	<b>3,787</b>	<b>4,077</b>	<b>1,136</b>	<b>1,273</b>	<b>1,288</b>	<b>1,332</b>	<b>5,029</b>
<b>y/y reported growth</b>		<b>72%</b>	<b>43%</b>	<b>35%</b>	<b>34%</b>	<b>8%</b>	<b>13%</b>	<b>25%</b>	<b>31%</b>	<b>25%</b>	<b>23%</b>
Market Share (Revenue)											
Abbott	-	66.9%	68.1%	70.9%	72.0%	68.9%	67.5%	66.8%	66.8%	66.0%	66.7%
Dexcom	-	14.5%	15.0%	14.7%	15.1%	17.4%	17.8%	19.1%	19.5%	19.9%	19.1%
Medtronic	-	18.5%	16.8%	14.4%	12.9%	13.7%	14.6%	14.1%	13.7%	14.1%	14.1%
<b>WW CGM Market (\$m)</b>											
Abbott	554	1,128	1,843	2,635	3,727	4,268	1,207	1,320	1,367	1,442	5,336

**Exhibit 27: CGM Market Model**

In 4Q23, US CGM grew 27% y/y and WW CGM grew 26%. In 3Q23, US CGM grew 25% y/y and WW CGM grew 28%.

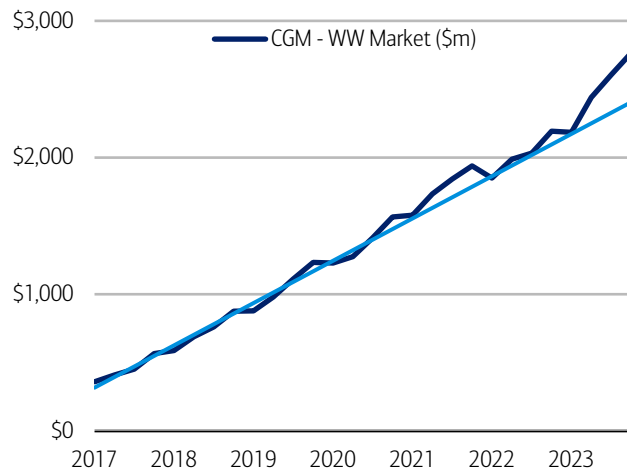
	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
Dexcom	719	1,032	1,476	1,927	2,422	2,851	729	860	965	1,035	3,588
Medtronic	517	757	886	922	945	945	250	260	275	288	1,073
<b>Total WW Revenue</b>	<b>1,789</b>	<b>2,916</b>	<b>4,205</b>	<b>5,484</b>	<b>7,094</b>	<b>8,064</b>	<b>2,185</b>	<b>2,441</b>	<b>2,607</b>	<b>2,765</b>	<b>9,997</b>
<b>y/y reported growth</b>		<b>63%</b>	<b>44%</b>	<b>30%</b>	<b>29%</b>	<b>14%</b>	<b>18%</b>	<b>23%</b>	<b>28%</b>	<b>26%</b>	<b>24%</b>
Market Share (Revenue)											
Abbott	-	39%	44%	48%	53%	52.9%	55.2%	54.1%	52.4%	52.2%	53.4%
Dexcom	-	35%	35%	35%	34%	35.4%	33.3%	35.3%	37.0%	37.4%	35.9%
Medtronic	-	26%	21%	17%	13%	11.7%	11.4%	10.7%	10.5%	10.4%	10.7%

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 28: WW CGM Market vs Pre-COVID Trend**

WW CGM market is above pre-COVID trend

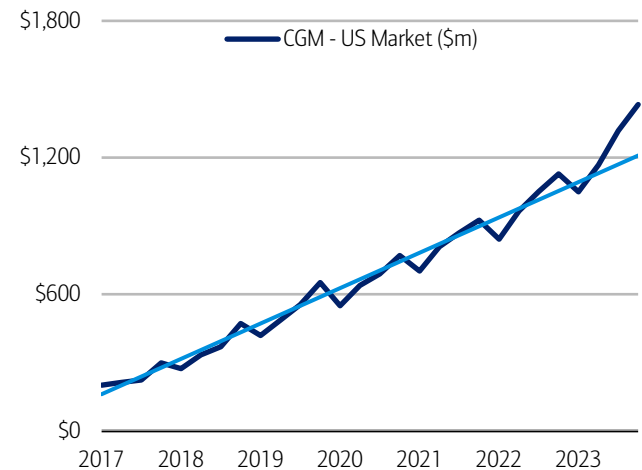


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 29: US CGM Market vs Pre-COVID Trend**

US CGM market is above pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Insulin Pumps Market

TNDM's Q4 non-GAAP revenue of \$209m beat Street estimates of \$202m by 4%. U.S. sales in the fourth quarter were \$163 million, and sales reached \$580m for the full year. Q4 was the highest shipment quarter of the year in the US at 21,000 pumps, including the highest ever quarter of renewal pumps. Standard seasonal trends were evident with 24% growth in pump shipments over the third quarter. OUS Q4 sales were \$46m on 6,000 pump shipments. These results reflect 2 onetime events: 1) a distributor in a larger market shifting their pump order into 2024 as they managed inventory levels in anticipation of t:slim's integration with the G7 sensor 2) an \$8 million sales reduction related to the implementation of a new rebate structure in France associated with the existing installed base.

PODD's Q4 had \$20-25m in revenue that shifted into Q423 from Q124. Given PODD had already given 2024 US growth of mid 20% this shift in revenue caused the 2024 growth guide to move lower to 16-21%. This caused a bit of confusion but, stepping aside, Q4 revenue was in line as most expected (reported \$395 adjusted for \$20-\$25m shift to Q4 and \$10-\$15m increase in inventory levels = adj revenue of ~\$360m vs Street of \$359m). PODD continues see strong new patient adds. PODD notes MDT has been better able to hold on their share of their installed base with 780G and is seeing that dynamic play out but thinks competition is more directed between TNDM and MDT but there are fewer customers converting from MDT.

In the US MDT saw high-40% pump growth led by strong new user adoption. New user growth nearly doubled y/y in the US with strong growth in both MDI users and competitive switchers. OUS saw consistent mid-teens growth driven by 780G expansion. MDT notes 780G remains the most widely used pump in EMEA.

### Exhibit 30: Insulin Pump Market Model

In 4Q23, US pumps grew 18% y/y and WW pumps grew 14%. In 3Q23, US pumps grew 13.5% y/y and WW pumps grew 12%.

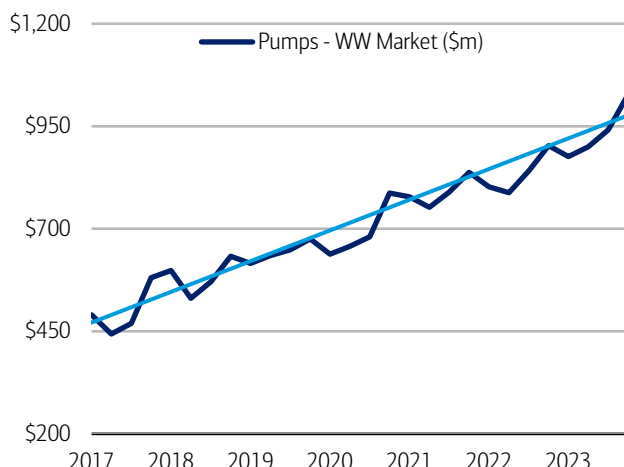
	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US Pumps Market</b>											
Tandem	102	174	302	416	525	592	133	145	138	163	580
Medtronic	835	891	726	637	599	477	115	107	119	123	465
Insulet	272	324	420	527	652	847	261	281	311	360	1,212
<b>Total US Revenue</b>	<b>1,209</b>	<b>1,388</b>	<b>1,448</b>	<b>1,580</b>	<b>1,775</b>	<b>1,916</b>	<b>510</b>	<b>533</b>	<b>568</b>	<b>646</b>	<b>2,257</b>
<b>y/y reported growth</b>		<b>14.8%</b>	<b>4.3%</b>	<b>9.1%</b>	<b>12.4%</b>	<b>7.9%</b>	<b>21.2%</b>	<b>19.4%</b>	<b>13.5%</b>	<b>17.9%</b>	<b>17.8%</b>
Market Share (Revenue)											
Tandem	8.4%	12.5%	20.9%	26.3%	29.6%	30.9%	26.1%	27.2%	24.4%	25.3%	25.7%
Medtronic	69.1%	64.2%	50.1%	40.3%	33.7%	24.9%	22.6%	20.1%	21.0%	19.1%	20.6%
Insulet	22.5%	23.3%	29.0%	33.4%	36.7%	44.2%	51.2%	52.7%	54.6%	55.6%	53.7%
<b>OUS Pumps Market</b>											
Tandem	0	10	60	83	178	212	38	53	55	46	193
Medtronic	655	762	813	792	845	843	230	211	216	229	885
Insulet	120	172	253	308	360	363	99	104	101	106	410
<b>Total OUS Revenue</b>	<b>775</b>	<b>944</b>	<b>1,126</b>	<b>1,183</b>	<b>1,382</b>	<b>1,418</b>	<b>366</b>	<b>368</b>	<b>373</b>	<b>381</b>	<b>1,488</b>
<b>y/y reported growth</b>		<b>21.8%</b>	<b>19.2%</b>	<b>5.1%</b>	<b>16.8%</b>	<b>2.6%</b>	<b>-4.1%</b>	<b>7.6%</b>	<b>9.7%</b>	<b>7.5%</b>	<b>4.9%</b>
Market Share (Revenue)											
Tandem	0.0%	1.0%	5.3%	7.0%	12.9%	15.0%	10.4%	14.5%	14.9%	12.0%	13.0%
Medtronic	84.5%	80.7%	72.2%	66.9%	61.1%	59.4%	62.7%	57.3%	58.0%	60.0%	59.5%
Insulet	15.5%	18.2%	22.5%	26.0%	26.0%	25.6%	26.9%	28.2%	27.2%	27.9%	27.6%
<b>WW Pumps Market</b>											
Tandem	102	184	362	499	703	805	171	198	194	209	773
Medtronic	1,490	1,653	1,538	1,429	1,443	1,319	345	318	336	352	1,350
Insulet	392	496	674	835	1,011	1,210	360	385	412	466	1,622
<b>Total WW Revenue</b>	<b>1,984</b>	<b>2,333</b>	<b>2,574</b>	<b>2,763</b>	<b>3,158</b>	<b>3,334</b>	<b>876</b>	<b>900</b>	<b>941</b>	<b>1,027</b>	<b>3,745</b>
<b>y/y reported growth</b>		<b>17.6%</b>	<b>10.4%</b>	<b>7.3%</b>	<b>14.3%</b>	<b>5.6%</b>	<b>9.2%</b>	<b>14.3%</b>	<b>11.9%</b>	<b>13.8%</b>	<b>12.3%</b>
Market Share (Revenue)											
Tandem	5.1%	7.9%	14.1%	18.1%	22.3%	24.1%	19.6%	22.0%	20.6%	20.4%	20.6%
Medtronic	75.1%	70.9%	59.8%	51.7%	45.7%	39.6%	39.4%	35.3%	35.6%	34.3%	36.1%
Insulet	19.7%	21.3%	26.2%	30.2%	32.0%	36.3%	41.0%	42.7%	43.8%	45.4%	43.3%

