



Investor Webcast
2022 Full Year Results
March 28, 2023

Forward Looking Statements

This Presentation may include statements, including the Company's financial and operational medium term objectives that are, or may be deemed to be "forward looking statements". These forward looking statements may be identified by the use of forward looking terminology, including the terms "believes", "aims", "forecasts", "continues", "estimates", "plans", "projects", "anticipates", "expects", "intends", "may", "or" or, in each case, their negative or other variations or comparable terminology, or by discussions of strategy, plans, objectives, goals, future events or intentions. Forward looking statements may and often do differ materially from actual results. Any forward looking statements reflect the Company's current view with respect to future events and are subject to risks relating to future events and other risks, uncertainties and assumptions relating to the Company's business, results of operations, financial position, liquidity, prospects, growth or strategies. Forward looking statements speak only as of the date they are made.

Speaking Today



Dave Marver CEO



Lara Smith-Weber CFO

Introduction

ONWARD at a Glance

Key Facts

- Founded in 2015
- 110+ FTEs¹
- HQ in Eindhoven, the Netherlands
- Science and Engineering Center in Lausanne, Switzerland
- Growing US presence centered in Boston, Massachusetts
- IPO 2021, Euronext Brussels and Amsterdam; \$150M+ raised since inception

- **Technology** - 2 purpose-built neuromodulation platforms that stimulate the spinal cord via implantable (ARC^{IM}) or external (ARC^{EX}) technologies
- **Innovation** - 8 FDA Breakthrough Device Designations and 330+ issued or pending patents
- **Clinical Validation** - One pivotal trial complete with positive top line results reported for ARC^{EX}; positive interim outcomes also reported for ARC^{IM} blood pressure indication
- **Commercialization** - Large total available market (EUR 20B+); first commercial sale expected late 2023; strategic relationship with Christopher & Dana Reeve Foundation

¹ As of February 28, 2023

Vision

Empowered by movement, people with spinal cord injury will enjoy life in every way that matters to them

Technology



ARC IM

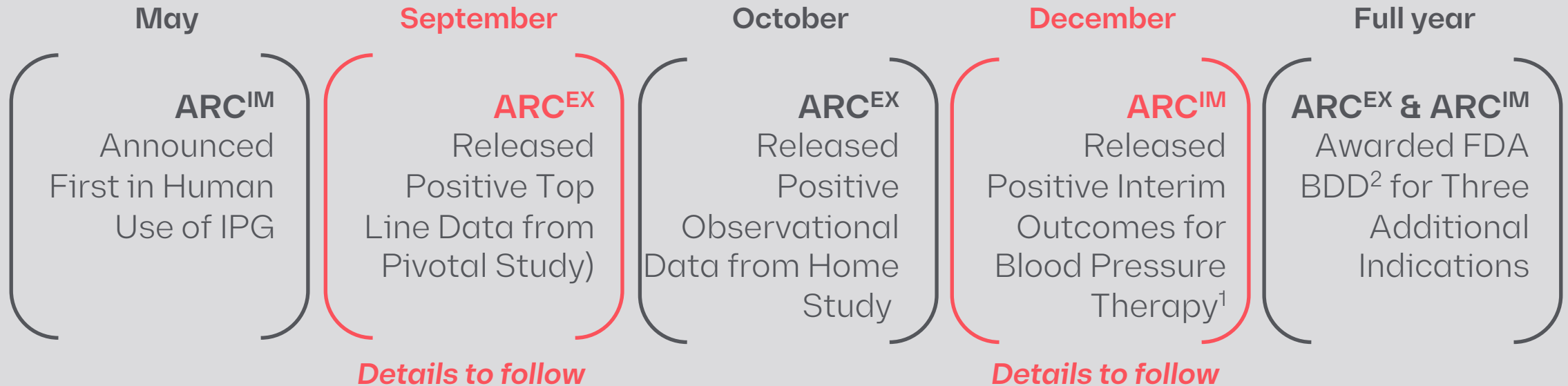


ARC EX

2022 Business Update

Important progress including completion of pivotal trial with positive top line results; positive interim outcomes

