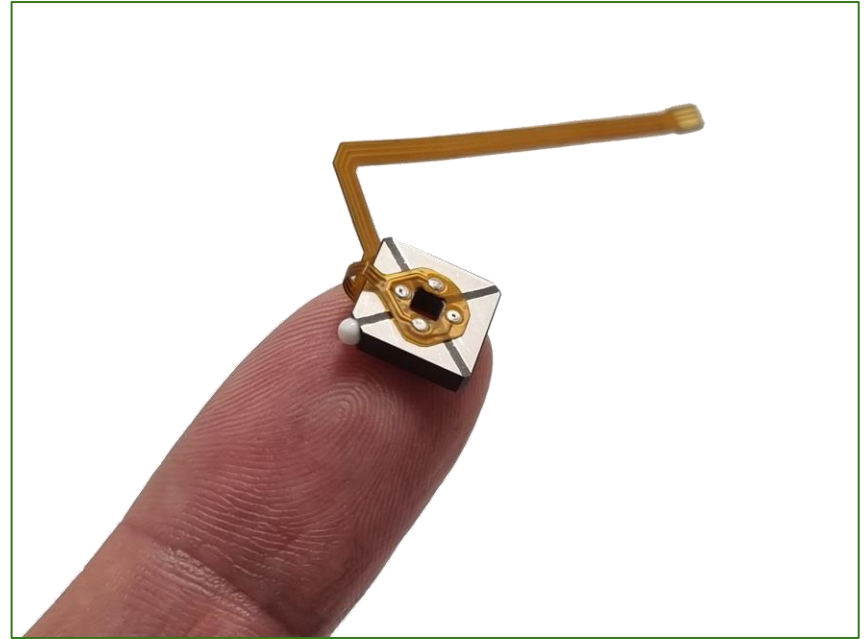




The gearless motor



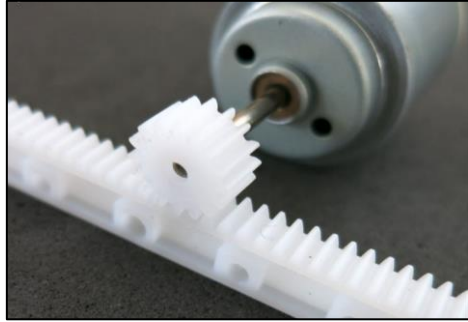
The Problem

Precision devices (chips-production, medical devices, 3D printing, lasers, ...) require small and precise motors

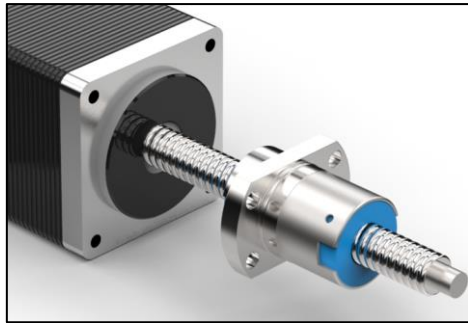
Problem: Small motors with gears are not precise



