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World-leader in drug development in Parkinson's: Reducing the burden and transforming lives

IRLAB, Q4 2024

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Today’s agenda

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News in the period

Kristina Torfgård, CEO

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Nicholas Waters, EVP Head of R&D

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Viktor Siewertz, CFO

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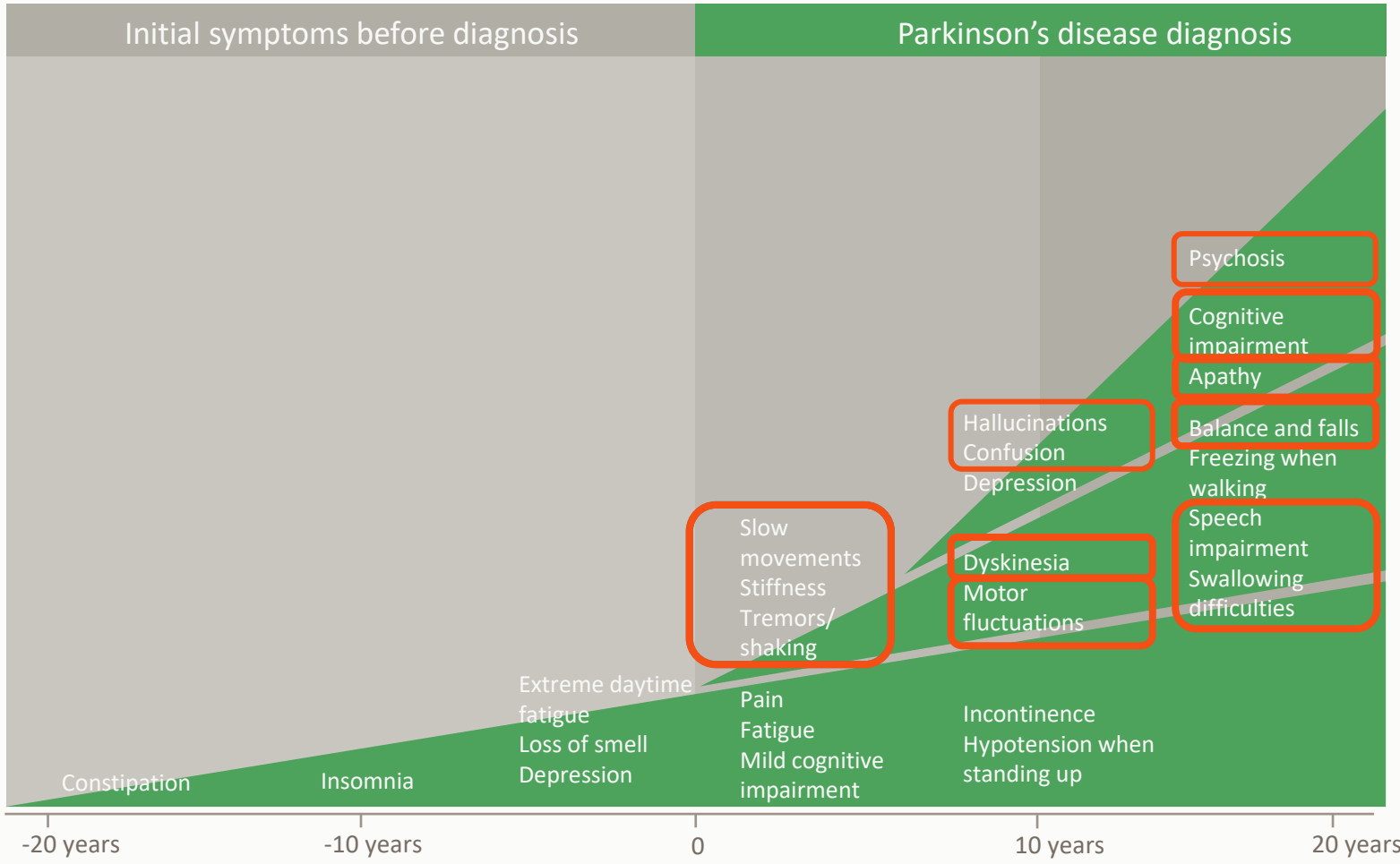
Q&A session

