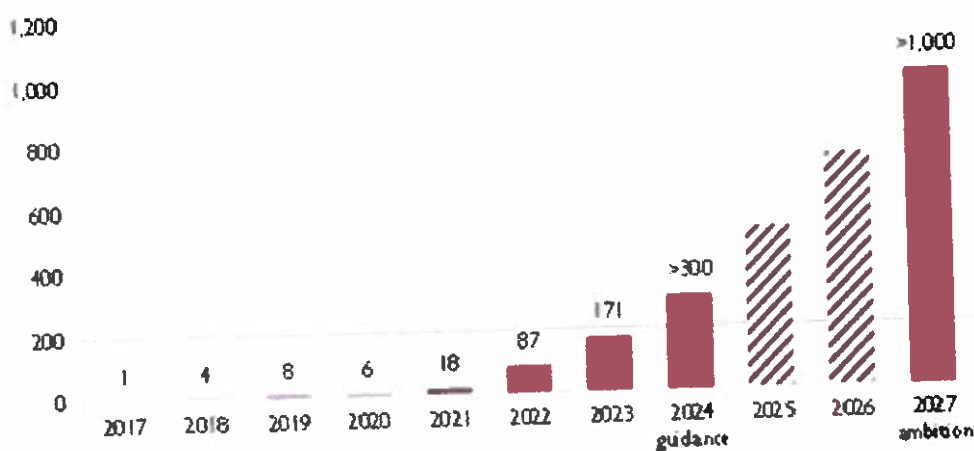


Looking for a micro cap idea where there is a theoretical argument for a 3-4x higher share price over the coming years? (This is not a target price, just an unofficial mathematical argument made under certain assumptions with may be related with significant uncertainty).

I have done a back-of-the envelope on Shape Robotics, a Danish microcap (market cap DKK500m) – given the company has just announced a very ambitious growth plan, targeting at least DKK1bn in revenue by 2027 with a 12-15% EBITDA margin (2023 revenue was DKK171m which itself was double-up from 2022) it might not be a micro cap for much longer. For 2024 it has guided revenue of 'at least DKK300m' i.e. at least 75% growth Y/y.

Denmark has a cluster of robotics companies, one of which is Shape Robotics which upgraded its listing from Copenhagen First North to the main exchange earlier this year. The company makes robots and offers other equipment for 'intelligent' classrooms in public schools, allowing pupils an introduction to programming (Shape presents it as 'Students can build a robot in seconds and start programming in minutes). More detailed description of the product offering here: <https://shaperobotics.com/en/about/Intelligent>. Intelligent classrooms is receiving very significant EU funding these years, particularly in Eastern Europe and Shape Robotics is one of very few players in the market (I don't know the others); according to the company itself it is by far the best positioned company in the industry – historical revenue figures suggest this claim may be reasonable as growth has been explosive:

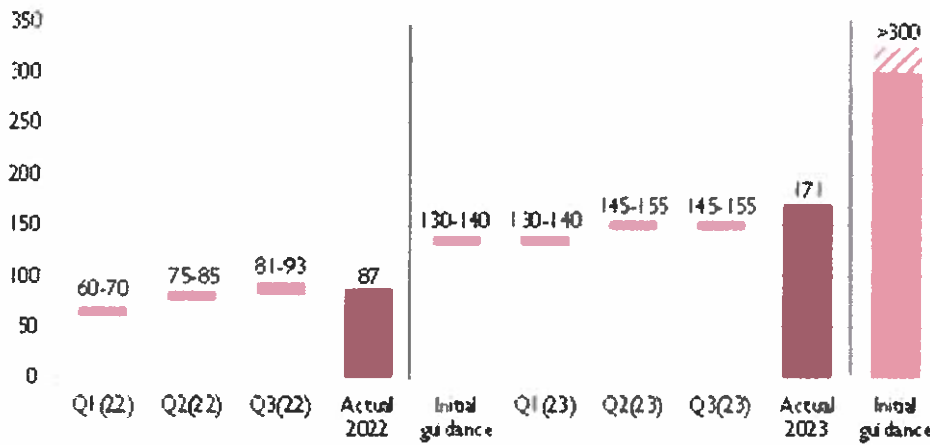
Revenue development (DKKm)