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 31: WW Pump market vs Pre-COVID trend**

WW pump market is in-line with pre-COVID trend

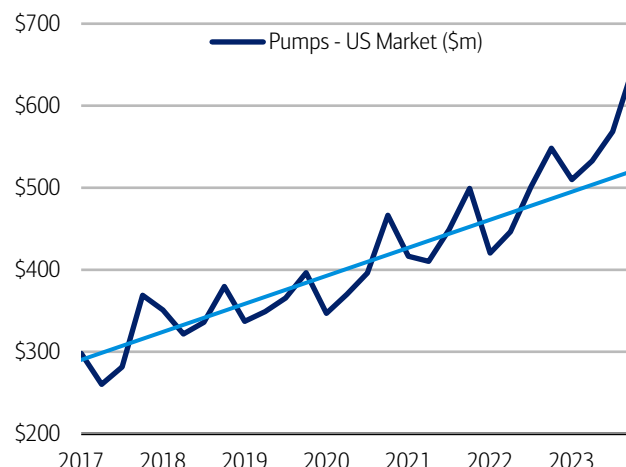


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 32: US Pump market vs Pre-COVID trend**

US pump market is above pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Spine Market

In 4Q23, the WW spine market grew 7% y/y and the US market grew 6% y/y, both an acceleration compared to 3Q albeit on slightly easier comps. On a stacked 2yr average basis WW accelerated 40bps and US decelerated 100bps in Q4. Seasonality appears back to historical levels as US spine was up 6% q/q. For FY23, the WW spine market grew 6% y/y and the US market grew 7% y/y. In 2023, ATEC (+120bps), GMED (+70bps) and MDT (+30bps) gained share. JNJ lost a point of share and disruptions at Orthofix and ZimVie cost the two companies collectively ~150bps of share in 2023. Disruption from the GMED and NuVasive integration has generally been in-line with expectations, but NuVasive standalone growth slowed in 4Q. We think integration risk will remain well into 2024 and we think competitors, such as MDT and ATEC, will continue to add competitive reps and capture share in 2024.

Enabling technology remains a key growth driver for the market primarily because it drives stickier spine market share. MDT's Mazor robot grew double-digits in its fiscal 3Q and SYK called out enabling technology as the main driver of its spine growth in 4Q. GMED's enabling technologies only grew 2% but placed record units during 4Q. GMED's lower revenue growth was because of country mix and an increase in volume-based sales during the quarter. GMED has always been flexible to the customer preference for financing versus outright purchase, but we believe this is the first time it impacted growth. GMED suggested that they will see more volume-based arrangements driven by the interest rate environment going forward. SYK's Mako spine application remains on track for 3Q 2024 approval and management is optimistic that its enabling technology platform will be immediately competitive.

**Exhibit 33: Spine Market Model**

In 4Q23, US Spine grew 6% y/y and WW Spine grew 7%. In 3Q23, US Spine grew 5% y/y and WW Spine grew 4%.

	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US Spine Market</b>										
Medtronic	1,836	1,910	1,689	1,897	1,972	538	466	546	566	2,116
Johnson & Johnson	772	737	643	658	622	156	156	149	152	613
Globus Medical	550	600	627	742	787	211	213	210	231	865
NuVasive	771	809	717	761	796	207	210	201	200	818
Stryker	787	817	764	831	831	213	220	217	234	884
ZimVie	412	422	370	408	357	83	85	78	82	327
Orthofix	260	280	272	315	351	92	95	92	101	379
Alphatec	92	108	141	212	303	94	102	104	123	422
<b>Total US Revenue</b>	<b>5,480</b>	<b>5,683</b>	<b>5,223</b>	<b>5,823</b>	<b>6,019</b>	<b>1,593</b>	<b>1,546</b>	<b>1,598</b>	<b>1,687</b>	<b>6,425</b>



**Exhibit 33: Spine Market Model**

In 4Q23, US Spine grew 6% y/y and WW Spine grew 7%. In 3Q23, US Spine grew 5% y/y and WW Spine grew 4%.

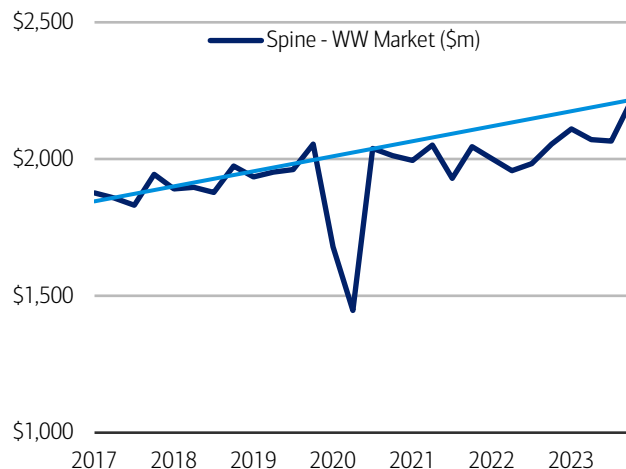
	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US Market Growth y/y</b>	<b>1%</b>	<b>3%</b>	<b>-9%</b>	<b>11%</b>	<b>3%</b>	<b>10%</b>	<b>6%</b>	<b>5%</b>	<b>6%</b>	<b>7%</b>
<b>TTM US Market Share</b>										
Medtronic	34%	34%	32%	33%	33%	34%	30%	34%	34%	33%
Johnson & Johnson	14%	13%	12%	11%	10%	10%	10%	9%	9%	10%
Globus Medical	10%	11%	12%	13%	13%	13%	14%	13%	14%	13%
NuVasive	14%	14%	14%	13%	13%	13%	14%	13%	12%	13%
Stryker	14%	14%	15%	14%	14%	13%	14%	14%	14%	14%
ZimVie	8%	7%	7%	7%	6%	5%	5%	5%	5%	5%
Orthofix	5%	5%	5%	5%	6%	6%	6%	6%	6%	6%
Alphatec	2%	2%	3%	4%	5%	6%	7%	7%	7%	7%
<b>WW Spine Market</b>										
Medtronic	2,662	2,715	2,355	2,682	2,638	725	639	692	758	2,814
Johnson & Johnson	1,331	1,292	1,107	1,162	1,077	275	280	251	248	1,054
Globus Medical	666	736	742	870	913	247	254	249	272	1,021
NuVasive	987	1,045	950	1,030	1,081	279	289	279	283	1,130
Stryker	1,073	1,085	1,047	1,167	1,146	284	296	291	318	1,189
ZimVie	535	603	529	540	450	105	106	98	100	409
Orthofix	295	319	305	356	388	102	105	101	111	419
Alphatec	92	108	141	212	303	94	102	104	123	422
<b>Total WW Revenue</b>	<b>7,639</b>	<b>7,902</b>	<b>7,176</b>	<b>8,020</b>	<b>7,997</b>	<b>2,110</b>	<b>2,071</b>	<b>2,065</b>	<b>2,211</b>	<b>8,458</b>
<b>WW CC Market Growth y/y</b>	<b>1%</b>	<b>4%</b>	<b>-10%</b>	<b>11%</b>	<b>2%</b>	<b>7%</b>	<b>6%</b>	<b>4%</b>	<b>7%</b>	<b>6%</b>
<b>TTM WW Market Share</b>										
Medtronic	35%	34%	33%	33%	33%	34%	31%	34%	34%	33%
Johnson & Johnson	17%	16%	15%	14%	13%	13%	14%	12%	11%	12%
Globus Medical	9%	9%	10%	11%	11%	12%	12%	12%	12%	12%
NuVasive	13%	13%	13%	13%	14%	13%	14%	14%	13%	13%
Stryker	14%	14%	15%	15%	14%	13%	14%	14%	14%	14%
ZimVie	7%	8%	7%	7%	6%	5%	5%	5%	5%	5%
Orthofix	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%
Alphatec	1%	1%	2%	3%	4%	4%	5%	5%	6%	5%

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 34: WW Spine Market vs Pre-COVID Trend**

WW Spine market is in-line with pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 35: US Spine Market vs Pre-COVID Trend**

US Spine market is above pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Hips Market

In Q4, the WW hip market grew 5% y/y (vs 4% in Q3 and 6% in Q2). In Q4, the US hip market grew 7% y/y (vs 5% in Q3 and 5% in Q2). Looking at WW hip TTM market shares

in Q4 vs Q3, shares were relatively stable; SYK gained a little share and ZBH and JNJ lost a little share, while SNN share was flat. In 2023, SYK gained ~100bps of WW hip share.

#### WW Hips sequential growth in Q4'23 Vs pre-covid seasonality

ZBH WW Hips were 8.5% q/q in Q4 Vs on avg were 12.0% q/q in Q4 pre-covid.

JNJ WW Hips were 6.1% q/q in Q4 Vs on avg were 10.8% q/q in Q4 pre-covid.