First-in-class drug candidates to treat Parkinson's during all stages of the disease



IRLAB's portfolio with first-in-class drug candidates to **treat people with Parkinson's during all stages of disease:**

- Mesdopetam
- Pirepemat
- IRL757
- IRL942
- IRL1117

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References: adapted from on Kalia, LV. and Lang, AE. Lancet 2015;386-912.

Key highlights in and after Q4 2024

The company received USD 2.5 million in conjunction with first dosing in a Phase I study with IRL757 in healthy older adults

Positive results in the Phase I studies support the continued development of IRL757

IRL757 progress according to plan – fully funded through clinical PoC

All patients have completed the Phase IIb study with pirepemat, REACT-PD – topline data is expected in the first quarter of 2025.

REACT-PD continues towards read out as planned

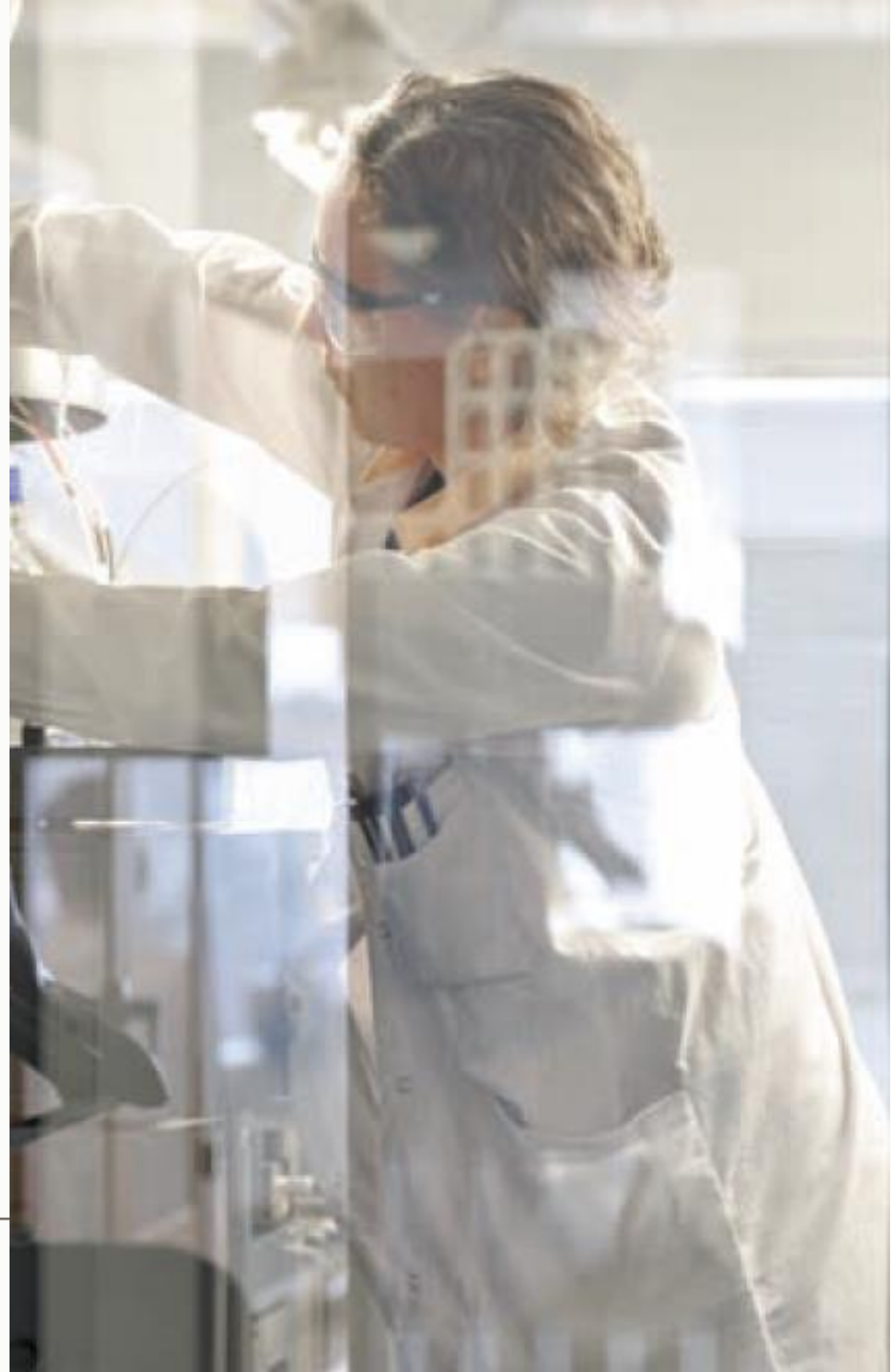
Payor research confirms significant market potential for mesdopetam both in the US and Europe

