AlphaDBS project

Newronika®

Pioneer in αDBS®

Agenda

- About Newronika and alpha-DBS
- Clinical Activity
- Grant pathway
- Equity pathway

Presented by

- Costanza Conti, Grant Officer Newronika
- Michael Fattore, CFO Newronika

About Newronika

Corporate information

- Newronika is a spin-off company from **Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico of Milan** and the **University of Milan** based on ground-breaking research by Professor Dr Alberto Priori and his research team.

- The company is backed by prominent venture capital funds with extensive experience in the healthcare sector, including **Innogest SGR**, **Indaco Venture Partners**, **Omnes Capital**, **F3F**, **Wille Finance**, and **TNBT Capital**.

- The company has retained a world-class **Scientific Advisory Committee** and is endowed with an experienced **Management Team**.

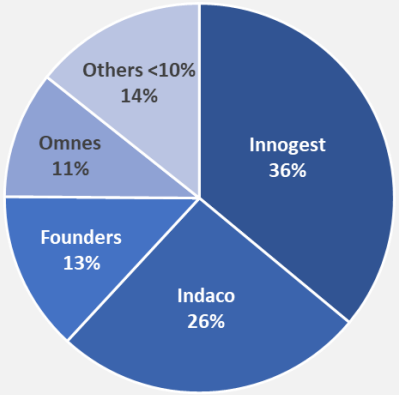
Academia

Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico

Sistema Socio Sanitario Regione Lombardia

UNIVERSITÀ DEGLI STUDI DI MILANO

CAPTABLE



INNOGEST

OMNES

F3F

INDACO VENTURE PARTNERS SGR

TNBT

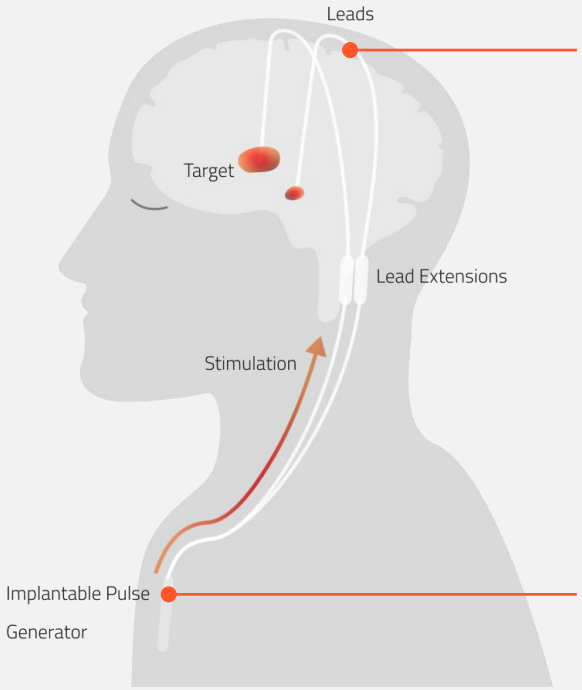
Team & Talent

- Lothar Krinke – CEO
- Lorenzo Rossi – CTO & Cofounder
- Ioannis Isaias – CMO
- Kristen Drake – VP Clinical & Regulatory
- Sara Marceglia – CSO
- Michael Fattore – CFO
- Alberto Priori – Chairman of the SAB

Deep Brain Stimulators (Brain Pacemakers) for Parkinson's

Currently DBS technology is in Conventional mode, Newronika offers a technological advanced Adaptive mode