SYK WW Hips were 14.4% q/q in Q4 Vs on avg were 10.7% q/q in Q4 pre-covid.

SNN WW Hips were 9.9% q/q in Q4 Vs on avg were 11.5% q/q in Q4 pre-covid.

#### US Hips sequential growth in Q4'23 Vs pre-covid seasonality

ZBH US Hips were 8.6% q/q in Q4 Vs on avg were 8.6% q/q in Q4 pre-covid.

JNJ US Hips were 11.3% q/q in Q4 Vs on avg were 10.5% q/q in Q4 pre-covid.

SYK US Hips were 16.8% q/q in Q4 Vs on avg were 12.6% q/q in Q4 pre-covid.

SNN US Hips were -8.7% q/q in Q4 Vs on avg were -4.6% q/q in Q4 pre-covid.

#### Exhibit 36: WW and US hip Q4/Q3 sequential growth trends relative to historical averages

In Q4'23, ZBH WW Hips were 8.5% q/q in Q4 Vs on avg were 12% q/q in Q4 pre-covid. JNJ WW Hips were 6.1% q/q in Q4 Vs on avg were 10.8% q/q in Q4 pre-covid. SYK WW Hips were 14.4% q/q in Q4 Vs on avg were 10.7% q/q in Q4 pre-covid. SNN WW Hips were 9.9% q/q in Q4 Vs on avg were 11.5% q/q in Q4 pre-covid.

WW Hips	3Q16A	4Q16A	3Q17A	4Q17A	3Q18A	4Q18A	3Q19A	4Q19A	3Q20A	4Q20A	3Q21A	4Q21A	3Q22A	4Q22A	3Q23A	4Q23A	2016-2019 avg.	Historical avg ex-2020
ZBH	440.6	482.0	432.8	499.0	444.8	498.0	459.2	511.0	484.1	504.1	453.8	480.7	468.0	488.7	465.3	504.8	12.0%	9.7%
q/q growth	(7.7%)	9.4%	(7.5%)	15.3%	(8.6%)	12.0%	(4.0%)	11.3%	46.8%	4.1%	(4.4%)	5.9%	(3.9%)	4.4%	(7.7%)	8.5%		
JNJ	320.0	350.0	328.0	364.0	330.0	365.0	336.0	377.0	345.0	372.0	356.0	378.0	352.0	385.0	375.0	398.0	10.8%	9.8%
q/q growth	(8.3%)	9.4%	(6.3%)	11.0%	(8.3%)	10.6%	(7.7%)	12.2%	52.7%	7.8%	(9.2%)	6.2%	(9.3%)	9.4%	(5.5%)	6.1%		
SYK	310.0	334.0	313.0	348.0	316.0	353.0	332.0	372.0	334.0	340.0	328.0	352.0	347.0	375.0	362.0	414.0	10.7%	9.7%
q/q growth	(4.0%)	7.7%	(2.8%)	11.2%	(6.0%)	11.7%	(3.2%)	12.0%	54.6%	1.8%	(7.1%)	7.3%	(4.7%)	8.1%	(7.9%)	14.4%		
SNN	138.0	153.0	140.0	157.0	142.0	160.0	145.0	160.0	156.0	162.0	145.0	151.0	136.0	150.0	141.0	155.0	11.5%	10.1%
q/q growth	(9.8%)	10.9%	(6.7%)	12.1%	(9.0%)	12.7%	(7.1%)	10.3%	39.3%	3.8%	(9.9%)	4.1%	(8.7%)	10.3%	(7.2%)	9.9%		
US Hips	3Q16A	4Q16A	3Q17A	4Q17A	3Q18A	4Q18A	3Q19A	4Q19A	3Q20A	4Q20A	3Q21A	4Q21A	3Q22A	4Q22A	3Q23A	4Q23A	2016-2019 avg.	Historical avg ex-2020
ZBH	239.0	254.0	226.6	256.0	240.0	259.0	249.0	267.0	252.2	250.1	223.6	239.2	235.6	253.2	242.5	263.3	8.6%	8.1%
q/q growth	(3.8%)	6.3%	(6.9%)	13.0%	(4.0%)	7.9%	(1.7%)	7.2%	53.2%	(0.8%)	(7.3%)	7.0%	(4.8%)	7.5%	(4.6%)	8.6%		
JNJ	190.0	208.0	195.0	215.0	201.0	220.0	204.0	230.0	221.0	229.0	210.0	227.0	228.0	250.0	239.0	266.0	10.5%	9.9%
q/q growth	(3.6%)	9.5%	(6.3%)	10.3%	(4.7%)	9.5%	(5.6%)	12.7%	61.3%	3.6%	(10.3%)	8.1%	(5.0%)	9.6%	(4.4%)	11.3%		
SYK	193.6	211.6	194.0	219.0	198.0	228.0	211.0	239.0	223.0	213.0	199.0	216.0	225.0	239.0	231.0	269.8	12.6%	10.9%
q/q growth	(2.6%)	9.3%	(4.4%)	12.9%	(4.3%)	15.2%	(3.7%)	13.3%	59.3%	(4.5%)	(10.0%)	8.5%	(2.2%)	6.2%	(7.2%)	16.8%		
SNN	64.1	61.4	64.1	62.0	68.0	63.8	69.5	66.3	76.3	69.2	72.5	66.6	75.1	70.3	77.8	71.0	(4.6%)	(5.5%)
q/q growth	(7.6%)	(4.3%)	(6.7%)	(3.4%)	(4.9%)	(6.1%)	(1.5%)	(4.6%)	52.1%	(9.3%)	(10.4%)	(8.1%)	(4.3%)	(6.4%)	(5.0%)	(8.7%)		

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

#### Exhibit 37: Ortho Market Model - Hips

In 4Q23, US Hips grew 7% y/y and WW Hips grew 5%. In 3Q23, US Hips grew 5% y/y and WW Hips grew 4%.

	2018A	2019A	2020A	2021A	1Q22A	2Q22A	3Q22A	4Q22A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US Hips market</b>														
Zimmer Biomet	996	1,016	881	922	225	248	236	253	961	252	254	243	263	1,012
Johnson & Johnson	841	863	793	881	225	240	228	250	943	241	250	239	266	996
Stryker	838	882	777	822	202	230	225	239	896	236	249	231	270	986
Smith & Nephew	270	276	262	294	75	78	75	70	299	81	82	78	71	312
<b>Total US Revenue</b>	<b>2,946</b>	<b>3,038</b>	<b>2,713</b>	<b>2,918</b>	<b>727</b>	<b>796</b>	<b>764</b>	<b>812</b>	<b>3,099</b>	<b>811</b>	<b>835</b>	<b>790</b>	<b>870</b>	<b>3,306</b>
<b>US Market Growth y/y</b>	<b>2%</b>	<b>3%</b>	<b>-9%</b>	<b>8%</b>	<b>5%</b>	<b>3%</b>	<b>8%</b>	<b>9%</b>	<b>6%</b>	<b>11%</b>	<b>5%</b>	<b>5%</b>	<b>7%</b>	<b>7%</b>
<b>TTM US Market Share</b>														
Zimmer Biomet	34%	33%	32%	32%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%
Johnson & Johnson	29%	28%	29%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Stryker	28%	29%	29%	28%	28%	28%	29%	29%	29%	29%	29%	29%	30%	30%
Smith & Nephew	9%	9%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	9%	9%
<b>OUS Hips market</b>														

**Exhibit 37: Ortho Market Model - Hips**

In 4Q23, US Hips grew 7% y/y and WW Hips grew 5%. In 3Q23, US Hips grew 5% y/y and WW Hips grew 4%.

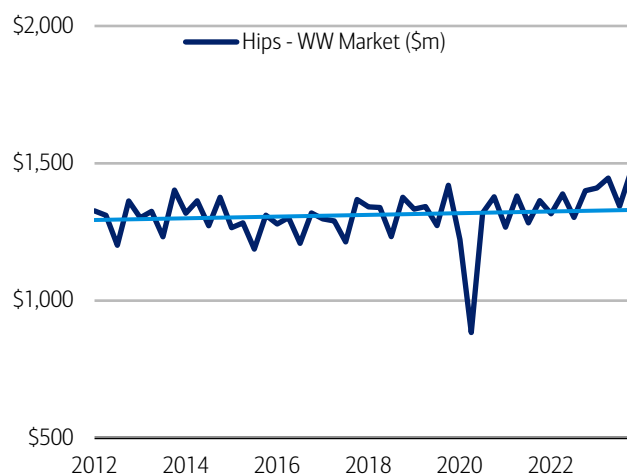
	2018A	2019A	2020A	2021A	1Q22A	2Q22A	3Q22A	4Q22A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
Zimmer Biomet	925	916	869	935	226	240	232	236	934	241	250	223	242	955
Johnson & Johnson	577	575	487	602	164	148	124	135	571	149	147	136	132	564
Stryker	498	500	429	520	125	134	122	136	517	139	144	131	144	558
Smith & Nephew	343	337	305	317	74	71	61	80	285	71	70	63	84	288
<b>Total OUS Revenue</b>	<b>2,342</b>	<b>2,328</b>	<b>2,091</b>	<b>2,374</b>	<b>589</b>	<b>592</b>	<b>539</b>	<b>586</b>	<b>2,307</b>	<b>599</b>	<b>611</b>	<b>553</b>	<b>602</b>	<b>2,365</b>
<b>OUS CC Market Growth y/y</b>	<b>1%</b>	<b>3%</b>	<b>-14%</b>	<b>11%</b>	<b>7%</b>	<b>9%</b>	<b>6%</b>	<b>9%</b>	<b>8%</b>	<b>8%</b>	<b>6%</b>	<b>3%</b>	<b>2%</b>	<b>5%</b>
<b>TTM OUS Market Share</b>														
Zimmer Biomet	39%	39%	42%	39%	39%	40%	40%	40%	40%	41%	41%	40%	40%	40%
Johnson & Johnson	25%	25%	23%	25%	26%	26%	25%	25%	25%	24%	24%	24%	24%	24%
Stryker	21%	21%	21%	22%	22%	22%	22%	22%	22%	23%	23%	23%	24%	24%
Smith & Nephew	15%	14%	15%	13%	13%	13%	12%	12%	12%	12%	12%	12%	12%	12%
<b>WW Hips market</b>														
Zimmer Biomet	1,919	1,932	1,751	1,856	451	487	468	489	1,895	493	504	465	505	1,967
Johnson & Johnson	1,418	1,438	1,280	1,483	389	388	352	385	1,514	390	397	375	398	1,560
Stryker	1,336	1,383	1,206	1,342	327	364	347	375	1,413	375	393	362	414	1,544
Smith & Nephew	613	613	567	611	149	149	136	150	584	152	152	141	155	600
<b>Total WW Revenue</b>	<b>5,289</b>	<b>5,366</b>	<b>4,804</b>	<b>5,292</b>	<b>1,316</b>	<b>1,388</b>	<b>1,303</b>	<b>1,399</b>	<b>5,406</b>	<b>1,410</b>	<b>1,446</b>	<b>1,343</b>	<b>1,472</b>	<b>5,671</b>
<b>WW CC Market Growth y/y</b>	<b>2%</b>	<b>3%</b>	<b>-9%</b>	<b>9%</b>	<b>6%</b>	<b>5%</b>	<b>7%</b>	<b>9%</b>	<b>7%</b>	<b>10%</b>	<b>6%</b>	<b>4%</b>	<b>5%</b>	<b>6%</b>
<b>TTM WW Market Share</b>														
Zimmer Biomet	36%	36%	36%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
Johnson & Johnson	27%	27%	27%	28%	28%	28%	28%	28%	28%	28%	27%	28%	28%	28%
Stryker	25%	26%	25%	25%	25%	26%	26%	26%	26%	27%	27%	27%	27%	27%
Smith & Nephew	12%	11%	12%	12%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 38: WW Hips Market vs Pre-COVID Trend**