Strengthens commercial opportunity for mesdopetam

Important events in and after Q4 2024

Mesdopetam

- Positive feedback from the regulatory authorities in Portugal and Germany - a consensus was reached on key aspects of the phase III program
- Market and payor research confirms significant market potential for mesdopetam both in the US and Europe
- Results from a meta-analysis of two studies, evaluating mesdopetam shows significant and clinically meaningful anti-dyskinetic efficacy, presented at the International Congress of Parkinson's Disease & Movement Disorders (MDS), in Philadelphia, US
- A waiver was received from the EMA regarding pediatric studies with mesdopetam in Parkinson's Disease



Important events in and after Q4 2024

Pirepemat

- The last patient completed the full treatment period in the Phase IIb study with pirepemat, **REACT-PD** - topline data is expected in the first quarter of 2025

IRL757

- The company received positive data from the first part of the Phase I study with the drug candidate IRL757
- IRLAB received milestone payment of USD 2.5 million in conjunction with first dosing in a Phase I study with IRL757 in healthy older adults
- Positive topline results reported from Phase I study with IRL757 in healthy older adults - support the continued development of IRL757

Presentations in and after Q4 2024

- IRLAB presented at investor events during the period and after to communicate updates of the company's strategy and pipeline
  - Redeye Neurology Theme Event – October
  - BioStock Life Science Summit 2024 – October
  - Redeye Technology & Life Science Day – December
  - ABGSC Investor Days – December
  - Insight Direkt Dagen – January
  - Redeye Investor Forum – February

- Public recordings are available on the website, irlab.se.

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R&D update

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Mesdopetam

IRL790

Treating levodopa-induced dyskinesias (PD-LIDs) through a novel mechanism – Dopamine D3 receptor antagonism

Mesdopetam (IRL790)

First in class- a novel mechanism

Inhibiting dopamine D3 receptors

Potential for patent-based exclusivity into the 2040s

Lead indication – levodopa-induced dyskinesias (PD-LIDs)

Continued progress with mesdopetam

PD-LIDs –phase III program progress

- Scientific advice with European regulatory agencies in preparation for Phase III
- Market research/Health provider activities for positioning of mesdopetam and input to the design of the Phase III program
- Development of IPR – extension of market exclusivity

External validation of mesdopetam in publications by independent academic groups

- Confirms the MoA and anti-dyskinetic efficacy described in company lead studies*
  - Includes data supporting disease modifying properties by mesdopetam based on re-establishment of lost neuronal connections following treatment
- Confirms the MoA and builds on Mesdopetam antipsychotic properties in model of PD-P **

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- *Wang X, Zhang W. Front. Aging Neurosci., (30 May 2024), Volume 16 – 2024, https://doi.org/10.3389/fnagi.2024.1401991
- **Loredan Stan et al., DOI: https://doi.org/10.1016/j.neurot.2024.e00334