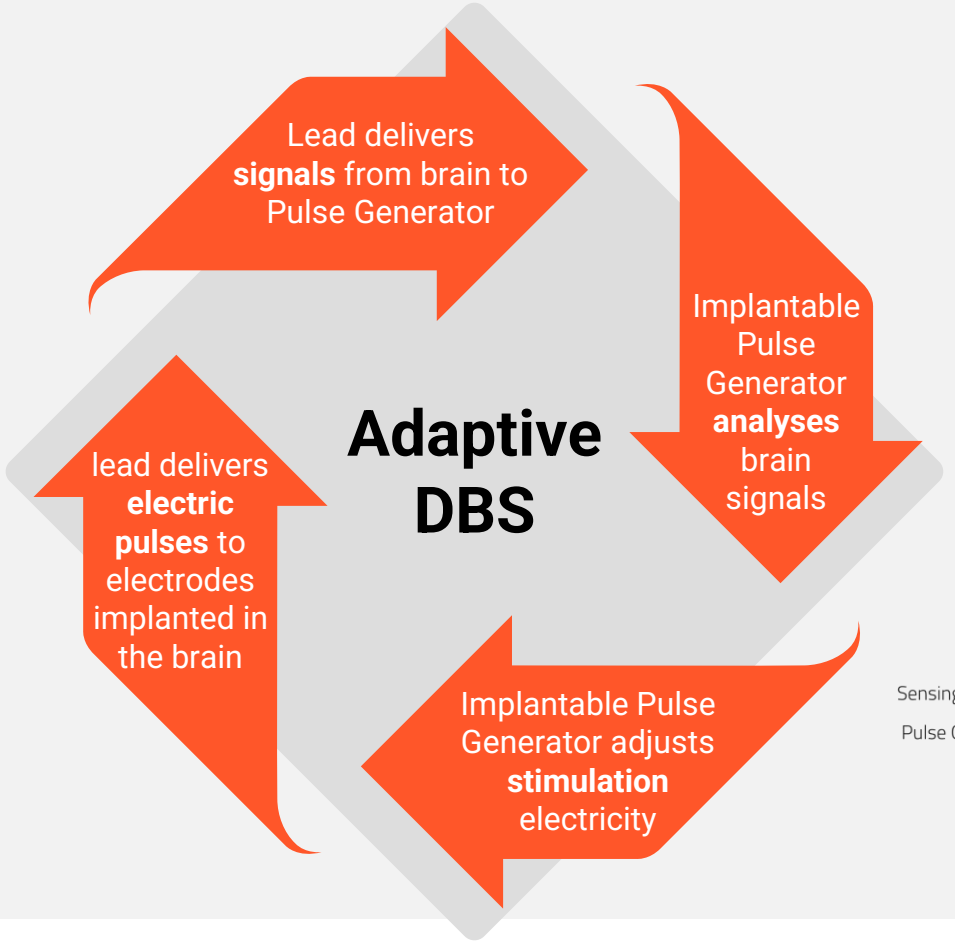
How Conventional DBS works…

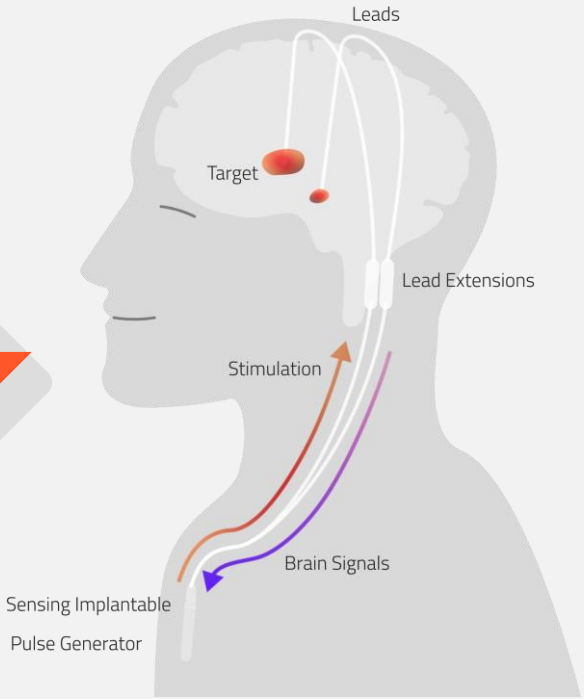


DBS Leads deliver electric pulses to specific Brain targets

Implantable Pulse Generator produces electrical pulses at fixed intensity

How Adaptive DBS works…

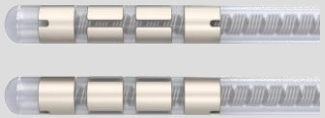




The Newronika **AlphaDBS** system

Currently product is CE-marked for conventional DBS – adaptive DBS technology is built in and can be unlocked

Implantable IPG
- Rechargeable
- Brain signal sensing
- Adaptive technology can be unlocked
- CE-mark received for conventional DBS

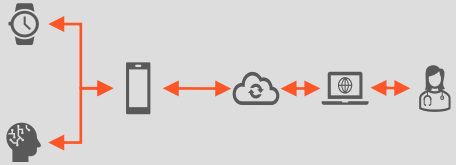


DBS electrodes and extensions
- CE-mark received for third party lead
- Advanced lead (directional) under development