Innovation & Clinical Development Update

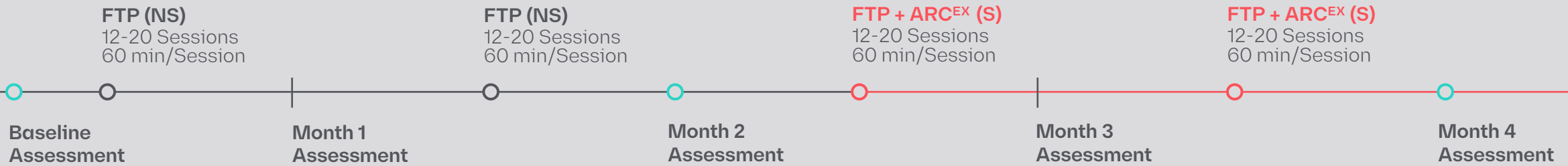


¹First 10 participants from three studies evaluating the use of ARC^{IM} Therapy to normalize low blood pressure in people with SCI,

²Breakthrough Device Designation

Met primary endpoint: Clinically meaningful improvement in upper extremity strength and function

Study Design



FTP = Functional Task Practice ○ Assessments used to establish endpoint data (NS) = No Stimulation (S) = Stimulation

Study Goal

To demonstrate statistically significant improvement in the strength and function of the hands and arms after spinal cord injury

Positive top line data announced September 2022

The **first large-scale trial** of non-invasive spinal cord stimulation (n=65)

Leading Research Collaborators



Reported December 2022, 10 participants across studies in Canada and Switzerland

ARC^{IM} Interim Blood Pressure Outcomes

Summary Outcomes

- All participants had **increased blood pressure** with stimulation
- All participants who were on anti-hypotensive medication **reduced dosage or stopped medication completely**
- All participants reported **reduction of orthostatic hypotension** in daily life, feeling more energized and less dizzy
- Partners reported **higher levels of energy and increased participation in social interaction**, during meals and family time
- All participants **use stimulation actively** in daily life, several during the entire waking day (>10h per day)
- **Quality of Life improved in all participants**

“My outlook on life has become more positive. I feel more awake and less tired and dizzy. I have a lot more appetite for life”¹

Example Quality of Life Improvements

- Longer car trips are now possible
- Faster transfers from bed to wheelchair and wheelchair to car; one participant reported **reduction in morning transfer** from 45 minutes to 2-3 minutes
- Able to start more intensive rehab therapy for first time since injury
- Contemplating return to school and work for first time since injury

¹ Comment reflects the experience of a single study participant and should not be extrapolated to reflect study results nor claims.

Increasingly robust evidence and visibility to clinical outcomes across both platforms and multiple indications

ARC Therapy Evidence

	Indication	Key Takeaways		
ARC^{EX}	SCI Upper Limb (n=118) <ul style="list-style-type: none"> 8 pilot studies¹ (n = 53) Up-LIFT pivotal study (n=65) LIFT Home (n=17) 	Meaningful improvement in strength and function	Supporting safe use in home setting	No device related serious adverse events
ARC^{IM}	SCI Blood Pressure (n=10) <ul style="list-style-type: none"> Squair et al 2022³ (n=1) STIMO-HEMO: unpublished, ongoing (n=5) HemON: unpublished, ongoing (n=4) SCI Mobility (n=9) <ul style="list-style-type: none"> STIMO study (n=9); Wagner et al 2018⁴ Includes brain computer interface study (n=1), unpublished Parkinson's Disease Mobility⁵ (n=2) <ul style="list-style-type: none"> STIMO-PARK: unpublished, ongoing (n= 2) 	Reduced orthostatic hypotension and improved quality of life	Optimal stimulation location confirmed (hemodynamic hotspot)	ONWARD IPG successfully implanted (n=4)
		Recovery of standing, walking and other activities	Neurological recovery persists even without EES ²	Closed-loop control through brain interface appears promising
		Improved balance and reduced falls	Reduced freezing of gait	Improved walking endurance and symmetry

Visibility to clinical outcomes available for both ARC^{IM} and ARC^{EX} technology platforms (as of 28 March 2023)

¹Not all pilot studies investigated upper extremity function, ²EES = Epidural electrical stimulation, ³Squair et al. N Engl J Med 2022, ⁴Wagner et al. Nature 2018, ⁵Rowald et al. Nat Med 2022, ⁵Based on findings for 1 patient