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Pirepemat

IRL752

- A treatment to improve balance and reduce falls in Parkinson's (PD-Falls)
- Ongoing randomized, placebo-controlled Phase IIb clinical trial

Pirepemat (IRL752)

First in class- a novel mechanism

Inhibiting alpha 2 and serotonin 7 receptors

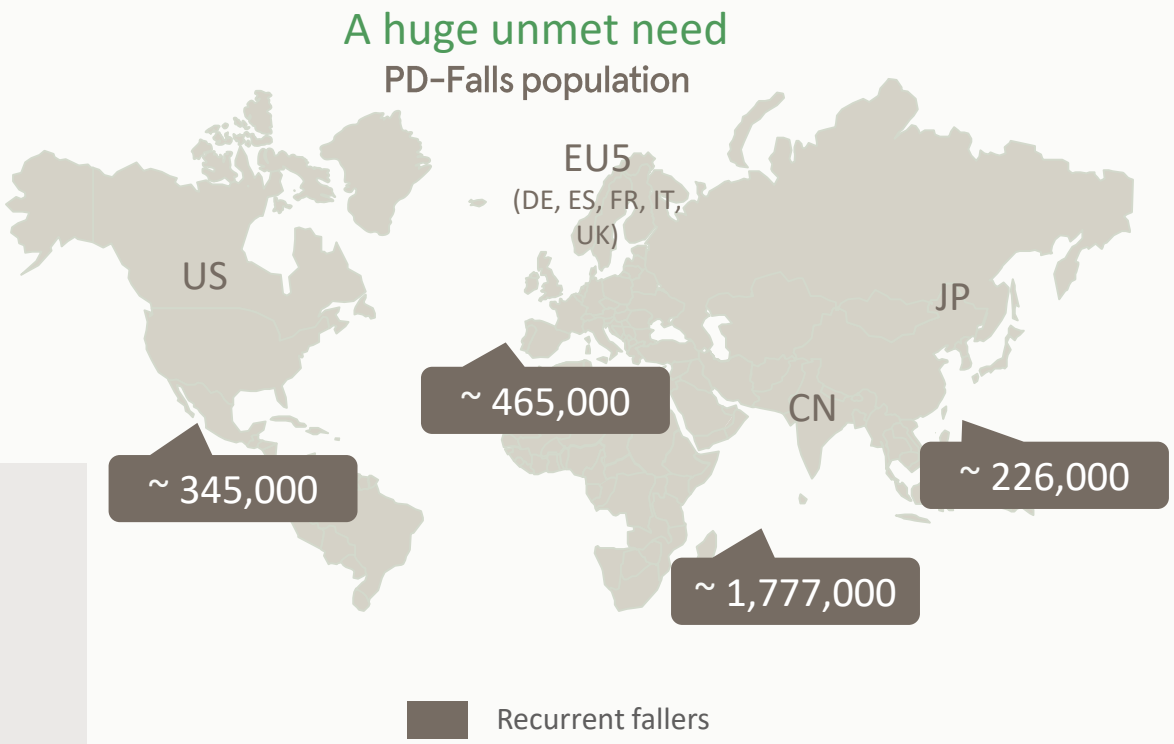
Potential for patent-based exclusivity into the 2040s

Objective – reduce falls in Parkinson's disease

Pirepemat - in development to improve balance and reduce falls in Parkinson's

REACT-PD

- **Reducing falls is the greatest medical need and one of the most complicating aspects of Parkinson's**
- 45% of individuals with Parkinson's fall recurrently[1]
- Cost of a fall injury approx. 30 000 USD in patients > 65 years (CDC)
- About USD 80 billion USD was spent in 2020 for non-fatal falls in older adults[2]



Status

- Last patient last visit in January 2025
- High and stable fall rates throughout 1 month baseline period
- Global decline in fallrates during study
- Anticipated to top-line data in Q1 2025