Clinician Programmer
- Telemetry unit to personalize patient stimulation parameters
- CE-mark received for simple programmer
- Tablet based programmer under development
- 2024 CE-mark

Patient recharge and control unit
- Recharger
- Patient control
- Brain signal data is transferred from IPG to unit each time system is recharged
- CE-mark received for conventional DBS

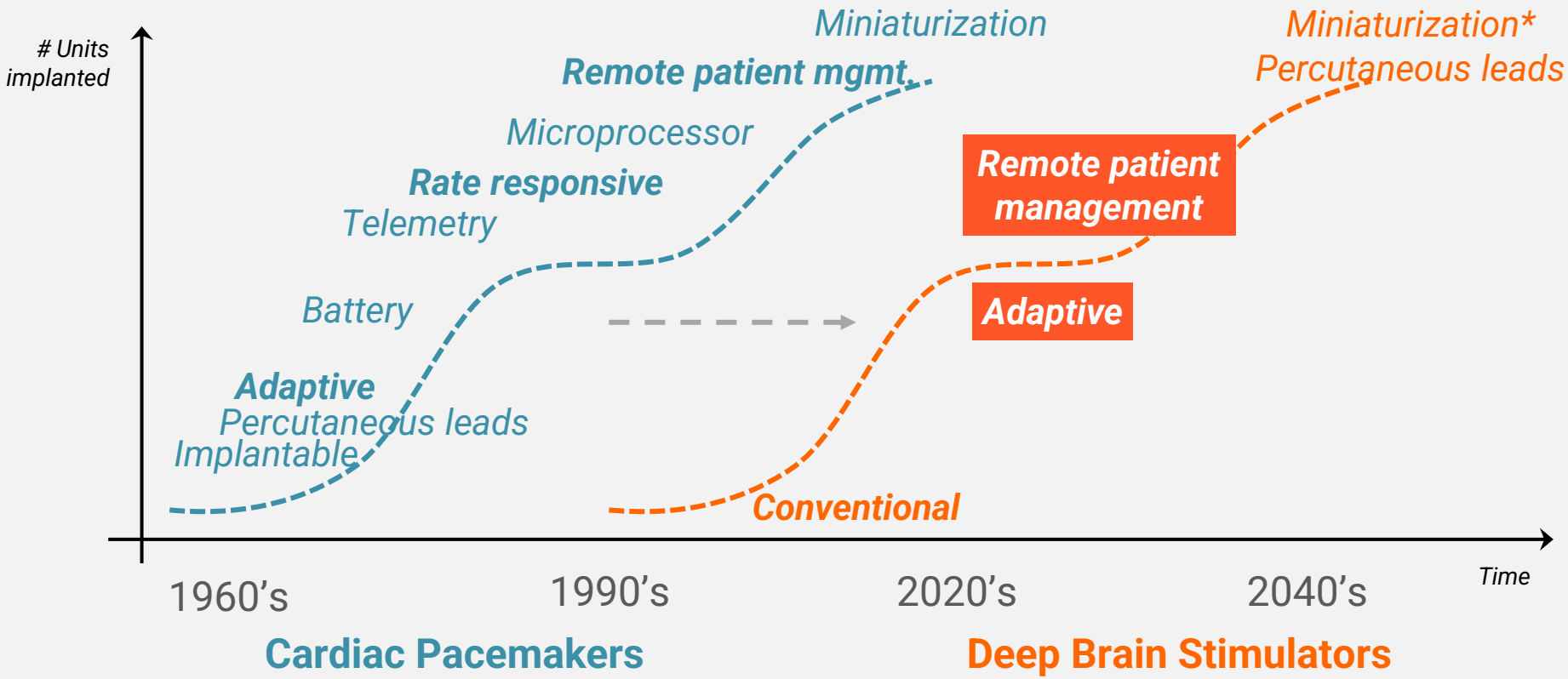
Patient app
- Sends brain signals stored on patient control unit to cloud-based patient data management system
- Submitting for CE-mark in 2023



Cloud based patient data management system
- Platform for future remote patient programming
- Remote patient monitoring via Integration of brain signal and wearable data
- Submitting for CE-mark (brain monitoring only) in 2023