WW hips market is roughly in-line with pre-COVID trend

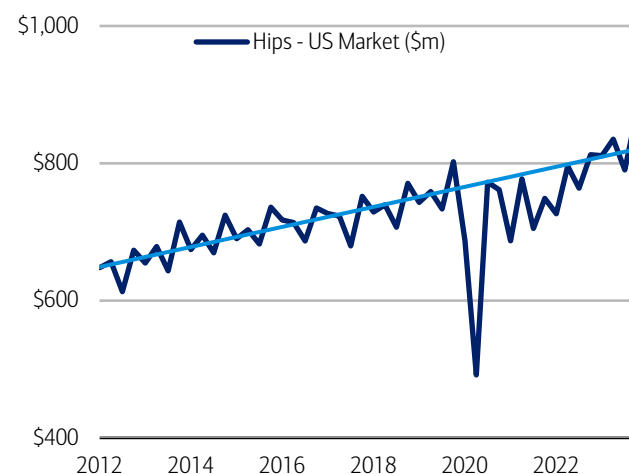


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 39: US Hips Market vs Pre-COVID Trend**

US hips market is roughly in-line with pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Knees Market

In Q4, the WW knee market grew 8% y/y (vs 8% in Q3 and 10% in Q2). In Q4, the US knee market grew 6% y/y (vs 5% in Q3 and 8% in Q2). Looking at WW knee TTM market shares in Q4 vs Q3, SYK gained a little share and ZBH and SNN lost a little share, while JNJ share was flat. In 2023, SYK gained ~100bps of WW knee share.

### WW Knees sequential growth in Q4'23 Vs pre-covid seasonality

ZBH WW Knees were 13.0% q/q in Q4 Vs on avg were 16.1% q/q in Q4 pre-covid.

JNJ WW Knees were 14.5% q/q in Q4 Vs on avg were 14.2% q/q in Q4 pre-covid.



SYK WW Knees were 22.3% q/q in Q4 Vs on avg were 18.2% q/q in Q4 pre-covid.

SNN WW Knees were 8.5% q/q in Q4 Vs on avg were 16.2% q/q in Q4 pre-covid.

#### US Knees sequential growth in Q4'23 Vs pre-covid seasonality

ZBH US Knees were 14.1% q/q in Q4 Vs on avg were 13.5% q/q in Q4 pre-covid.

JNJ US Knees were 16.9% q/q in Q4 Vs on avg were 12.0% q/q in Q4 pre-covid.

SYK US Knees were 22% q/q in Q4 Vs on avg were 19.7% q/q in Q4 pre-covid.

SNN US Knees were 14.7% q/q in Q4 Vs on avg were 20.9% q/q in Q4 pre-covid.

#### Exhibit 40: WW and US knee Q4/Q3 sequential growth trends relative to historical averages

In Q4'23, ZBH WW Knees were 13% q/q in Q4 Vs on avg were 16.1% q/q in Q4 pre-covid. JNJ WW Knees were 14.5% q/q in Q4 Vs on avg were 14.2% q/q in Q4 pre-covid. SYK WW Knees were 22.3% q/q in Q4 Vs on avg were 18.2% q/q in Q4 pre-covid. SNN WW Knees were 8.5% q/q in Q4 Vs on avg were 16.2% q/q in Q4 pre-covid.

WW Knees	3Q16A	4Q16A	3Q17A	4Q17A	3Q18A	4Q18A	3Q19A	4Q19A	3Q20A	4Q20A	3Q21A	4Q21A	3Q22A	4Q22A	3Q23A	4Q23A	2016-2019 avg.	Historical avg ex-2020
ZBH	631.5	721.0	622.9	731.0	627.9	729.0	651.9	761.0	648.7	726.1	647.9	720.1	657.0	753.6	706.3	798.3	16.1%	15.0%
q/q growth	(9.4%)	14.2%	(8.4%)	17.4%	(10.7%)	16.1%	(7.3%)	16.7%	73.4%	11.9%	(2.7%)	11.1%	(6.8%)	14.7%	(8.4%)	13.0%		
JNJ	355.0	395.0	343.0	397.0	341.0	392.0	344.0	395.0	308.0	345.0	316.0	342.0	317.0	354.0	338.0	387.0	14.2%	12.8%
q/q growth	(7.8%)	11.3%	(10.9%)	15.7%	(10.7%)	15.0%	(7.5%)	14.8%	77.0%	12.0%	(9.7%)	8.2%	(9.2%)	11.7%	(6.9%)	14.5%		
SYK	354.0	405.0	369.0	446.0	395.0	465.0	426.0	510.0	435.0	459.0	439.0	523.0	481.0	552.0	515.0	630.0	18.2%	17.8%
q/q growth	(4.3%)	14.4%	(5.1%)	20.9%	(6.4%)	17.7%	(3.2%)	19.7%	80.5%	5.5%	(7.4%)	19.1%	(3.8%)	14.8%	(8.4%)	22.3%		
SNN	213.0	247.0	228.0	266.0	232.0	269.0	240.0	279.0	219.0	237.0	207.0	232.0	210.0	234.0	223.0	242.0	16.2%	14.7%
q/q growth	(10.5%)	16.0%	(7.3%)	16.7%	(10.1%)	15.9%	(8.4%)	16.3%	59.9%	8.2%	(8.4%)	12.1%	(5.8%)	11.4%	(6.3%)	8.5%		
US Knees	3Q16A	4Q16A	3Q17A	4Q17A	3Q18A	4Q18A	3Q19A	4Q19A	3Q20A	4Q20A	3Q21A	4Q21A	3Q22A	4Q22A	3Q23A	4Q23A	2016-2019 avg.	Historical avg ex-2020
ZBH	397.5	444.0	381.5	443.0	384.6	433.0	399.2	454.0	383.4	425.8	363.1	403.7	389.7	447.4	413.3	471.5	13.5%	13.4%
q/q growth	(4.7%)	11.7%	(5.9%)	16.1%	(5.8%)	12.6%	(3.7%)	13.7%	77.9%	11.1%	(4.7%)	11.2%	(2.2%)	14.8%	(5.6%)	14.1%		
JNJ	223.0	247.0	220.0	246.0	215.0	239.0	209.0	239.0	205.0	216.0	184.0	208.0	203.0	231.0	207.0	242.0	12.0%	12.5%
q/q growth	(2.6%)	10.8%	(6.8%)	11.8%	(6.1%)	11.2%	(4.1%)	14.4%	89.8%	5.4%	(12.4%)	13.0%	(6.0%)	13.8%	(6.3%)	16.9%		
SYK	258.9	299.5	270.0	331.0	291.0	348.0	318.0	385.0	332.0	337.0	321.0	387.0	365.0	416.0	385.0	469.7	19.7%	18.9%
q/q growth	(1.8%)	15.7%	(4.3%)	22.6%	(4.3%)	19.6%	(1.9%)	21.1%	85.5%	1.5%	(8.0%)	20.5%	(0.7%)	14.0%	(5.2%)	22.0%		
SNN	111.1	133.6	115.5	139.0	117.8	140.4	119.8	148.1	110.7	124.8	97.9	119.9	108.7	128.0	107.3	123.1	20.9%	20.6%
q/q growth	(12.7%)	20.3%	(13.5%)	20.3%	(12.7%)	19.2%	(10.7%)	23.6%	62.7%	12.8%	(18.1%)	22.5%	(10.7%)	17.7%	(14.3%)	14.7%		

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

#### Exhibit 41: Ortho Market Model - Knees

In 4Q23, US Knees grew 6% y/y and WW Knees grew 8%. In 3Q23, US Knees grew 5% y/y and WW Knees grew 8%.