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Source: 1. Datamonitor [Based on the number of treated patients in the 8 Major Markets (China, France, Germany, Italy, Japan, Spain, UK and the US]
Source: 2. https://pubmed.ncbi.nlm.nih.gov/39029927/

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IRL757 – treatment of apathy

- A novel first-in-class treatment for apathy in neurological disorders

Apathy: loss of initiative, interest, and emotional expression/responsiveness

THE MICHAEL J. FOX FOUNDATION FOR PARKINSON'S RESEARCH

MSRD McQuade Center for Strategic Research and Development

Addressable population:
2-7 million people

IRL757 is aimed at the huge untreated problem with apathy

Huge unmet medical need

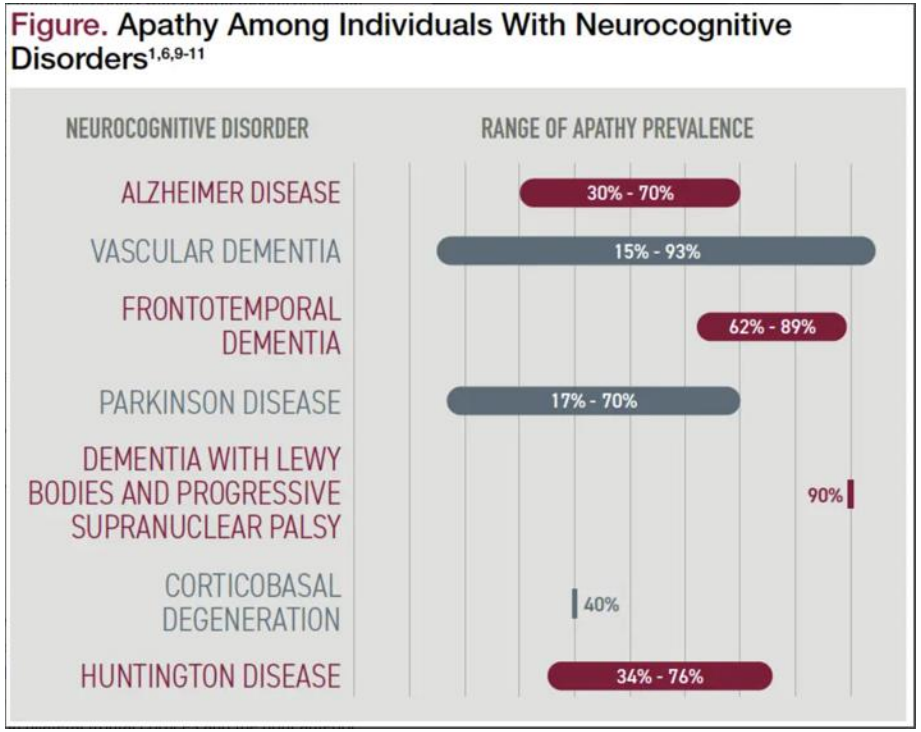
- Several million US and EU citizens may be affected by apathy
- Apathy occurs in 20-70% in people with PD and in 20-90% of people with AD and other CNS disorders

Pathophysiological background

- Disruption of frontal-subcortical neurocircuits are implicated in apathy*

- IRL757 has a unique ability to **increase neuronal activity** in frontal-subcortical neurocircuits
- Potential for both symptomatic relief and disease modification

Apathy
Loss of initiative, interest and emotional expression/ responsiveness, often found in people with dementia.



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* T.N Chase Neurotox Res (2011) 19:266–278, DOI 10.1007/s12640-010-9196-9

Graph: from R. R. Tampi, Psychiatric Times, Vol 38, Issue 7, July 14, 2021

IRL757 project progress in Q4

IRL757 has the potential to be **the first drug in a new class** to treat apathy in Parkinson's and other neurological disorders

- Funding to conduct the Phase I (SAD & MAD) study with IRL757 is secured in through The Michael J. Fox Foundation
- Collaboration with MSRD/Otsuka funding IRL757 through proof-of-concept in **Parkinson's and Alzheimer's disease**