Technological evolution: Cardiac Pacemaker vs DBS

As in the Cardiac pacemakers' industry, DBS adoption rate is driven by technological innovation



αDBS®

Newronika's **AlphaDBS** technology will enable and drive future **DBS market growth**

Source: Wilhelm, Osswald and Heine. A Look Back: 85 Years of Cardiac Pacing, EP Lab Digest sept 2014
*initial plans

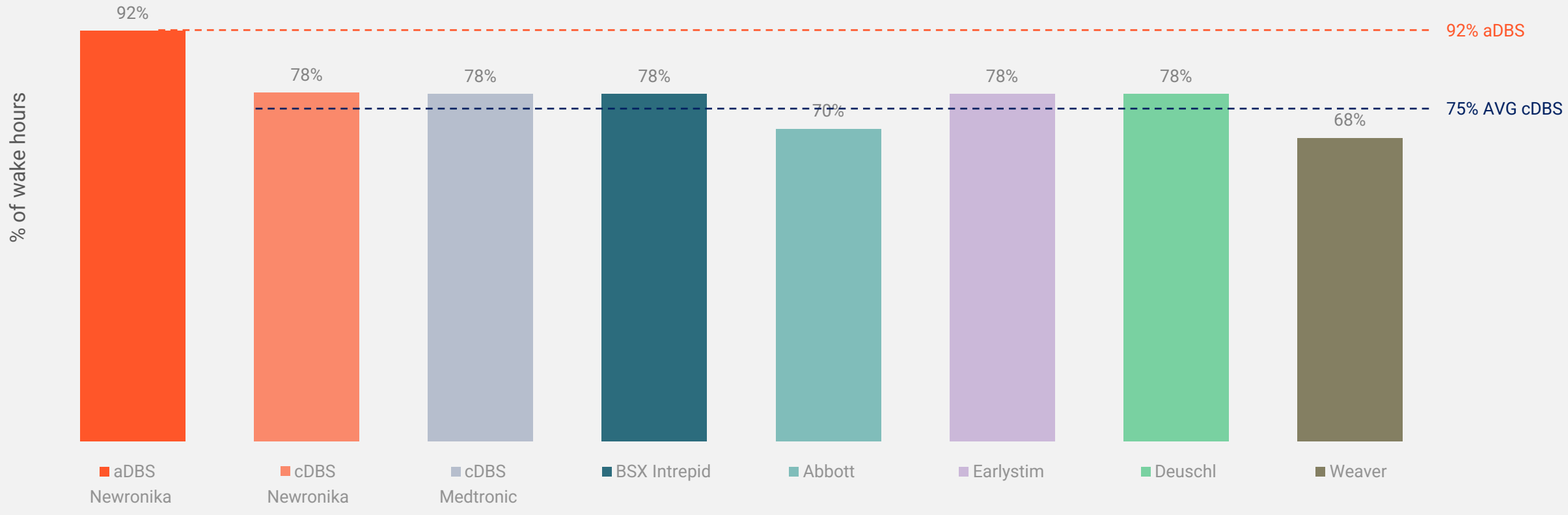
Clinical Trials

Newronika can boast significant Clinical Trial experience

	CS1 and CS2	PS1: 2h aDBS vs cDBS	PS2: 8h aDBS vs Levodopa	PS2-bis: 8h aDBS vs cDBS	PS3: 24h aDBS vs cDBS	**FIRST CLINICAL TRIAL WITH AlphaDBSipg** PS4a/b/c: 2 weeks aDBS vs cDBS	**FUTURE CLINICAL TRIAL AlphaDBSipg** PV1 Pivotal study
	2014-2015	2015-2016	2017-2018	2018	2017-2019	2021-2023	2023
Device							
Patients	**De novo DBS** 1 patient per study	**De novo DBS** 10 patients	**De novo DBS** 11 patients	**De novo DBS** 8 patients	**Chronic DBS** 3 patients	**Chronic IPG exchange and de novo DBS** 19 patients	**De novo DBS** 36 – 60 patients
Description	aDBS vs cDBS **2hr Case study**	aDBS vs cDBS **2hr Levodopa challenge**	aDBS vs Ldopa **8hr Open Label Daily Care**	aDBS vs cDBS **8hr Open Label Daily Care**	aDBS vs cDBS **24hr Randomized Daily Care**	aDBS vs. cDBS **4 weeks Randomized Daily Care**	cDBS vs. aDBS **4 week Randomized Daily Care**
Clinical Objectives	**Efficacy and Safety**	Study **levodopa interaction** in controlled environment	Study levodopa **interaction in daily care**	**Efficacy and safety in daily care**	Efficacy and safety in **chronic patients**	**IPG** efficacy and safety	**aDBS** approvals
	Completed and published					In completion	Planned