Source: Carnegie Research; company data

According to CEO Andre Fehrn hopefully the 2024 guidance and the 2027 ambition are both conservative – but most management teams claim to be conservative. That said, Shape Robotics has established a track record for guiding conservatively: For 2022 it initially guided sales of DKK60-70m but delivered DKK87m, and likewise in 2023 it initially guided for revenue of DKK130-140m ending with actual revenue of DKK171m. Judge for yourself:

Revenue: Guidance and actual outcome (DKKm)



Source: Carnegie Research, company data

I did not do deeper research but tried to model what numbers could look like should Shape Robotics reach its 2027 ambition of at least DKK2bn in revenue with a 12-15% EBITDA margin.

The simple calculation is the 2027 EBITDA assuming DKK1bn in sales and the 12% margin ambition: EBITDA would reach DKK120m. I then assume the company will have a NIBD/EBITDA = 2x by then (I do not know if this is feasible but need to make an assumption), and assume if reaching this, Shape Robotics may trade in a valuation range of 10-20x 2027e EV/EBITDA by the end of 2026. Given the current number of shares of 14m the share price by then end of 2026 can be seen below (second last line) – I have also discounted it back to theoretical share price in March 2024 (i.e. today) using an IRR = 15%.

Back-of-the-envelope share price potential @ 12% EBITDA margin (2027)

2027 EV/EBITDA (x)	10	12	14	16	18	20
2027 EBITDA	120	120	120	120	120	120
Enterprise value	1,200	1,440	1,680	1,920	2,160	2,400
NIBD (2x EBITDA)	240	240	240	240	240	240
Market cap.	960	1,200	1,440	1,680	1,920	2,160
No. of shares	14	14	14	14	14	14
Theoretical share price Y/E 2026	68.6	85.7	102.9	120.0	137.1	154.3
Theoretical share price March 2024 (IRR = 15%)	46.7	58.4	70.0	81.7	93.4	105.1

Source: Carnegie Research

As seen above a 2027 EV/EBITDA = 10x (to be achieved by the end of 2026) given the assumptions made would suggest a share price today of DKK46.7 at a 2027 EBITDA margin = 12%. If the EV/EBITDA multiple reaches 20x the theoretical share price increases to DKK105.1.

Making the same calculation assuming Shape Robotics can reach the high end of its EBITDA margin ambition of 15% by 2027, the theoretical share price today increases to a range of DKK58.4-131.3, cf. below.

Back-of-the-envelope share price potential @ 15% EBITDA margin (2027)

2027 EV/EBITDA (x)	10	12	14	16	18	20
2027 EBITDA	150	150	150	150	150	150
Enterprise value	1,500	1,800	2,100	2,400	2,700	3,000
NIBD (2x EBITDA)	300	300	300	300	300	300
Market cap.	1,200	1,500	1,800	2,100	2,400	2,700
No. of shares	14	14	14	14	14	14
Theoretical share price Y/E 2026	85.7	107.1	128.6	150.0	171.4	192.9
Theoretical share price March 2024 (IRR = 15%)	58.4	73.0	87.5	102.1	116.7	131.3

Source: Carnegie Research

There are a number of unknowns: I am uncertain of the required leverage; the company left 2023 with a NIBD/EBITDA = 2.8x which is high; however revenue was extremely back-end loaded with 51% of revenue being generated in Q4(23) leading to significant trade receivables; I would assume this causes a higher NIBD/EBITDA than what should be assumed going forward.