New discoveries to help people with SCI and other movement disabilities

Science & Intellectual Property Update

February

Science
Nature
Medicine
publication¹

April

Science
New England
Journal of
Medicine
article²

June

Science
Nature
Neuroscience
publication³

June

IP
24 new
patents
awarded⁴

November

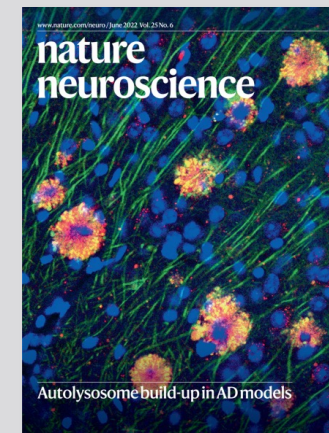
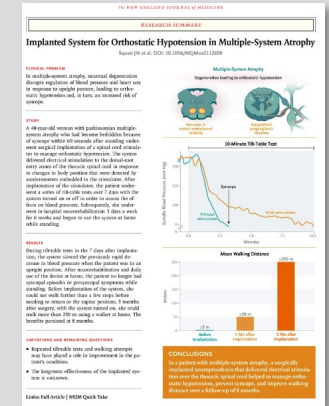
Science
Awarded EIC
grant to further
develop ARC^{BCI}

November

Science
Won first prize
in BCI⁵ award

November

Science
Nature
Neuroscience
publication⁶



¹ Highlighted use of ARCTM Therapy to enable people with even most severe forms of SCI to stand and walk again, ² Highlighted use of ONWARD's innovative approach to treating orthostatic hypotension (low blood pressure) in patient with MSA-P, ³ Showed potential for ONWARD's ARCTM Therapy to restore movement and function in hands and arms after spinal cord injury, ⁴ Patents awarded in the first half of 2022 (January to June), ⁵ Brain Computer Interface, ⁶ Researchers from .NeuroRestore identified specific neurons activated and remodeled by spinal cord stimulation that enable patients to walk

Organizational capabilities enhanced in preparation for expected late 2023 launch

Corporate Update



Seasoned professionals will help company scale and reach its full potential

New Leadership Team members



Lara Smith Weber
CFO

Led \$240M NASDAQ IPO as CFO of MorphoSys US, Inc. 9 years at MorphoSys and 4 years at Telefonica Germany in a variety of finance leadership positions. Associate with Booz Allen consulting. MBA from IMD and BS and MSc in Electrical Engineering from Stanford.



Zouhir Mehta
VP Operations

Over 20 years of operations experience with large medtech and scale-up companies. Former VP Manufacturing and Supply Chain for Dentsply Sirona for the US, EMEA, and Switzerland. Has overseen multiple ERP installations, established manufacturing systems, and built procurement and customer service capabilities.

New Board Directors



Kristina Dziekan

Led international reimbursement and market access for Medtronic Neuromodulation as Senior Global Reimbursement and Health Economics Director. Formerly Head of Market Access, Government Affairs, and Tendering for Alcon's Surgical Division in Europe. MSc in Health Policy from London School of Economics.



Vivian Riefberg

Former senior partner with McKinsey & Company, where she co-led the US healthcare practice and led the US government practice. Currently the David C. Walentas Jefferson Scholars Chair Professor of Practice at the Darden School of Business at the University of Virginia. MBA from Harvard Business School.

Leadership and Governance

2022 Full Year Results

FY 2022 Financial Review

EUR Million

For the year ended, 31 December

	2022	2021
Total Revenues & Other Incomes	2.1	1.4
Research & Development Expenses	(13.1)	(10.6)
Clinical & Regulatory Expenses	(5.7)	(4.8)
Marketing & Market Access Expenses	(2.0)	(1.5)
Patent Fees & Related Expenses	(1.5)	(1.4)
Quality Assurance Expenses	(1.2)	(1.0)
General & Administrative Expenses	(10.6)	(10.7)
Total Operating Expenses	(34.2)	(30.0)
Operating Loss for the Period	(32.0)	(28.6)
Net Finance expenses	(1.5)	(5.7)
Income Tax Expense	0.8	(0.0)
Net loss for the period	(32.8)	(34.3)
At	31 December 2022	31 December 2021
Net cash position at end of period	61.8	89.4
Interest-bearing loans	(12.7)	(11.5)
Equity	52.5	82.7

FY 2022 Cash Update

Cash burn on-track and aligns with expectations that current cash position can fuel operations through end of 2024

Burn
€27.6M used
during 2022

Ending Balance
€61.8M net cash¹ as
of 31 December
2022

¹ Net cash is defined as the sum of cash and cash equivalents and fixed term deposits included in the current assets as included in consolidated statement of financial position in the Financial Statements.