Clinical Data: Superiority of Newronika alpha DBS system

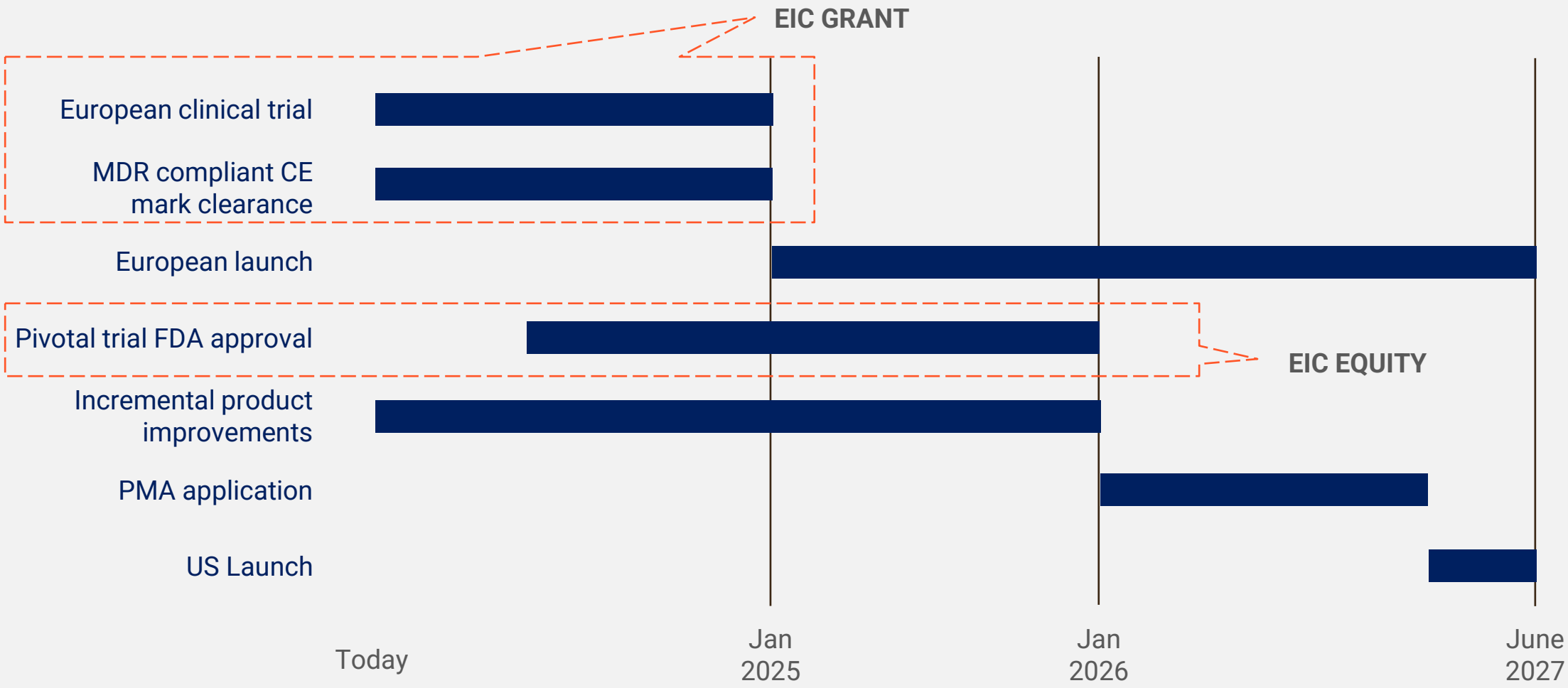
Efficacy in terms of Ontime without troublesome dyskinesia compared to alternative systems



Trial	Source
Newronika aDBS and cDBS	*Newronika file*
Medtronic cDBS	*MDS poster*
BSX Intrepid	*Vitek et. Al. Lancet Neurology Vol 19 June 2020*
Abbott	*Okun et. Al. Lancet Neruology Vol 11 February 2012*
Earlystim	*Schuepbach et. Al. New England Journal of Medicine 368;7 14 February 2013*
Deuschl	*Deuschl et. Al. New England Journal of Medicine 355;9 31 August 2006*
Weaver	*Weaver et. Al. JAMA February 1 2010*

Newronika aDBS increases Ontime from 75% (average across all alternative cDBS systems) to 92%.