Status

- **Successful completion** of Single Ascending Doses (SAD) part of the Phase I study program
- Multiple Ascending Dose, MAD part, **ongoing**
- An additional Phase I study in a group of adult healthy subjects aged 65 years and older **successfully completed**
- Data supportive of continued development

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Preclinical projects

IRL942	**Clinical candidate**	-	Improve cognitive function
IRL1117	**Clinical candidate**	-	Once-daily oral treatment of Parkinson's without troublesome complications

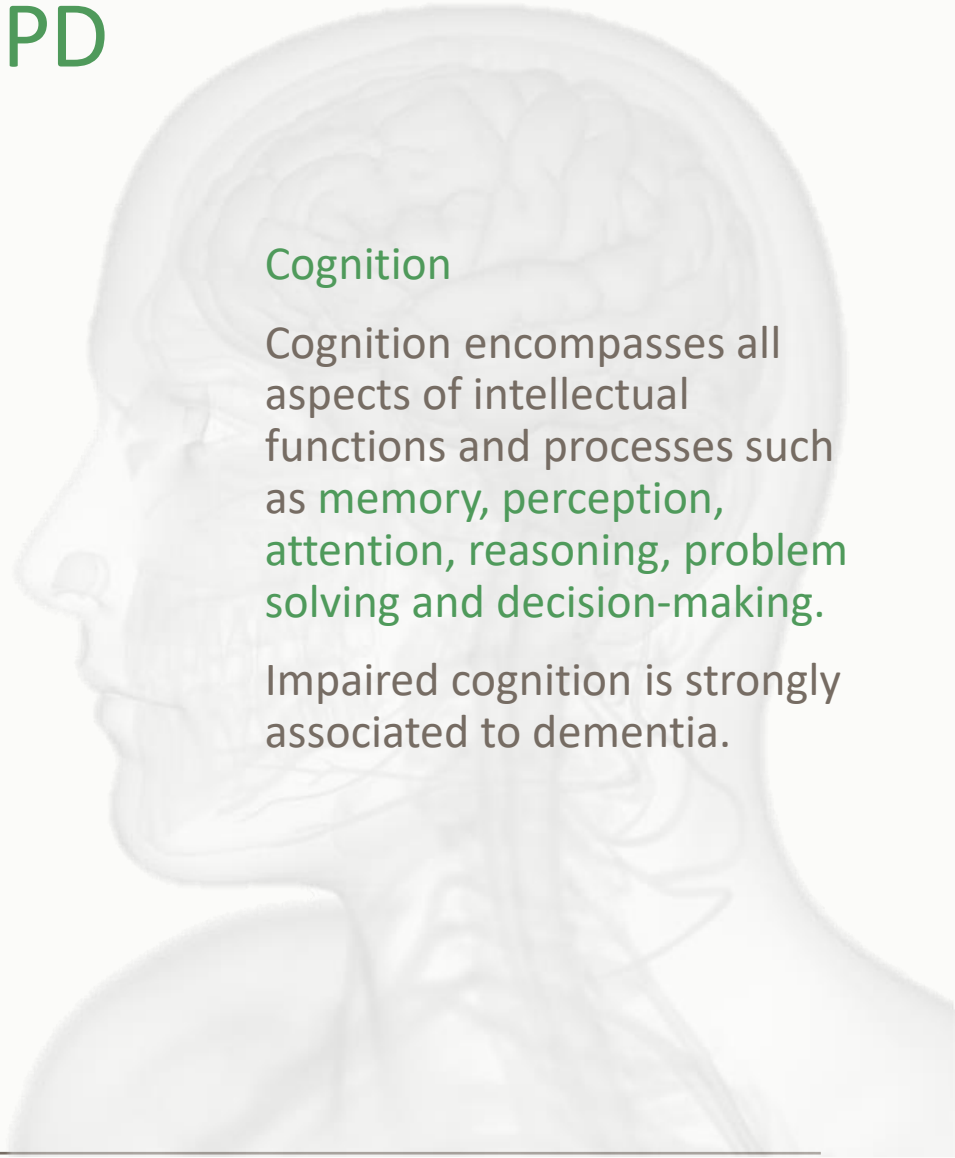
Innovative preclinical pipeline with first-in-class NCEs