	2018A	2019A	2020A	2021A	1Q22A	2Q22A	3Q22A	4Q22A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US Knees market</b>														
Zimmer Biomet	1,643	1,677	1,461	1,488	380	398	390	447	1,615	448	438	413	472	1,771
Johnson & Johnson	911	889	743	787	201	216	203	231	851	226	221	207	242	896
Stryker	1,244	1,347	1,170	1,351	345	367	365	416	1,493	416	406	385	470	1,677
Smith & Nephew	516	527	419	436	110	122	109	128	468	121	125	107	123	477
<b>Total US Revenue</b>	<b>4,314</b>	<b>4,440</b>	<b>3,715</b>	<b>4,061</b>	<b>1,035</b>	<b>1,104</b>	<b>1,066</b>	<b>1,222</b>	<b>4,428</b>	<b>1,211</b>	<b>1,190</b>	<b>1,113</b>	<b>1,306</b>	<b>4,820</b>
<b>US Market Growth y/y</b>	<b>1%</b>	<b>3%</b>	<b>-14%</b>	<b>10%</b>	<b>12%</b>	<b>4%</b>	<b>10%</b>	<b>10%</b>	<b>9%</b>	<b>16%</b>	<b>8%</b>	<b>5%</b>	<b>6%</b>	<b>9%</b>
<b>TTM US Market Share</b>														
Zimmer Biomet	38%	38%	39%	37%	37%	37%	36%	36%	36%	37%	37%	37%	37%	37%
Johnson & Johnson	21%	20%	20%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%
Stryker	29%	30%	31%	33%	34%	34%	34%	34%	34%	34%	34%	34%	35%	35%
Smith & Nephew	12%	12%	11%	11%	11%	11%	11%	11%	11%	10%	11%	10%	10%	10%
<b>OUS Knees market</b>														
Zimmer Biomet	1,131	1,134	996	1,160	283	307	267	306	1,163	314	334	293	327	1,268
Johnson & Johnson	591	591	427	538	138	133	115	122	508	142	142	131	144	559
Stryker	457	469	397	497	119	133	116	136	504	150	156	130	160	596
Smith & Nephew	502	515	404	441	121	101	101	106	430	116	113	116	119	463
<b>Total OUS Revenue</b>	<b>2,680</b>	<b>2,709</b>	<b>2,224</b>	<b>2,637</b>	<b>661</b>	<b>674</b>	<b>600</b>	<b>670</b>	<b>2,605</b>	<b>722</b>	<b>745</b>	<b>670</b>	<b>750</b>	<b>2,887</b>
<b>OUS CC Market Growth y/y</b>	<b>4%</b>	<b>6%</b>	<b>-21%</b>	<b>15%</b>	<b>9%</b>	<b>14%</b>	<b>5%</b>	<b>8%</b>	<b>8%</b>	<b>15%</b>	<b>13%</b>	<b>12%</b>	<b>11%</b>	<b>0%</b>
<b>TTM OUS Market Share</b>														
Zimmer Biomet	42%	42%	45%	44%	44%	44%	45%	45%	45%	45%	45%	44%	44%	44%

**Exhibit 41: Ortho Market Model - Knees**

In 4Q23, US Knees grew 6% y/y and WW Knees grew 8%. In 3Q23, US Knees grew 5% y/y and WW Knees grew 8%.

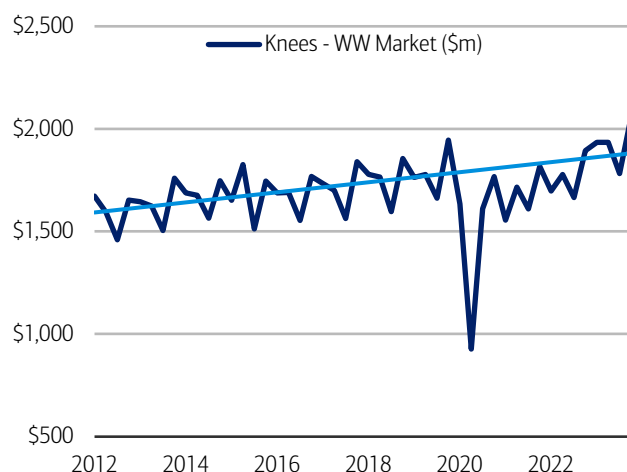
	2018A	2019A	2020A	2021A	1Q22A	2Q22A	3Q22A	4Q22A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
Johnson & Johnson	22%	22%	19%	20%	20%	20%	20%	20%	20%	19%	19%	19%	19%	19%
Stryker	17%	17%	18%	19%	19%	19%	19%	19%	19%	20%	20%	20%	21%	21%
Smith & Nephew	19%	19%	18%	17%	17%	17%	17%	16%	16%	16%	16%	16%	16%	16%
<b>WW Knees market</b>														
Zimmer Biomet	2,774	2,810	2,390	2,648	663	705	657	754	2,778	763	771	706	798	3,039
Johnson & Johnson	1,502	1,480	1,170	1,325	339	349	317	354	1,359	368	363	338	387	1,456
Stryker	1,701	1,815	1,567	1,848	464	500	481	552	1,997	566	562	515	630	2,273
Smith & Nephew	1,017	1,042	822	877	231	223	210	234	898	237	238	223	242	940
<b>Total WW Revenue</b>	<b>6,994</b>	<b>7,148</b>	<b>5,938</b>	<b>6,698</b>	<b>1,697</b>	<b>1,777</b>	<b>1,665</b>	<b>1,894</b>	<b>7,032</b>	<b>1,934</b>	<b>1,934</b>	<b>1,782</b>	<b>2,057</b>	<b>7,708</b>
<b>WW CC Market Growth y/y</b>	<b>2%</b>	<b>4%</b>	<b>-17%</b>	<b>12%</b>	<b>11%</b>	<b>8%</b>	<b>8%</b>	<b>9%</b>	<b>9%</b>	<b>16%</b>	<b>10%</b>	<b>8%</b>	<b>8%</b>	<b>10%</b>
<b>TTM WW Market Share</b>														
Zimmer Biomet	40%	39%	40%	40%	39%	40%	39%	40%	40%	40%	40%	40%	39%	39%
Johnson & Johnson	21%	21%	20%	20%	20%	20%	19%	19%	19%	19%	19%	19%	19%	19%
Stryker	24%	25%	26%	28%	28%	28%	28%	28%	28%	29%	29%	29%	29%	29%
Smith & Nephew	15%	15%	14%	13%	13%	13%	13%	13%	13%	12%	12%	12%	12%	12%

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 42: WW Knees Market vs Pre-COVID Trend**

WW knees market is roughly in-line with pre-COVID trend

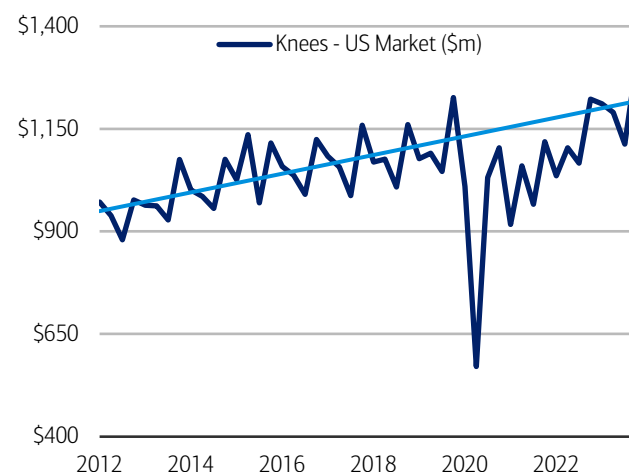


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 43: US Knees Market vs Pre-COVID Trend**

US knees market is roughly in-line with pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Spinal Cord Stimulation (SCS) Market

In Q4, US SCS grew 8% y/y and the WW SCS grew 7% y/y, a step down from the 10% and 9% in 3Q23 in the US and WW, respectively. MDT received CE Mark for its Inceptiv SCS system in late August 2023. In calendar Q4, MDT noted its US growth continued to be driven by Differential Target Multiplexed (DTM) waveform on its Intellis platform, and US new implant growth was up +MSDs. Separately, NVRO said that it believes the SCS market grew LSD-MSDs underlying in Q4, ex primarily-replacement activity by ABT.

**Exhibit 44: Neuromodulation Market Model - Spinal Cord Stimulation (SCS)**

In 4Q23, US SCS grew 8% y/y and WW SCS grew 7%. In 3Q23, US SCS grew 10% y/y and WW SCS grew 9%.

	2019A	2020A	2021A	1Q22A	2Q22A	3Q22A	4Q22A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US SCS market</b>													
Abbott	504	435	462	107	116	116	121	460	117	145	146	154	562
Boston Scientific	584	485	568	121	150	140	156	567	131	149	143	156	579
Medtronic	451	355	410	120	89	104	107	420	124	94	113	110	441
Nevro	326	312	326	73	89	86	100	348	82	93	90	102	367
<b>Total US Revenue</b>	<b>1,865</b>	<b>1,587</b>	<b>1,767</b>	<b>421</b>	<b>444</b>	<b>446</b>	<b>484</b>	<b>1,795</b>	<b>454</b>	<b>481</b>	<b>492</b>	<b>522</b>	<b>1,949</b>

**Exhibit 44: Neuromodulation Market Model - Spinal Cord Stimulation (SCS)**

In 4Q23, US SCS grew 8% y/y and WW SCS grew 7%. In 3Q23, US SCS grew 10% y/y and WW SCS grew 9%.