Timeline of the alpha DBS project



Aims of the grant

The project aims at advancing the AlphaDBS System to TRL8, throught 2 consequential steps:

- TRL7 will be completed at the completion of the clinical study
- TRL8 will be reached when the CE-mark for aDBS mode will be achieved (WP5 include all needed regulatory activities).

Therefore the **final goal of the projet will be to have the product ready for market launch in Europe**.

Such overall aim will be achieved by **advancing beyond the state of the art a number of features that constitute the added value of the technology.**

Intial market activities (after the end of the 2 years grant) include market launch (WP7) and healtheconomics studies (WP8) needed to prove the cost/effectiveness of aDBS and guide further decisions on pricing and on activities needed to introduce specific reimbursement codes for aDBS.

Grant history

First submission to SME 2 instrument – Seal of excellence but no funding

Criterion 1 - Impact		
	Overall Score	**4.45**
1	Convincing description of substantial demand (including willingness to pay) for innovation; demand generated by new ideas, with the potential to create new markets, is particularly sought after	B
2	Convincing description of targeted users or customers, how their needs have been addressed, why the identified customers will want to buy the product	B
3	Realistic and relevant analysis of market conditions and growth-rate, competitors and competitive offerings, key stakeholders, clear identification of opportunities for market introduction, creation or disruption	B
4	Realistic and relevant description of how the innovation has the potential to scale-up the company. This should be underpinned by a convincing business plan, with timeline, and, where possible, by a financial track-record	B
5	Alignment of proposal with overall strategy of applicant SME and team's commitment. Demonstration of need for commercial and management experience, including understanding of the financial and organisational requirements for commercial exploitation and scaling up	A
6	Realistic and relevant strategic plan for commercialisation, including approximate time-to-market. Activities to be undertaken after the project	B
7	European/global dimension of innovation with respect to both commercialisation and assessment of competitors and competitive offerings	B
8	Evidence of or realistic measures to ensure 'freedom to operate'. Convincing knowledge-protection strategy, including current IPR filing status, ownership and licensing issues. Regulatory and/or standards requirements addressed.	A
9	**Overall assessment of the Impact criterion (25% weight in the assessment of this criterion): Taken as a whole, to what extent are the above elements coherent and plausible**	**A**

Criterion 2 - Excellence		
	Overall Score	**4.45**
1	High-risk/high-potential innovation idea that has something that nobody else has. It should be better and/or significantly different to any alternative. breakthrough innovations are particularly sought after. Its high degree of novelty comes with a high chance of either success or failure.	B
2	Realistic description of the current stage of development (TRL 6) and clear outline of the steps planned to take this innovation to market.	A
3	Highly innovative solution that goes beyond the state of the art in comparison with existing or competing solutions. Including on the basis of: costs, ease of use, as well as issues related to climate change, gender dimension, any other benefits for society.	A
4	Very good understanding of risks and opportunities related to successful market introduction. From a technical and a commercial point of view. Documentation on the technological, practical and economic feasibility of the innovation	B
5	Objectives for the innovation proposal as well as the approach and activities to be developed are consistent with the expected impact. Appropriate definition provided of specifications for outcome of project and criteria for success.	A
6	**Overall assessment of the Excellence criterion (25% weight in the assessment of this criterion): Taken as a whole, to what extent are the above elements coherent and plausible.**	**A**

Criterion 3 - Quality of implementation		
	Overall Score	**4.5**
1	Technical/business experience of the team	A
2	Availability of resources required (personnel, facilities, networks, etc.) to develop project activities in the most suitable conditions.	B
3	Realistic timeframe and comprehensive description of implementation, taking the company's or applicant's innovation ambitions and objectives into account.	A
4	**Overall assessment of the Quality and Efficiency of Implementation Criterion (25% weight in the assessment of this criterion) Taken as a whole, to what extent are the above elements coherent and plausible.**	**A**