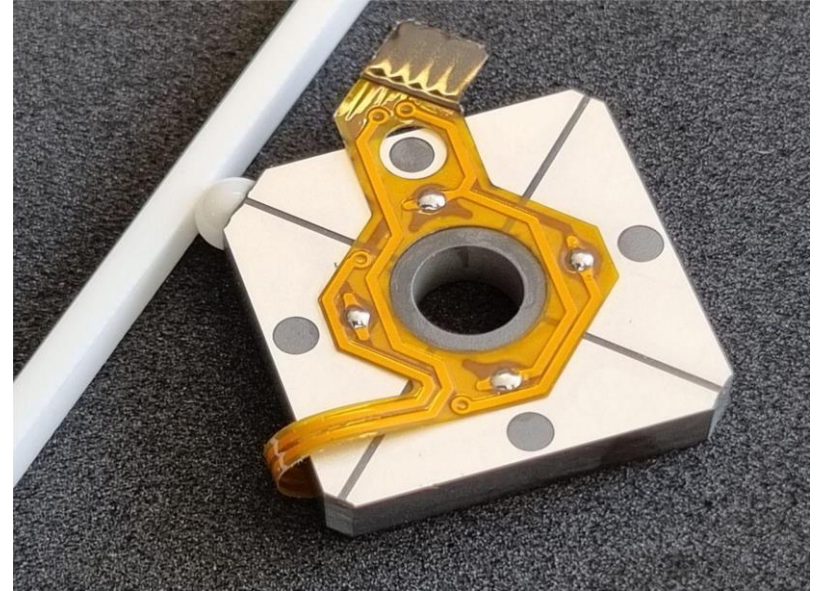
The Solution: The gearless motor



Linear gears

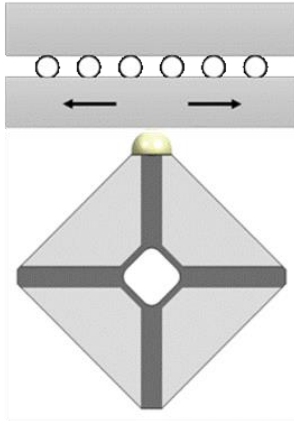


Screw gears

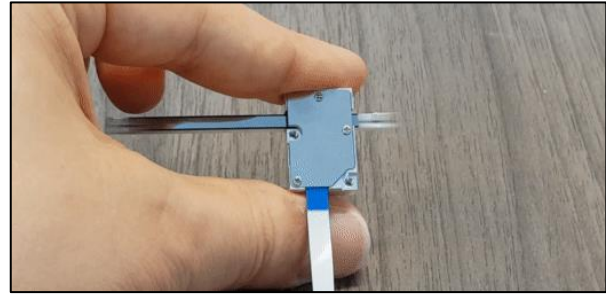


Gearless

How it works



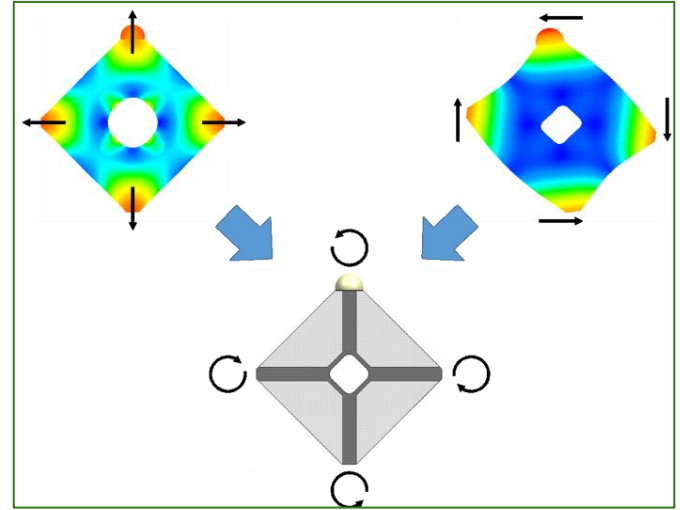
The motor wiggles
100.000 times per second