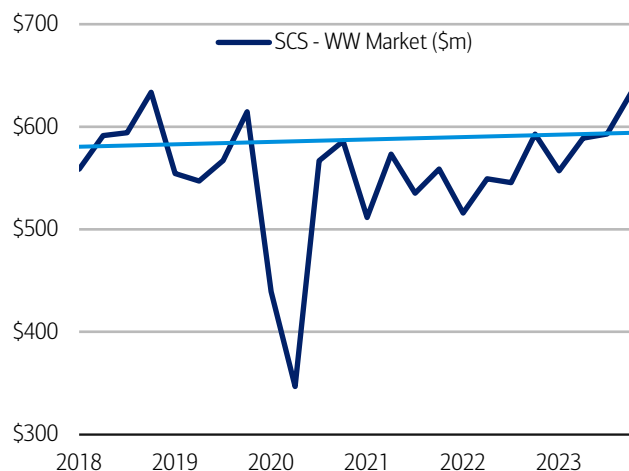
	2019A	2020A	2021A	1Q22A	2Q22A	3Q22A	4Q22A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>y/y reported growth</b>	<b>-4%</b>	<b>-15%</b>	<b>11%</b>	<b>1%</b>	<b>-3%</b>	<b>3%</b>	<b>6%</b>	<b>2%</b>	<b>8%</b>	<b>8%</b>	<b>10%</b>	<b>8%</b>	<b>9%</b>
<b>US Market Share</b>													
Abbott	27%	27%	26%	25%	26%	26%	25%	26%	26%	30%	30%	30%	29%
Boston Scientific	31%	31%	32%	29%	34%	31%	32%	32%	29%	31%	29%	30%	30%
Medtronic	24%	22%	23%	28%	20%	23%	22%	23%	27%	20%	23%	21%	23%
Nevro	17%	20%	18%	17%	20%	19%	21%	19%	18%	19%	18%	19%	19%
<b>OUS SCS market</b>													
Abbott	108	91	102	20	24	21	23	88	24	25	22	24	95
Boston Scientific	88	74	93	22	27	26	22	97	25	27	30	24	106
Medtronic	158	137	156	38	39	38	50	165	41	40	35	49	165
Nevro	64	50	61	15	15	14	14	58	14	16	14	15	58
<b>Total OUS Revenue</b>	<b>418</b>	<b>352</b>	<b>412</b>	<b>95</b>	<b>105</b>	<b>99</b>	<b>109</b>	<b>408</b>	<b>104</b>	<b>108</b>	<b>101</b>	<b>112</b>	<b>424</b>
<b>y/y reported growth</b>	<b>-3%</b>	<b>-16%</b>	<b>17%</b>	<b>-2%</b>	<b>-9%</b>	<b>-1%</b>	<b>9%</b>	<b>-1%</b>	<b>10%</b>	<b>3%</b>	<b>2%</b>	<b>2%</b>	<b>4%</b>
<b>OUS Market Share</b>													
Abbott	26%	26%	25%	21%	23%	21%	21%	22%	23%	23%	22%	22%	5%
Boston Scientific	21%	21%	23%	23%	26%	26%	20%	24%	24%	25%	30%	22%	5%
Medtronic	38%	39%	38%	40%	37%	38%	46%	40%	39%	37%	35%	44%	8%
Nevro	15%	14%	15%	15%	14%	14%	13%	14%	13%	15%	14%	13%	3%
<b>WW SCS market</b>													
Abbott	612	526	564	127	140	137	144	548	140	170	168	178	656
Boston Scientific	672	558	662	143	177	166	178	664	156	176	173	180	685
Medtronic	609	492	566	158	128	142	157	585	165	134	148	159	606
Nevro	390	362	387	88	104	100	114	406	96	109	104	116	425
<b>Total WW Revenue</b>	<b>2,283</b>	<b>1,939</b>	<b>2,179</b>	<b>516</b>	<b>549</b>	<b>545</b>	<b>593</b>	<b>2,203</b>	<b>557</b>	<b>589</b>	<b>593</b>	<b>633</b>	<b>2,372</b>
<b>y/y reported growth</b>	<b>-4%</b>	<b>-15%</b>	<b>12%</b>	<b>1%</b>	<b>-4%</b>	<b>2%</b>	<b>6%</b>	<b>1%</b>	<b>8%</b>	<b>7%</b>	<b>9%</b>	<b>7%</b>	<b>8%</b>
<b>WW Market Share</b>													
Abbott	27%	27%	26%	25%	25%	25%	24%	25%	25%	29%	28%	28%	28%
Boston Scientific	29%	29%	30%	28%	32%	30%	30%	30%	28%	30%	29%	28%	29%
Medtronic	27%	25%	26%	31%	23%	26%	26%	27%	30%	23%	25%	25%	26%
Nevro	17%	19%	18%	17%	19%	18%	19%	18%	17%	18%	18%	18%	18%

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 45: WW SCS Market vs Pre-COVID Trend**

WW SCS market roughly in-line with pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 46: US SCS Market vs Pre-COVID Trend**

US SCS market roughly in-line with pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Sacral Neuromodulation (SNM) Market**

In Q4, US SNM grew 6% y/y. During 2023, MDT lost share (US share from 73% to 67%) and AXNX gained share (US share from 27% to 33%). MDT said that pelvic health was

down LSDs in the US driven by the Enterra divestiture and up mid-teens OUS. MDT said that pelvic health was up MSDs WW ex the divestiture, with strong DD growth in West Europe on Interstim X. BSX's acquisition of AXNX is expected to complete in 1H24. AXNX estimates the US SNM market is now ~\$850m in revenue or ~55k implants/year.

#### Exhibit 47: Sacral Neuromodulation (SNM) Market Model

In 4Q23, US SNM grew 6% y/y. In 3Q23, US SNM grew 10% y/y.

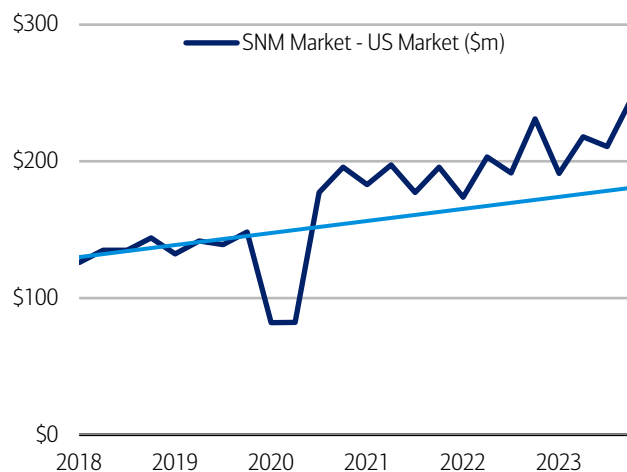
	2019A	2020A	2021A	1Q22A	2Q22A	3Q22A	4Q22A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>US SNM Market</b>													
Axonics	8	108	154	38	54	56	69	217	54	72	72	87	285
Medtronic	553	430	599	136	149	136	162	583	137	146	139	159	580
<b>Total US Revenue</b>	<b>561</b>	<b>537</b>	<b>753</b>	<b>174</b>	<b>203</b>	<b>191</b>	<b>231</b>	<b>800</b>	<b>191</b>	<b>218</b>	<b>211</b>	<b>245</b>	<b>865</b>
<b>US Market Growth</b>	<b>4%</b>	<b>-4%</b>	<b>40%</b>	<b>-5%</b>	<b>3%</b>	<b>8%</b>	<b>18%</b>	<b>6%</b>	<b>10%</b>	<b>7%</b>	<b>10%</b>	<b>6%</b>	<b>8%</b>
<b>US market share</b>													
Axonics	1%	20%	20%	22%	27%	29%	30%	27%	28%	33%	34%	35%	33%
Medtronic	99%	80%	80%	78%	73%	71%	70%	73%	72%	67%	66%	65%	67%

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

#### Exhibit 48: US SNM Market vs Pre-COVID Trend

US SNM market is above pre-COVID trend



Source: Company filings, BofA Global Research

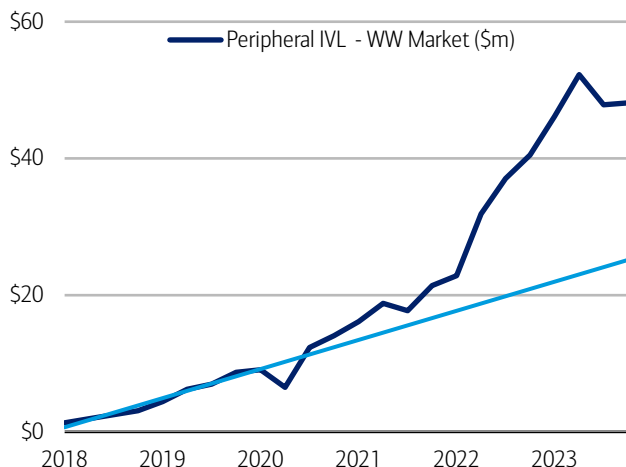
BofA GLOBAL RESEARCH

## Intravascular Lithotripsy (IVL) Markets

SWAV's Q4 revenue of \$203m was slightly ahead of Street's \$199.5m. US peripheral revenue of \$42.8m was in line (-0.7% q/q vs flattish q/q guide). Strong WW coronary sales drove the beat vs Street. SWAV reps/marketing budgets have been giving more attention to coronary with C2+ launch/reimbursement wins which has helped drive the strong coronary growth. The sales force focused on coronary right now hasn't helped peripheral growth but later this year when new peripheral products launch focus will likely shift back more toward peripheral and help drive the 2H peripheral rev acceleration. On the U.S. peripheral side, the prior authorization issue appears to have stabilized as customers are learning how to navigate Aetna's increased scrutiny on peripheral procedures. No other payers have followed Aetna's practices.

**Exhibit 49: WW Peripheral IVL Market vs Pre-COVID Trend**

WW Peripheral IVL market is above pre-COVID trend

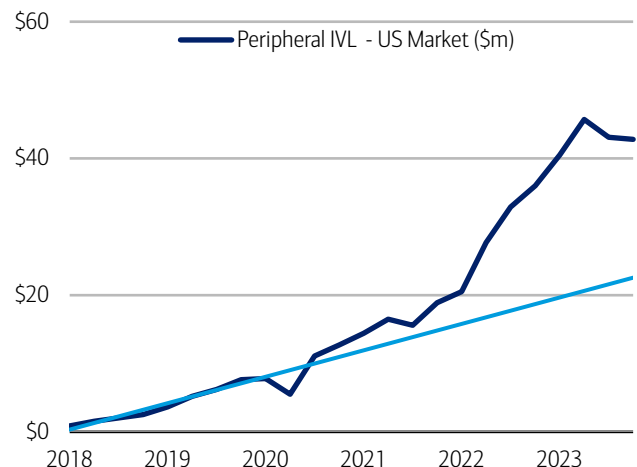


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 50: US Peripheral IVL Market vs Pre-COVID Trend**