2023 YTD Business Update

Two additions to ONWARD Leadership Team in early 2023

Joined in January 2023

Joined in February 2023



Dave Marver
CEO

Seasoned medical technology executive with 30 years of global experience. Nearly 15 years with Medtronic in a variety of Vice President roles in the US and Europe. Has served as CEO of listed companies on NASDAQ and Euronext; raised over \$200M in capital via IPO and private financings; companies have developed three Time Magazine Best Invention awards.

Lara Smith Weber
CFO

Led \$240M NASDAQ IPO as CFO of MorphoSys US, Inc. 9 years at MorphoSys and 4 years at Telefonica Germany in a variety of finance leadership positions. Associate with Booz Allen consulting. MBA from IMD and BS and MSc in Electrical Engineering from Stanford.

John Murphy, PhD
CTO

Over 25 years of experience leading the development of active medical implants and neurostimulation devices. Former Chief Technology Officer for LivaNova with responsibility for neuromodulation R&D. Also former VP Engineering for Abbott, where he was responsible for CRM and neuromodulation R&D; PhD from EPFL.

Erika Ross Ellison, PhD
VP Clinical & Regulatory

Former Leader of Abbott Neuromodulation's Clinical function. Former neuroscience director at Cala Health, a neuromodulation device company. Former professor of Neurosurgery at Mayo Clinic. PhD in Neuroscience from Mayo Clinic, BS in Biology and MSc in Molecular Biology from the University of Denver.

Grégoire Courtine, PhD
CSO

PhD in Experimental Medicine and trained in Mathematics, Physics, and Neurosciences. Professor at EPFL. Awards include Schellenberg Prize, Rolex Award, Chancellor Award, and Fellowship from the European Research Council. Preeminent researcher with over 120 publications in top peer-reviewed journals.

Sarah Moore
VP Global Marketing

Over 20 years of healthcare Marketing, Sales and Business Development experience. Former Global Marketing Leader at Nevro, a neuromodulation company. Nearly 15 years with J&J as Business Unit and Marketing leader. Has lived and worked in the US and Europe. MBA from Duke University.

Two new FDA Breakthrough Device Designations awarded; now eight in total

FDA Breakthrough Device Designations



Total of 8 Breakthrough Device Designations including all three indications in our current business plan