I also don't know the capex intensity going forward. According to talks with the company it expects top grow via a partnership model, hence I don't know depreciation levels, net financials, etc. I have tried to model a full P&L account (back-of-the-envelope) with the following assumptions: Gross margin declining from 28% in 2023 to 24% going forward (due to growth partly being achieved via partners and distributors); OPEX growing at 0.6x the pace of topline growth and depreciation growing at half the topline growth. I assume NIBD/EBITDA = 2x going forward and attribute a financing cost of 12.5% to the NIBD (this was 12.8% in 2023 which is very high; I prefer to assume it stays high lacking an explanation for the high net financing cost in 2023). Tax rate is assumed at 25% effectively (currently Shape doesn't pay tax as it is carrying forward tax losses from previous years).

Main figures 2022-27

DKKm	2022	2023	2024e	2025e	2026e	2027e
Revenue	87.4	171.2	316.7	522.6	757.8	1,023.0
Gross profit	26.5	48.1	76.0	125.4	181.9	245.5
Operating costs	-21.4	-32.0	-48.4	-67.3	-85.4	-103.4
EBITDA	5.1	16.1	27.6	58.2	96.4	142.2
Depreciation and amortisations	-7.1	-8.7	-12.4	-16.5	-20.2	-23.7
EBIT	-2.0	7.4	15.2	41.7	76.3	118.4
Net financials	-2.4	-5.8	-6.9	-14.5	-24.1	-35.5
Pre-tax profit	-4.3	1.6	8.3	27.1	52.2	82.9
Taxes	0.1	0.9	-2.1	-6.8	-13.0	-20.7
Net profit	-4.3	2.5	6.2	20.4	39.1	62.2
Sales growth	386%	96%	85%	65%	45%	35%
Gross margin	30%	28%	24%	24%	24%	24%
Cost ratio	-24%	-19%	-15%	-13%	-11%	-10%
EBITDA margin	5.9%	9.4%	8.7%	11.1%	12.7%	13.9%
Tax rate	1%	-57%	25%	25%	25%	25%
NIBD/EBITDA	4.0	2.8	2.0	2.0	2.0	2.0
NIBD	20.4	44.8	55.3	116.3	192.9	284.3
Financing rate	-11.7%	-12.8%	-12.5%	-12.5%	-12.5%	-12.5%
Shares outstanding (m)		14.0	14.0	14.0	14.0	14.0
EPS (DKK)		0.18	0.44	1.45	2.79	4.44

Source: Carnegie Research; company data

Just to back the EV/EBITDA-based valuation above: An EPS = DKK4.44 by 2027 and assuming a PEG-ratio of 0.5x by the end of 2026 would imply a 2027 P/E = 30x or a share price of (4.44 x 30) = DKK133. I am not sure which multiple a small company with 50% EPS growth should trade at but assuming Shape Robotics continues its track record of delivering on promises I would assume it can eventually qualify for a PEG-ratio of 0.5x.

My main concern would be the cost of growth, particularly from a cash flow perspective given significant build-up of receivables during 2023, as discussed above:

Trade receivables

DKKm	Q1(21)	Q2(21)	Q3(21)	Q4(21)	Q1(22)	Q2(22)	Q3(22)	Q4(22)	Q1(23)	Q2(23)	Q3
Revenue	2.2	2.2	0.9	12.6	7.1	8.5	20.8	51.0	19.0	36.8	
Receivables	1.1	2.2	1.0	4.7	5.9	9.3	22.8	32.9	24.7	50.8	
Receivables/12m rolling revenue				26%	26%	32%	47%	38%	25%	40%	
Receivables/6m rolling revenue		50%	32%	35%	30%	59%	78%	46%	35%	91%	
Receivables/quarterly revenue	50%	100%	113%	37%	83%	109%	110%	65%	130%	138%	1

Source: Carnegie Research

Also, the company is in the process of raising capital through a share issue; details are not disclosed but the company just had an EGM approval of issuing up to 1.2m new shares (so less than 10% increase).

Take it for what it is. This isn't official research just a back-of-the-envelope so risk to the numbers stated above may be significant. However, given the share price today stand at DKK36 I thought it was relevant to share because if these calculations make sense, Shape Robotics could become much less of a micro-cap in the future.

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