IRL942	IRL1117
Improvement of cognitive function	Next generation Parkinson's treatment
Memory, perception, attention, reasoning, problem-solving and decision-making	Once-daily Parkinson's hallmark symptoms (tremor, rigidity, bradykinesia) Without treatment-related complications
Addressable population: 5.8 million people[1]	Addressable population: 5.7 million people[1]
Status: Preclinical Development, Phase I ready in 2025	Status: Preclinical Development, Phase I ready in 2025

Source: 1. Datamonitor

IRL942 to improve cognitive function in PD and other neurological indications

- Unmet need among a large population
- **12 %** of adults aged 65 years or more experience cognitive decline (CDC)
- Studies demonstrate a high cumulative risk of dementia in people with PD. Point prevalence is 25–30%.
- Among PD patients without dementia, approximately 25–30% have mild cognitive impairment (MCI), which is evident at the time of diagnosis in 10–20% of patients



Cognition

Cognition encompasses all aspects of intellectual functions and processes such as memory, perception, attention, reasoning, problem solving and decision-making.

Impaired cognition is strongly associated to dementia.

IRL942 shows a unique ability to activate frontal circuits and **improve cognitive function in preclinical models**

Potential for both symptomatic relief and disease modification

IRL942 project progress in Q4

IRL942 has the potential to be the first drug in a new class to improve the cognitive function in people living with Parkinson's and other neurological disorders

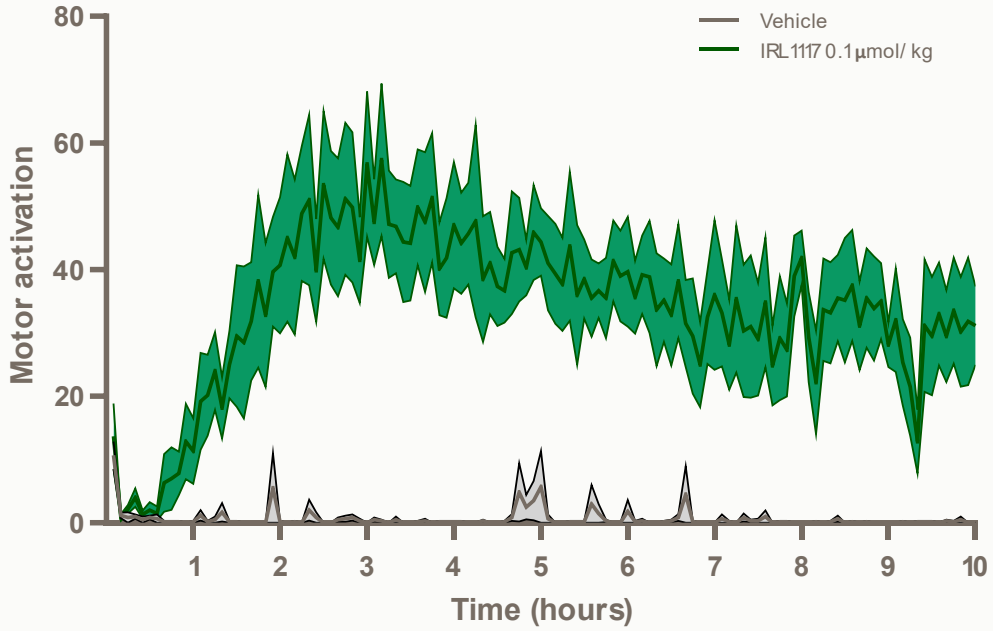
Current status

- Development in preclinical studies
- GMP manufacturing of drug substance ongoing (CMC)
- Development of drug product initiated and IRL942 is projected to be Phase I ready during 2025

IRL1117 – potential to be the first drug in a new class to treat Parkinson's

IRL1117 is a potent dopamine D1 and D2 receptor agonist with the ***potential to be the first drug in a new class*** for the treatment of the hallmark symptoms of Parkinson's.