2023 Outlook

Several important milestones expected in 2023

Upcoming Milestones

ARC^{EX}

Submit for regulatory clearance for Upper Limb indication¹

ARC^{EX}

Share detailed results from Up-LIFT pivotal study

ARC^{IM}

First-in-human use of ARC^{IM} Lead

ARC^{BCI}

First-in-human use of ARC^{BCI} platform

Corporate

Strengthen field capabilities and operational systems

Corporate

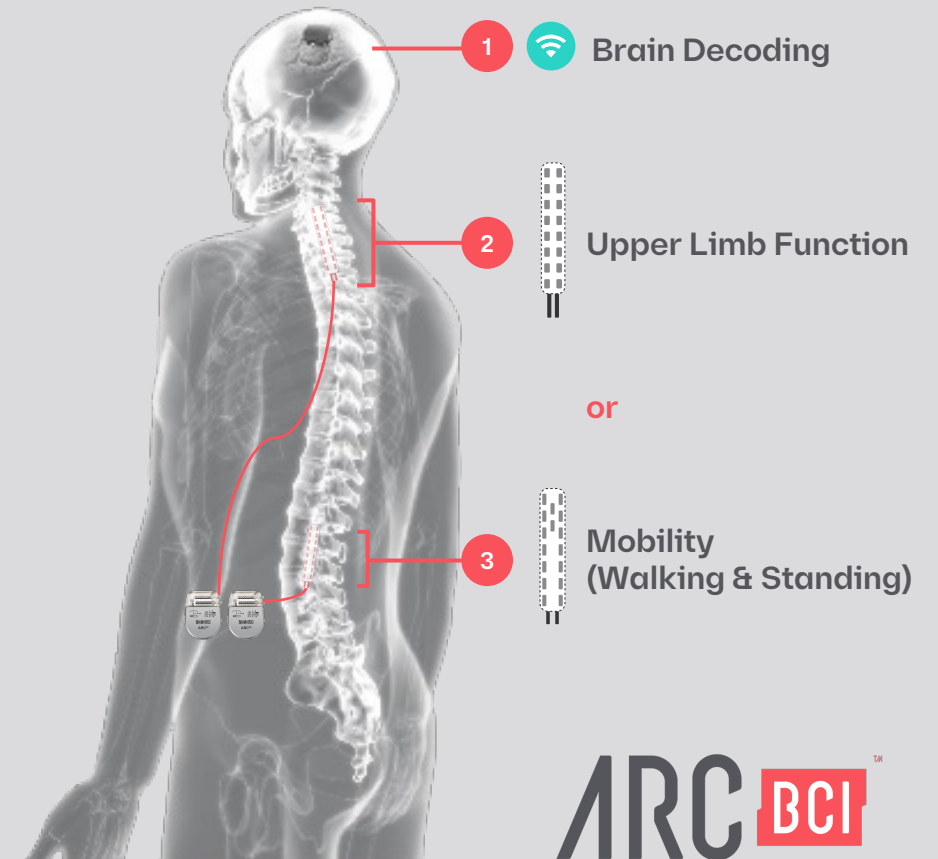
Pursue opportunities to further strengthen balance sheet and extend cash runway

¹ Improvement of upper extremity strength and function in patients with SCI

ONWARD is positioned to be a leader in BCI, with differentiated focus on restoring natural movement

- High-profile, emerging area at **intersection of technology and life sciences**
- ONWARD brain-computer interface platform (ARC^{BCI}) records brain signals and **wirelessly transmits a person's intention to move** to the Company's ARC^{IM} system to enable more natural movement
- ONWARD is **investigating ARC^{BCI} as an enhanced implantable platform** for movement-related indications
- Current focus of other BCI companies is generally controlling computers and machines; **ONWARD focus is restoring motor function**
- **ONWARD is well positioned to lead** in the emerging BCI category:
 - In conjunction with EPFL and CEA-Clinattec, **successfully implanted human with prototype BCI** to facilitate mobility (walking) in 2022
 - **Exclusive license to BCI IP** from EPFL
 - **Awarded European Innovation Council grants** to study BCI technology in four humans to recover hand/arm function and mobility in 2023/24
 - Part of consortium that **won First Prize in the 2022 BCI Awards**
- **Next step:** First-in-human use of ARC^{BCI} expected in 2023