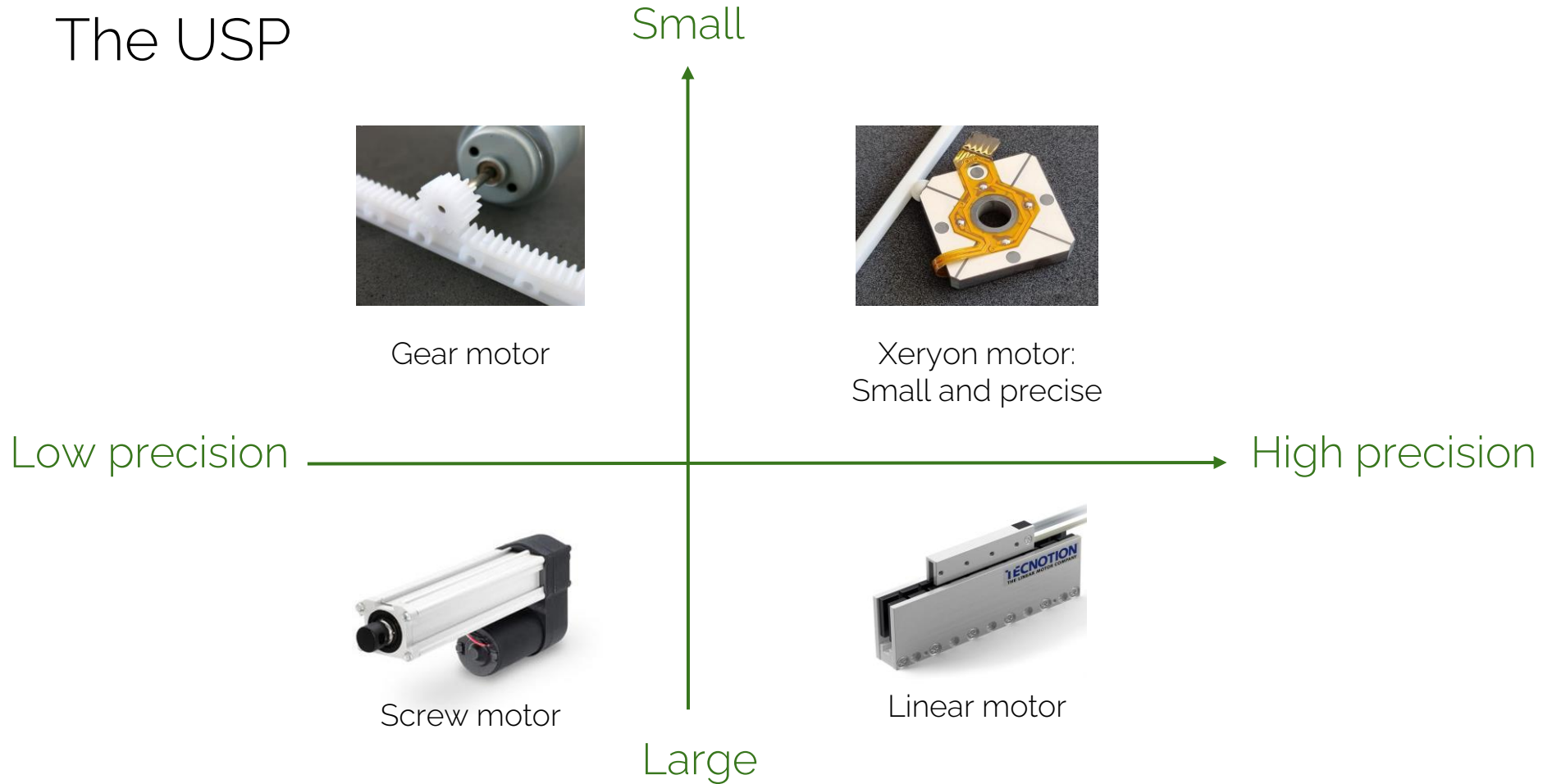
Resulting in fast and precise motion

Hard to copy

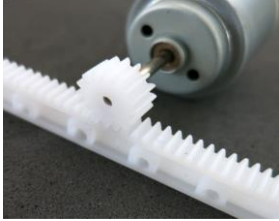
- ➔ Two patents
- ➔ Combination of technical hurdles (control software, vibration analysis, resonance control, material science, manufacturing, electronics, mechanical design, ...)
- ➔ Multiple companies have tried and failed
- ➔ 10 years of technical development



