Nano-X Imaging deep dive (March 2021)

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Background

- Nano-X claim they have created an X-ray medical imaging machine that is far lighter and cheaper than current machines (\$10-15K price tag vs. \$1-3M) without sacrificing quality
- Founded in 2012, IPO in Aug 2020
- Nano-X promises to make medical imaging more accessible and more affordable for everyone
- No earnings, no sales, and as yet no regulatory approval

Tailwinds

- Two-thirds of the world's population does not have easy access to medical imaging
- Pay-per-scan business model allow deployment to smaller facilities such as urgent care centres, outpatient clinics, and in rural areas all over the globe

Brand / Innovation

- Semiconductor-based digital X-ray source is less expensive to manufacture, smaller, lighter, and able to work at room temperatures
- Damning short reports from Citron Research and Muddy Waters Research, although claims have been refuted by multiple sources
- Company have applied for FDA regulatory clearance as a Class II medical device. Process delayed by pandemic. If the FDA specify that the Nano-X imaging machine is a Class III medical device, extensive clinical studies will be required, delaying commercialisation plans by years and likely breaking the investment thesis
- Have agreement with Ambra Health, a leading medical data and image management company, to enable imaging to be accessed by hospitals and medical imaging providers in over 50 countries
- Strategic partnership with USARAD, a US joint commission accredited diagnostic service and telemedicine company, to launch an advanced Al-powered diagnostic service

Optionality

- Licensing the cold cathode X-ray technology to other device manufacturers
- Potential other uses in airport security, military, metallurgic analysis, and non-destructive testing in the aviation industry

Leadership

- Nano-X is led by its two co-founders, Ran Poliakine and Hitoshi Masuya
- Poliakine is a serial entrepreneur with experience founding businesses in multiple technology segments. Masuya was an early investor
- No Glassdoor ratings, the company only has 27 employees
- Strategic partnership with South Korea Telecom, the largest telecommunications operator in South Korea. SK Telecom invested \$20M pre-IPO and are helping Nano-X build a manufacturing plant where the semiconductors for X-Ray sources will be produced. Additionally, SK Telecom will handle sales and marketing in Vietnam and South Korea
- Total insider ownership of 22%

Total Addressable Market

- Current total addressable market for X-ray systems, maintenance and support is \$21B, although Nano-X are not directly competing for this developed market
- Innovative 'medical screening as a service' (MSaaS) business model creates a recurring revenue stream. Machines are provided at zero/low cost and Nano-X receive \$14 per scan (provider will charge ~\$40 per scan, compared to ~\$300 for a traditional X-ray)
- Payback period on a single machine is 4-5 months

Customers

- Aim to deliver 1,000 units in the first quarter of 2022, and a total of 15,000 units by 2024, which would result in a minimum annual revenue of \$400M
- Have contracts with 9 service providers in 13 countries to deliver 5,150 Nanox.ARC systems
- Have no obligation agreements with USARAD and SK Telecom to deliver a further 5,500 units

Financials

- Ended 2020 with \$213M and zero debt
- Non-GAAP net loss to ordinary shares for the fourth quarter 2020 was \$8.4M
- From CFO in Q4 2020 earnings call: "We believe our current cash is sufficient to fully execute on our plan of manufacturing, shipping, and installing 15,000 Nano-X systems globally by the end of 2024"
- If FDA clearance is not granted, it is likely that the company goes to zero