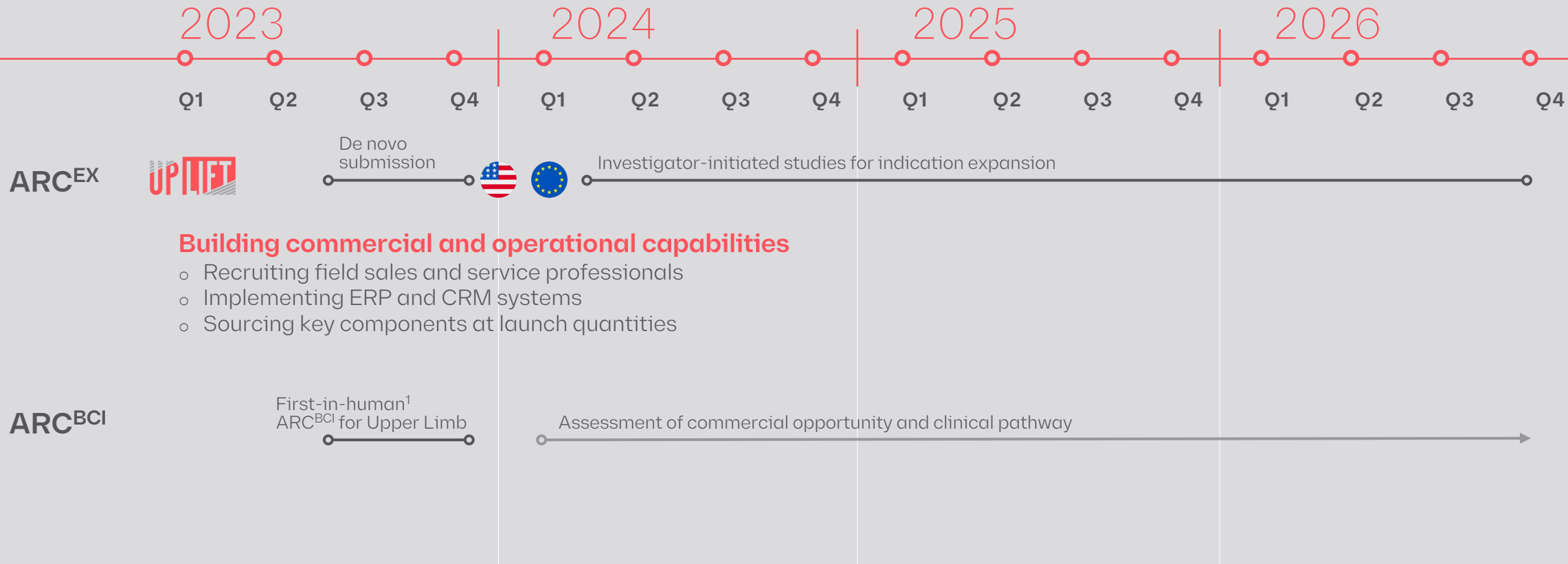
Brain Computer Interface (BCI)