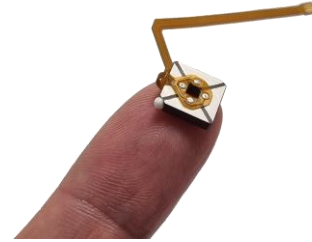
The USP



Precision comparison



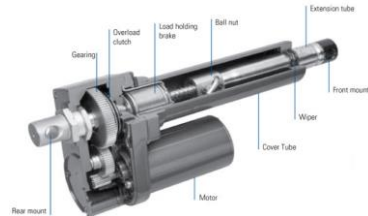
Gear motor
0.01 mm



Xeryon gearless motor
0.000001 mm

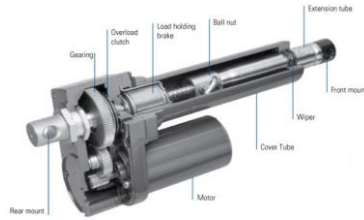


0.001 mm
Screw motor

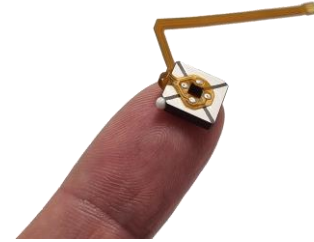


1000 times
more precise

Size comparison



Screw motor:
 15.000 mm^3



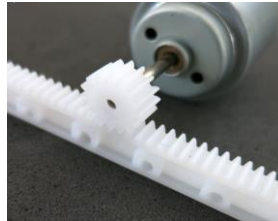
Xeryon gearless motor:
 200 mm^3



150.000 mm^3
Linear motor:



2.500 mm^3
Gear motor:

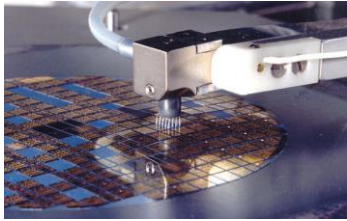


10 times
smaller

Other strengths

1. Small
2. Precise
3. High speed movement (1 m/s)
4. Long lifetime (25 million cycles vs 1 million)
5. Silent motion (important for med-tech)
6. Low energy consumption (important for portable devices)
7. Unlimited travel range (important for automation and semicon)
8. Safety: (important for med-tech and robotics)
 - a. Overridable by hand
 - b. Low voltage
 - c. Position lock when power loss

The Applications



Chip & wafer sorting



Blood & DNA analysis



Robot surgery



Humanoid robotics



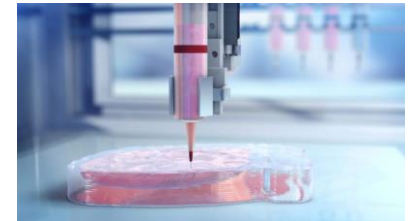
Microscopes



Drug delivery systems



Medical imaging



(Bio) 3D printing

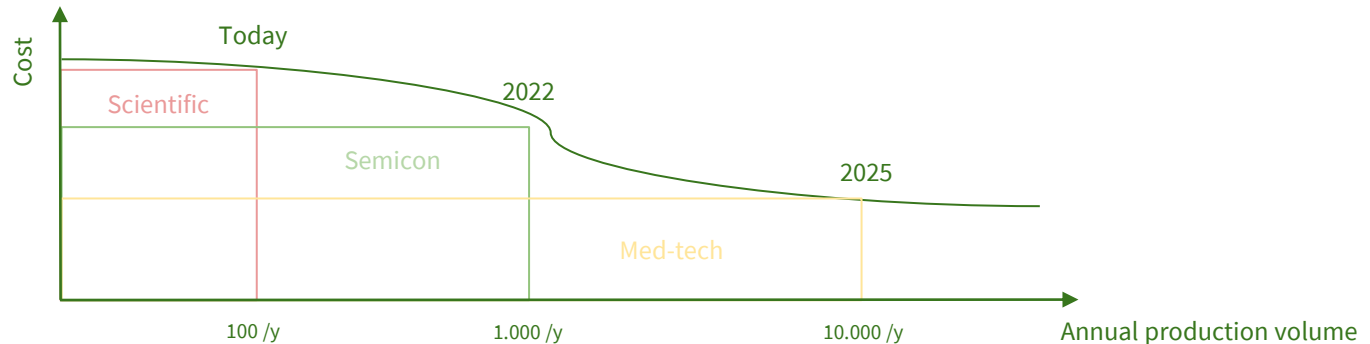
The strategy

Today Xeryon mainly has one-off scientific customers.
Other industries contact us for the same products, but ...
... price too high and production capacity too low

➔ Investment in production automation

➔ Market access to high-end OEM's

Much more annual recurring revenue (ARR)



The Market:

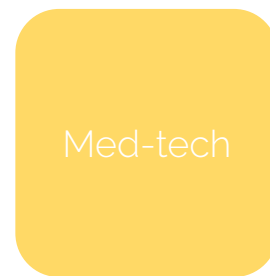
Shift to high-end OEM



2022



2024



Motors/year: 125 k

200 k

10 M

Price per motor: € 2000

€ 750

€ 250

Market size: € 250 M

€ 150 M

€ 2.5 Bn

Competition comparison

- Gearless technology players:

- Nanomotion:
- Piezo Motor:
- Physik Instrumente:
- Smaract

€ 20 M
€ 3 M
€ 244 M
€ 10 M

- Gear technology players:

- Mabuchi Motor Co Ltd:
- Nidec Corporation:
- Buhler Motor GmbH:
- Johnson Electric Holdings
- Maxon Motor AG:
- Mitsuha Corporation:

\$ 750 M
\$ 15 Bn
\$ 256 M
\$ 3 Bn
\$ 546 M
€ 1,8 Bn

Xeryon can replace a part
of the gear motor market!

Better specs than the gearless competition!

Gearless technology	Nano-motion	Piezo-motor Sweden	PI	Smaract	Xeryon
Maximum Travel range	200 mm	75 mm	125 mm	12 mm	300 mm
Precision	10 nm	1 nm	1 nm	1 nm	1 nm
Speed	150 mm/s	24 mm/s	10 mm/s	5 mm/s	1000 mm/s
Force	1,3 N	6 N	10 N	5 N	4 N
Size	1104 mm ²	4600 mm ²	7500 mm ²	3179 mm ²	200 mm ²
Lifetime	1000 km	15 km	15 km	25 km	500 km
Price	€ 400	€ 600	€ 1000	€ 1000	€ 200
Market	OEM	OEM / Scientific	Scientific	Scientific	OEM