US Peripheral IVL market is above pre-COVID trend

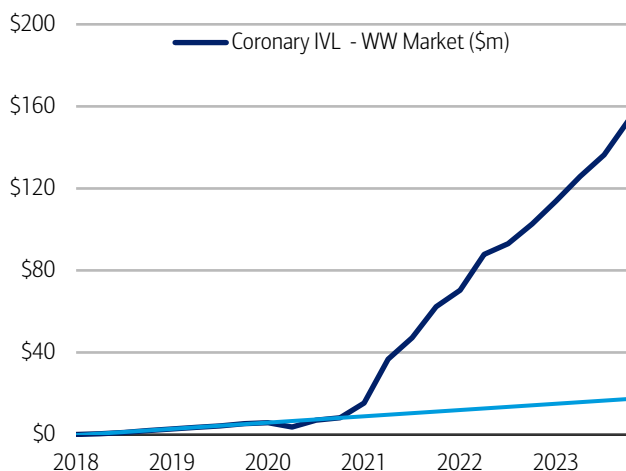


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 51: WW Coronary IVL Market vs Pre-COVID Trend**

WW Coronary IVL market is above pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Peripheral Thrombectomy Market

NARI reported Q4 revenue of \$132m which was a 1% beat vs Street. Though this seemed light relative to NARI's typical beats, Inari noted results were in line with their expectations and reflects continued good traction and growth across VTE and nice progress in emerging therapies. Last year Inari had a big training class hit their productivity in Q4 which is one thing to keep in mind when looking at sequential comps. Inari started to breakout revenue between Core VTE and Emerging Therapies. We estimate the US VTE market grew 27% in 2023 and NARI lost 6 points of share (73% share in Q123 and 67% in Q423). When we take Penumbra and NARI's view it looks like the companies are expecting 20% US market growth in 2024. It looks like NARI is assuming around mid-teens US growth implying 2024 share is roughly stable with where share ended in Q423. Globally we estimate the market grew 30% in 2023 and the companies are expecting 22% growth in 2024 with share stable vs Q4 levels.

**Exhibit 52: Worldwide and US VTE Market Model**

We estimate the US VTE market grew 27% in 2023 and NARI lost 6 points of share (73% share in Q123 and 67% in Q423). When we take Penumbra and NARI's view it looks like the companies are expecting 20% US market growth in 2024. It looks like NARI is assuming around mid-teens US growth implying 2024 share is roughly stable with where share ended in Q423. Globally we estimate the market grew 30% in 2023 and the companies are expecting 22% growth in 2024 with share stable vs Q4 levels.

<b>Worldwide VTE:</b>	<b>2021A</b>	<b>2022A</b>	<b>1Q23A</b>	<b>2Q23A</b>	<b>3Q23A</b>	<b>4Q23A</b>	<b>2023A</b>	<b>2024E</b>
<b>Inari Medical VTE Revenue</b>	<b>\$277.0</b>	<b>\$381.4</b>	<b>\$114.1</b>	<b>\$114.1</b>	<b>\$121.5</b>	<b>\$126.7</b>	<b>\$476.3</b>	<b>\$559.6</b>
y/y growth (%)		38%	31%	23%	27%	20%	25%	18%
q/q growth (%)			8%	0%	6%	4%		
<b>Penumbra VTE Revenue*</b>	<b>\$134.8</b>	<b>\$173.1</b>	<b>\$51.2</b>	<b>\$55.3</b>	<b>\$66.5</b>	<b>\$73.4</b>	<b>\$246.3</b>	<b>\$322.7</b>
y/y growth (%)		28%	17%	31%	57%	64%	42%	31%
q/q growth (%)			15%	8%	20%	10%		
<b>Total VTE Market</b>	<b>\$411.8</b>	<b>\$554.5</b>	<b>\$165.3</b>	<b>\$169.4</b>	<b>\$187.9</b>	<b>\$200.0</b>	<b>\$722.6</b>	<b>\$882.3</b>
y/y growth (%)		35%	27%	25%	36%	33%	30%	22%
q/q growth (%)			10%	2%	11%	6%		
<u>Worldwide Market Share:</u>								
Inari Medical	67%	69%	69%	67%	65%	63%	66%	63%
Penumbra	33%	31%	31%	33%	35%	37%	34%	37%
<b>United States VTE:</b>	<b>2021A</b>	<b>2022A</b>	<b>1Q23A</b>	<b>2Q23A</b>	<b>3Q23A</b>	<b>4Q23A</b>	<b>2023A</b>	<b>2024E</b>
<b>Inari Medical US VTE Revenue</b>	<b>\$277.0</b>	<b>\$372.0</b>	<b>\$109.7</b>	<b>\$108.9</b>	<b>\$114.9</b>	<b>\$119.0</b>	<b>\$452.5</b>	<b>\$520.4</b>
y/y growth (%)		34%	29%	20%	23%	16%	22%	15%
q/q growth (%)			7%	-1%	6%	4%		
<b>Penumbra US VTE Revenue*</b>	<b>\$107.8</b>	<b>\$138.5</b>	<b>\$41.0</b>	<b>\$44.2</b>	<b>\$53.2</b>	<b>\$58.7</b>	<b>\$197.1</b>	<b>\$258.1</b>
y/y growth (%)		28%	17%	31%	57%	64%	42%	31%
q/q growth (%)			15%	8%	20%	10%		
<b>Total US VTE Market</b>	<b>\$384.8</b>	<b>\$510.5</b>	<b>\$150.7</b>	<b>\$153.1</b>	<b>\$168.1</b>	<b>\$177.7</b>	<b>\$649.6</b>	<b>\$778.5</b>
y/y growth (%)		33%	26%	23%	32%	28%	27%	20%
q/q growth (%)			9%	2%	10%	6%		
<u>US Market Share:</u>								
Inari Medical	72%	73%	73%	71%	68%	67%	70%	67%
Penumbra	28%	27%	27%	29%	32%	33%	30%	33%

**Source:** Company filings, BofA Global Research. Note: 2024E numbers are company estimates for Penumbra

\*Assumes VTE is 55% of PEN's Vascular Thrombectomy Rev and the remainder is arterial/coronary. Also assumes PEN US VTE business is ~80% of the vascular thrombectomy revenue.

BofA GLOBAL RESEARCH

**Exhibit 53: Peripheral Thrombectomy Market Model**

We estimate the WW peripheral thrombectomy market grew 39% y/y in Q4'23 between PEN's vascular thrombectomy revenue and NARI's VTE revenue.

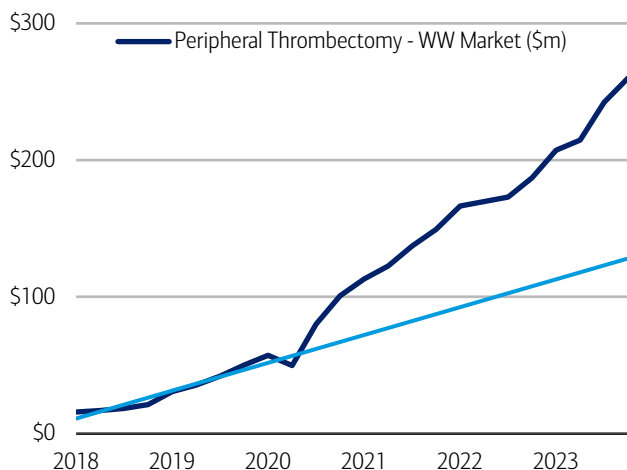
<b>WW Peripheral Thrombectomy</b>	<b>2018A</b>	<b>2019A</b>	<b>2020A</b>	<b>2021A</b>	<b>1Q22A</b>	<b>2Q22A</b>	<b>3Q22A</b>	<b>4Q22A</b>	<b>2Q22A</b>	<b>1Q23A</b>	<b>2Q23A</b>	<b>3Q23A</b>	<b>4Q23A</b>	<b>2023A</b>
Penumbra	\$72.0	\$107.0	\$147.9	\$245.0	\$79.6	\$77.0	\$77.0	\$81.1	\$314.8	\$93.2	\$100.5	\$120.8	\$133.4	\$447.8
y/y growth (%)	47%	49%	38%	66%	43%	30%	20%	23%	28%	17%	31%	57%	64%	42%
US y/y growth										26%	50%	50%		43%
Inari Medical VTE Revenue		\$51.2	\$139.7	\$277.0	\$86.8	\$92.7	\$96.0	\$106.0	\$381.4	\$114.1	\$114.1	\$121.5	\$126.7	\$476.3
y/y growth (%)			173%	98%	51%	46%	32%	27%	38%	31%	23%	27%	20%	25%
<b>Total</b>		<b>\$158.2</b>	<b>\$287.6</b>	<b>\$522.0</b>	<b>\$166.4</b>	<b>\$169.7</b>	<b>\$173.0</b>	<b>\$187.1</b>	<b>\$696.2</b>	<b>\$207.2</b>	<b>\$214.6</b>	<b>\$242.3</b>	<b>\$260.0</b>	<b>\$924.1</b>
y/y growth (%)			82%	82%	47%	38%	26%	25%	33%	25%	26%	40%	39%	33%

**Source:** Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 54: WW Peripheral Thrombectomy Market vs Pre-COVID Trend**

The WW peripheral thrombectomy market (PEN's vascular thrombectomy revenue and NARI's VTE revenue) is above pre-COVID trend.



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Transcarotid Artery Revascularization (TCAR) Market

SILK Q4 procedures were up +4% q/q (+20% y/y) with revenue/procedure at \$7.1k (-2% y/y). SILK introduced 2024 guidance for revenue growth of +10-12% y/y. The guide assumes that Q1 revenue declines MSDs q/q on seasonality, and that 2024 is driven by growth in procedures with revenue/procedure at or slightly below ~\$7k (with normal q/q variation). SILK said that anecdotally, it is aware of some people picking up CAS, but it is not seeing a big broad wave of new users. SILK initiated a limited launch of its tapered ENROUTE stent in 1Q24 and plans to ramp to a full market release in 2Q24.

**Exhibit 55: TCAR Market Model**

US TCAR market grew 18% y/y in Q4'23. US TCAR market grew 28% y/y in 2023 as compared to 37% y/y in 2022.