ARC^{BCI}

ARC^{EX} regulatory submission and ARC^{BCI} first-in-human planned during 2023

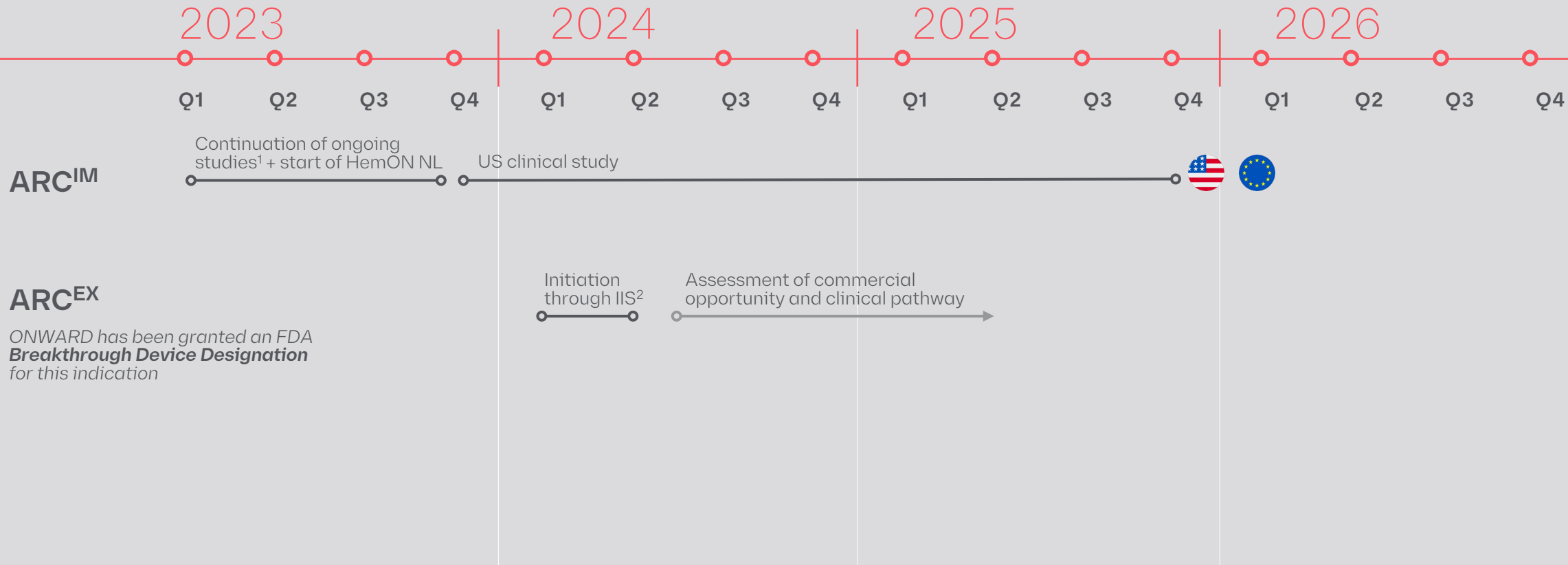
Upper Limb Timeline



¹ ARC^{BCI} first-in-human funded by European Innovation Council grant

First participant enrollment in US clinical study expected in 2023

Blood Pressure Timeline

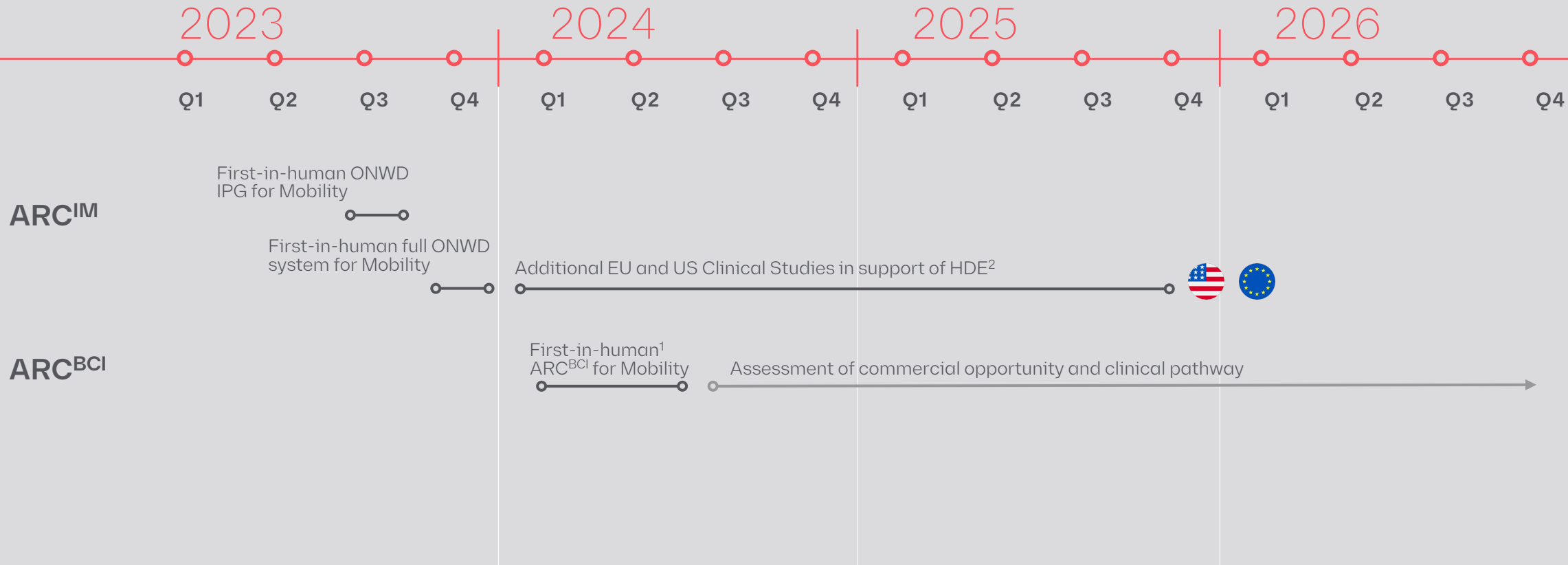


ONWARD has been granted an FDA **Breakthrough Device Designation** for this indication

¹ Includes HemON CH and STIMO HEMO, ² IIS = Investigator Initiated Studies

First-in-human of full ONWARD mobility system expected in 2023

Mobility Timeline



¹ ARC^{BCI} first-in-human funded by European Innovation Council grant, ² Company will continue to evaluate and optimize path to market for mobility indication

Significant news flow to engage and sustain investor interest; major expected items noted below