Some issue related to «realistic» analysis of the general contest and feasibility of the project

Grant history – Submission 2022

Step 1 (Q2-2022)

More mature technology

Grant history – Submission 2022

Step 2 (Q3-2022)

Effort in improving our story telling

What we had:

- Existing prototype
- Added value
- Plan to reach the market
- Good knowledge of the reference market and scientific community
- Good team

3 GOs

Which issues we faced:

- Challenges (known risks)
- Budget constrains and importance of EIC contribution

Positive interactions with the expert appointed by the EC

Grant history – Submission 2022

Step 3 (Q3-2022)

We prepared for the interview (also with the support of APRE)

- Information on the background of our interviewers
- Most of them innovation sector/investment/health
- Some with knowledge of medical device industry, but none of the neuromodulation field

All GOs

At the interview:

- Sometimes difficult to explain your added value
- We had strong rationale for our proposed work plan

AlphaDBS project approval

Grant first path

- Grant component 2.5 Meuros – to reach the market
- Additional equity component upon reaching given milestone

- Project started in March 2023
- The project timeline is very short
- Need to be very concentrate to meet the milestones

Aims of the Equity Side

- Pivotal Trial
- FDA approval
- Fundraising – Series B

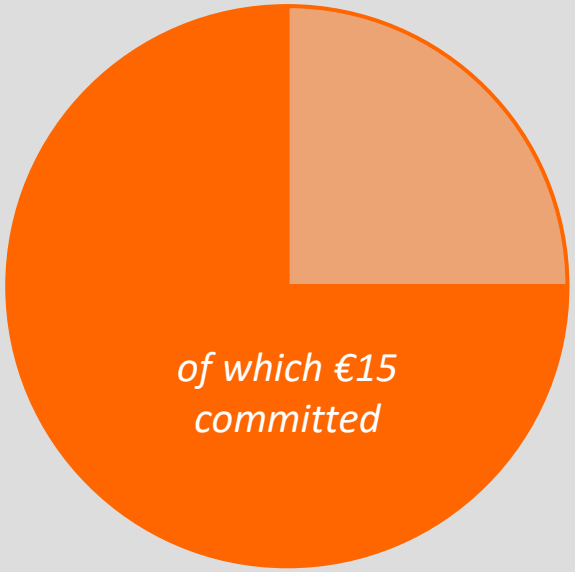
Timeline of the Equity Side

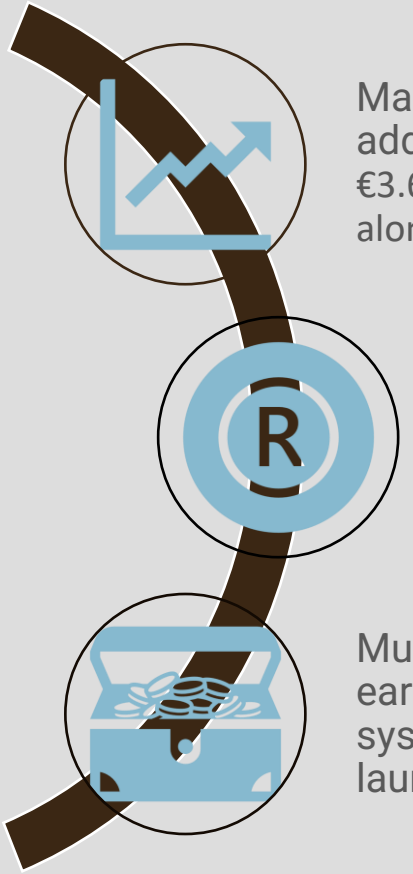
- June ’24 Application
- June/July ’24 Business Due Diligence
- Aug ’24 Term Sheet negotiation
- Sept/Oct ’24 Financial/First legal Due Diligence
- Nov/Dec ’24 Italian legal Due Diligence (intensive)
- Dec ‘24 Conversion from Grant only to Blended
- Jan ’24 Shareholders Loan (Prestito Obbligazionario)
- Since then reporting and regular updates on Fundraising

Newronika will deliver attractive returns to investors

Series B investment rationale

€20M+
Series B





Massive total addressable market of €3.6B in Parkinson's alone.

Proprietary patented close loop DBS technology with clinical evidence that matters.

Multiple exit options as early as 2025. Full system ready for US launch 2027.

Newronika

Thank you for your attention!