US TCAR	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
Revenue per procedure	\$7,557	\$7,539	\$7,240	\$7,300	\$7,106	\$6,884	\$7,023	\$6,998	\$7,135	\$7,014
y/y		0%	-4%	1%	-3%	-1%	0%	-1%	-2%	-1%
Procedures	4,573	8,404	10,391	13,900	19,510	5,830	6,450	6,350	6,625	25,255
y/y		84%	24%	34%	40%	45%	37%	21%	20%	29%
<b>Total US revenue (\$000s)</b>	<b>\$34,557</b>	<b>\$63,354</b>	<b>\$75,227</b>	<b>\$101,475</b>	<b>\$138,638</b>	<b>\$40,131</b>	<b>\$45,298</b>	<b>\$44,435</b>	<b>\$47,270</b>	<b>\$177,134</b>
y/y		83%	19%	35%	37%	43%	37%	19%	18%	28%

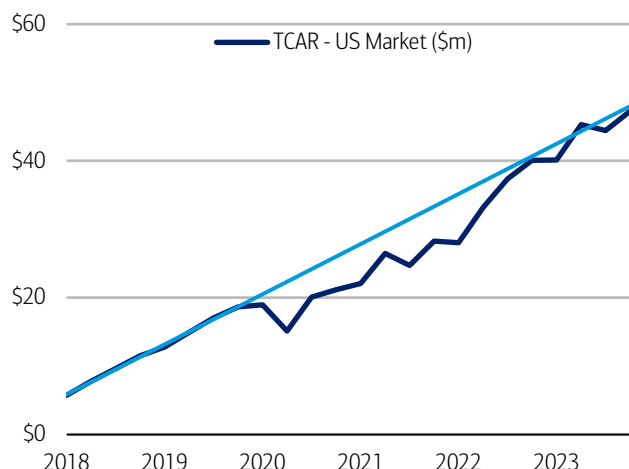
Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH



**Exhibit 56: US TCAR Market vs Pre-COVID Trend**

US TCAR market is in-line with pre-COVID trend.



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Sleep Apnea Stimulation Market

In Q4, the WW sleep apnea stimulation (INSP) market grew 40%, in-line with WW 40% y/y growth in Q3. INSP's revenue guidance calls for +24-26% y/y in 2024, with increased utilization at existing centers continuing to be the primary growth driver. INSP does not expect Inspire V to have a big impact in 2024 as INSP continues to expect limited launch in 2024 and full launch in 2025.

**Exhibit 57: Sleep Apnea Stimulation (INSP) Market Model**

In Q4'23, the US sleep apnea market grew 41% y/y and WW sleep apnea grew 40%.

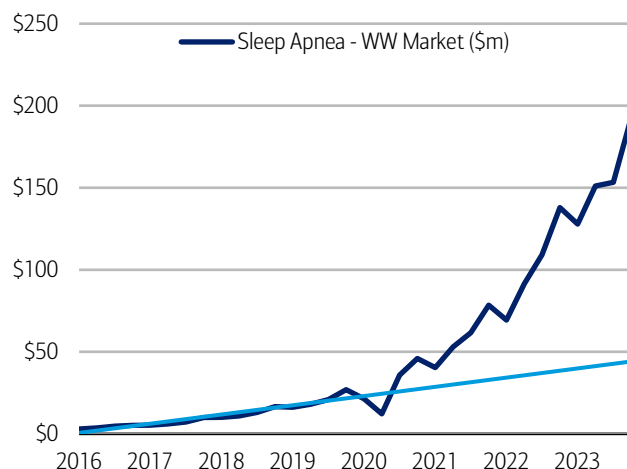
	2016A	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>Inspire - US</b>												
Total US Revenue	13.8	24.3	44.4	73.7	106.1	221.0	394.8	124.5	144.7	147.5	189.4	606.2
US Growth	125%	76%	83%	66%	44%	108%	79%	87%	65%	39%	41%	54%
<b>Inspire - OUS</b>												
Total OUS Revenue	2.6	4.3	6.2	8.4	9.3	12.4	13.0	3.4	6.3	5.8	3.1	18.6
OUS Growth	40%	62%	45%	35%	11%	34%	5%	15%	81%	99%	-16%	43%
<b>Inspire - WW</b>												
Total WW Revenue	16.4	28.6	50.6	82.1	115.4	233.4	407.9	127.9	151.1	153.3	192.5	624.8
WW Growth	105%	74%	77%	62%	41%	102%	75%	84%	65%	40%	40%	53%

Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 58: WW Sleep Apnea Market vs Pre-COVID Trend**

WW sleep apnea market is above pre-COVID trend

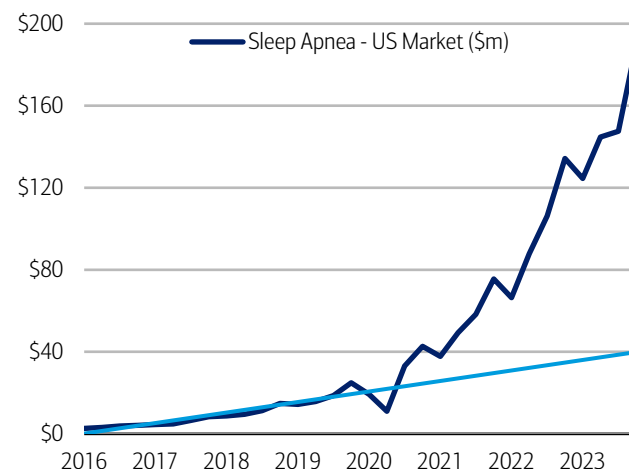


Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 59: US Sleep Apnea Market vs Pre-COVID Trend**

US sleep apnea market is above pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

## Contact Lens Market

We estimate that the contact lens market grew 9% again in 2023 on top of 9% growth in 2022. Market growth has accelerated from MSD to HSD driven by favorable market trends – increased wearer demand, favorable mix from daily and premium lenses, and positive price – suggesting this higher growth is durable. COO and ALC each took 60-70bps of share in 2023, primarily at the expense of JNJ (-90bps).

**Exhibit 60: Contact Lens Market Model**

In Q4'23, the WW contact lens market grew 8% y/y.

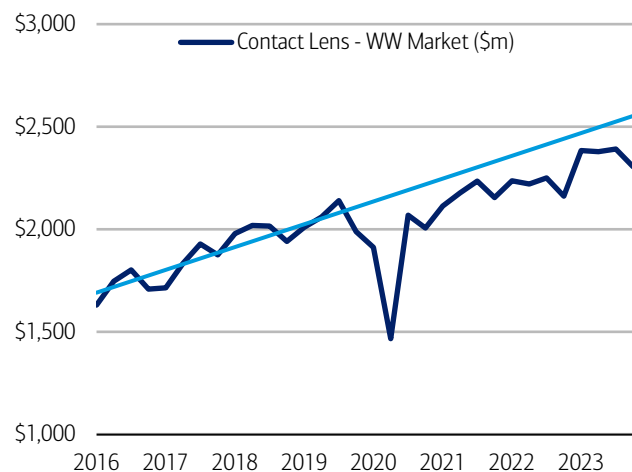
	2017A	2018A	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A
<b>WW Contact Lens Market</b>											
CooperVision	1,730	1,907	1,988	1,865	2,207	2,263	589	630	623	622	2,464
Johnson & Johnson	3,036	3,302	3,392	2,994	3,440	3,543	953	939	928	882	3,702
Alcon	1,833	1,928	1,969	1,838	2,139	2,192	615	594	612	579	2,400
Bausch + Lomb	752	815	848	755	893	869	226	215	228	222	891
<b>Total WW Revenue</b>	<b>7,351</b>	<b>7,952</b>	<b>8,197</b>	<b>7,452</b>	<b>8,679</b>	<b>8,867</b>	<b>2,383</b>	<b>2,378</b>	<b>2,391</b>	<b>2,305</b>	<b>9,457</b>
<b>WW CC Market Growth y/y</b>	<b>7%</b>	<b>7%</b>	<b>5%</b>	<b>-9%</b>	<b>15%</b>	<b>9%</b>	<b>11%</b>	<b>9%</b>	<b>8%</b>	<b>8%</b>	<b>9%</b>
<b>TTM WW Market Share</b>											
CooperVision	24%	24%	24%	25%	25%	26%	25%	26%	26%	27%	26%
Johnson & Johnson	41%	42%	41%	40%	40%	40%	40%	39%	39%	38%	39%
Alcon	25%	24%	24%	25%	25%	25%	25%	25%	26%	25%	25%
Bausch + Lomb	10%	10%	10%	10%	10%	10%	10%	9%	10%	10%	9%

Source: Company filings, BofA Global Research. \*CooperVision adjusted to CY basis.

BofA GLOBAL RESEARCH

**Exhibit 61: WW Contact Lens Market vs Pre-COVID Trend**

WW contact lens market is below pre-COVID trend



Source: Company filings, BofA Global Research

BofA GLOBAL RESEARCH

**Acronym glossary, continued**

h/w = headwind

IVL = intravascular lithotripsy

JNJ = Johnson & Johnson

ATRC = Atricure

LAAC = left atrial appendage closure

LVAD = left ventricular assist device

MDI = multiple daily injection

OUS = outside the US

PFA = pulse field ablation

qtr = quarter

SCS = spinal cord stimulation

SNM = sacral Neuromodulation

T1 = type 1

T2 = type 2

TAVI = Transcatheter Aortic Valve Implantation

TAVR = Transcatheter Aortic Valve Replacement

TCAR = Transcarotid Artery Revascularization

TMTT = Transcatheter Mitral and Tricuspid Therapies

t/w = tailwind

TTM = trailing twelve months

WW = worldwide

# Disclosures

## Important Disclosures

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. VOLATILITY RISK RATINGS, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. INVESTMENT RATINGS reflect the analyst’s assessment of both a stock’s absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm’s guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst’s view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster <sup>R1</sup>
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

<sup>R1</sup> Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

INCOME RATINGS, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. Coverage Cluster is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock’s coverage cluster is included in the most recent BofA Global Research report referencing the stock.

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank’s sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

## Other Important Disclosures

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits. Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks. The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents. Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

Refer to [BofA Global Research policies relating to conflicts of interest](#). **"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.**

**Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:** BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at [www.bofam.com/BofASEdisclaimer](http://www.bofam.com/BofASEdisclaimer); BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority. This information has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of

its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

#### General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities. This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

#### Copyright and General Information:

Copyright 2024 Bank of America Corporation. All rights reserved. iQdatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein. Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies. Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.