Numerous Milestones to Drive Value

2023

Up-LIFT Study Data Reveal **ARC^{EX}**
Upper Limb

First Commercial Sale **ARC^{EX}**
Upper Limb – US

First-in-Human Use **ARC^{IM}**
Thoracic and lumbar leads

First Participant Enrollment **ARC^{IM}**
Blood Pressure US Study

First Participant Enrollment **ARC^{IM}**
Mobility Early Feasibility

First-in-Human Use **ARC^{BCI}**
Upper Limb

2024

First Commercial Sale **ARC^{EX}**
Upper Limb – Europe

Top Line Data **ARC^{IM}**
Blood Pressure Feasibility

First-in-Human Use **ARC^{BCI}**
Mobility

2025

Indication expansion leveraging BDDs¹ **ARC^{EX}**
To be determined

First Commercial Sale **ARC^{IM}**
Blood Pressure – US

First Commercial Sale **ARC^{IM}**
Mobility – US

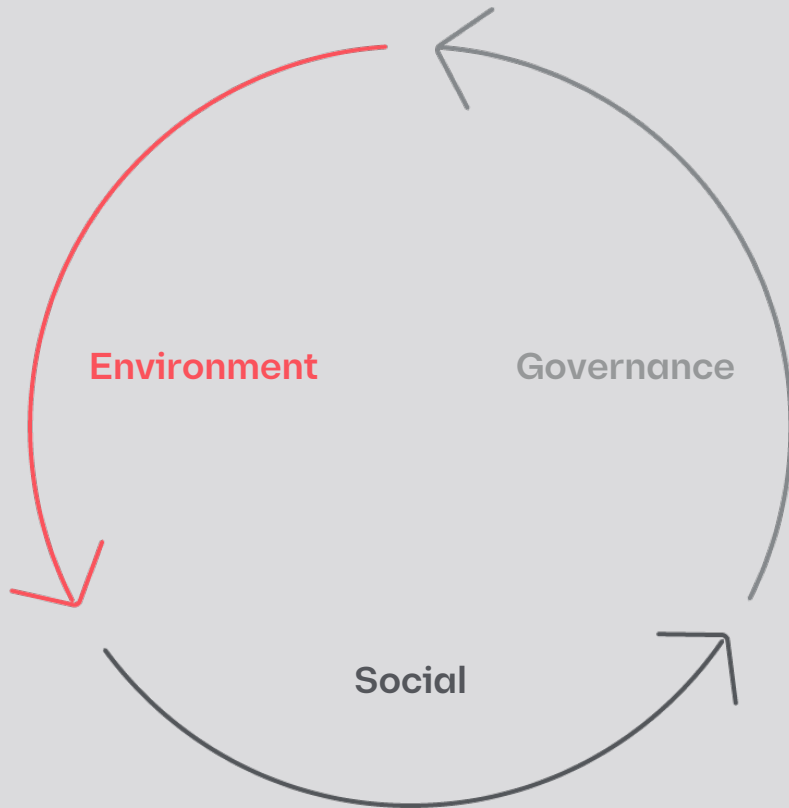
¹ BDD = FDA Breakthrough Device Designation

ESG Update

Committed to creating long-term value for all of our stakeholders

ESG Summary

5 principles in support of 9 SDGs¹



Environment



Minimizing our environmental footprint

Social



Innovating for the underserved
Partnering with patient groups

Governance



Maintaining high ethical standards



Attracting & retaining top talent

Performance on key ESG metrics

99%

of electricity from renewable sources²

€18.8M

spent to develop therapies for the underserved in 2022³

50%

of leadership roles held by women⁴

¹ Source: <https://sdgs.un.org/goals>, ² Weighted average of Lausanne and Eindhoven offices based on data provided by Services industriels de Lausanne (2021 data) and High Tech Campus Eindhoven, ³ Including 2022 R&D expense and spend on research and clinical trials, ⁴ Defined as full-time roles within the Company's Leadership Team (based on team composition as of 01 February 2023)

Q&A

The background features a complex pattern of wavy, overlapping lines. On the left side, there are several thick, vibrant red lines that curve and flow downwards. The rest of the background is filled with numerous thin, light gray lines that also follow a similar wavy, rhythmic pattern, creating a sense of movement and depth.

Thank you!

ONWARD[™] **EMPOWERING**
MOVEMENT[™]