The actual Customers

Research institutes



Scientific equipment



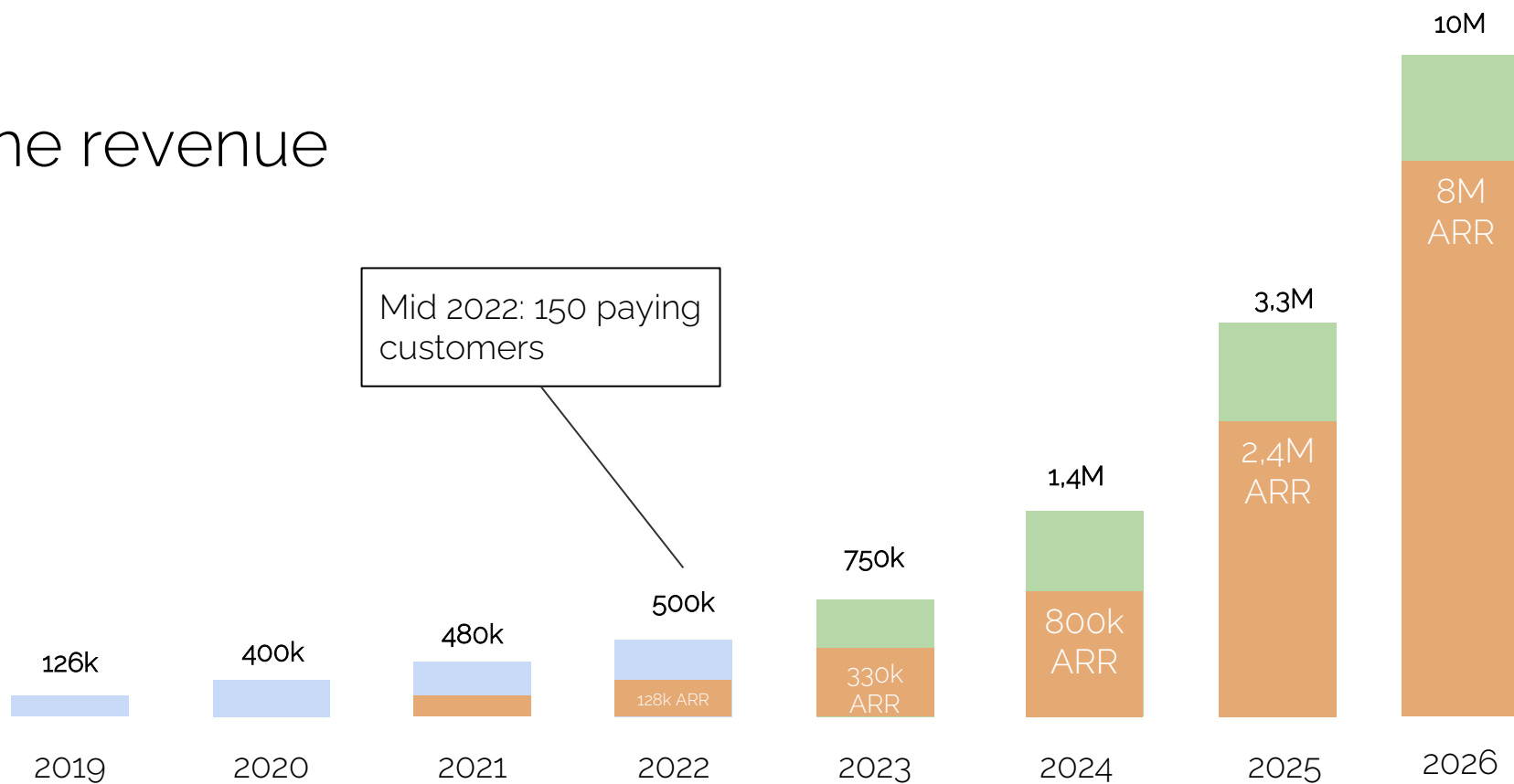
Semicon



Medical



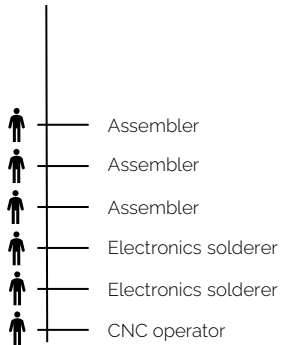
The revenue



The Team: 14 people



Tobias Waumans PhD
Production
2nd scale-up company



Jan Peirs PhD
Technology
20 years Research



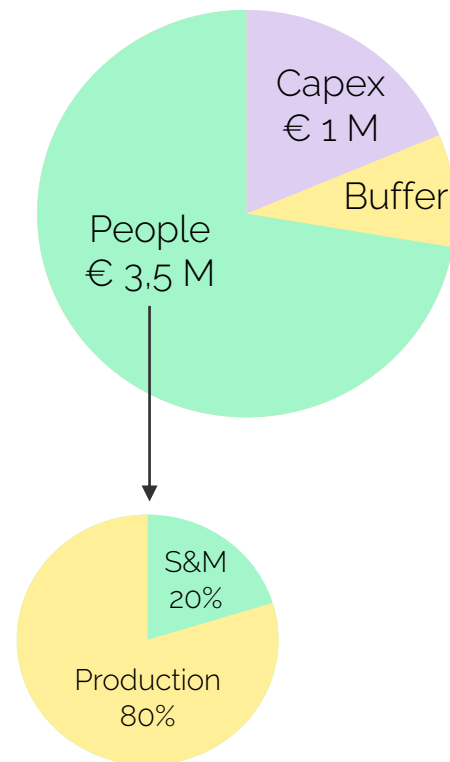
Hans Clijsters
Commercial and General
Services
4th scale-up company



Nicolas Giraud
Finance
2nd scale-up company

What does it take to get there?

1. € 4,5M CAPEX (80% bank financed)
2. € 5M additional investment (A-round)
 1. € 1M own financing of Capex
 2. € 3,5M people (80% Production / 20% Sales & Marketing)
 3. € 0,5M buffer
3. Break-even: February 2025
4. € 10M in revenue in 2026
 1. Of which 80% ARR
5. Reaching almost 50% net margin in 2026 (€ 4,5M)





The gearless motor