- Once daily treatment that avoids the troublesome complications caused by today's mainstay levodopa-based treatments
- In preclinical studies IRL1117 has demonstrated rapid onset and **more than 24 hours of sustained efficacy without** inducing motor **complications**.
- Currently activities related to substance manufacturing (CMC) and planning for preclinical regulatory studies necessary for Phase I are ongoing



IRL1117 project

Building a comprehensive preclinical efficacy, tolerability and DMPK package

Models of PD	• Single dose behavioral response >24h • Improvement of motor deficits by IRL1117 over a period of 29 days (once-daily dosing) without signs of tolerance or motor complications • Chronic treatment induces clear functional motor response without motor complications • Switching to IRL1117 reverses existing L-DOPA-induced motor complications
DMPK	• High potency orally active compound • Exposure @ relevant doses quantified over 24h in rodents and minipigs
CMC	• Development of API manufacturing **ongoing**
IPR	• Composition of matter: patent applications filed in 2022 • The estate potentially allows ultimate case exclusivity into 2040:ies

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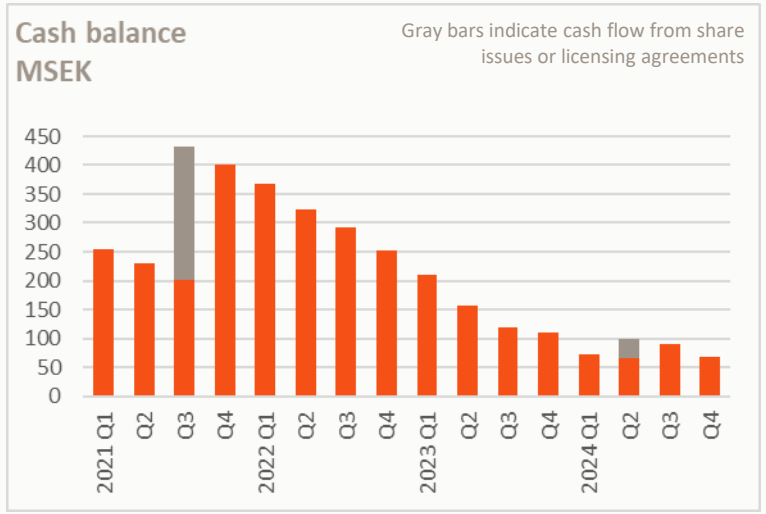
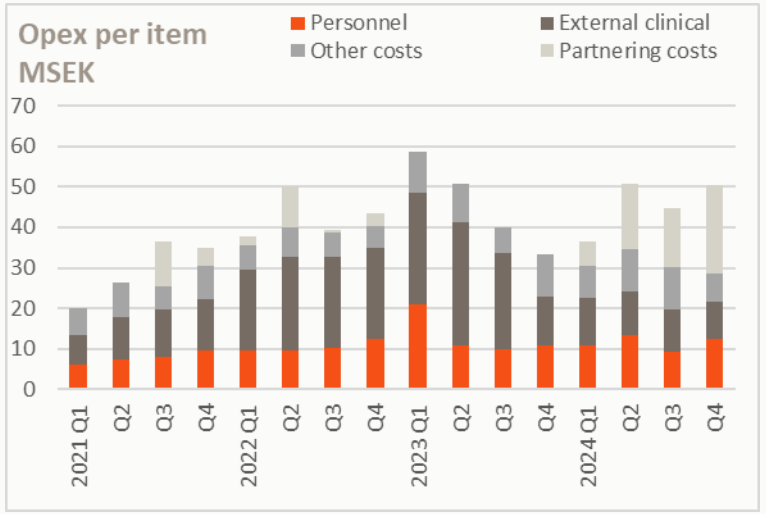
Finance report Q4 2024

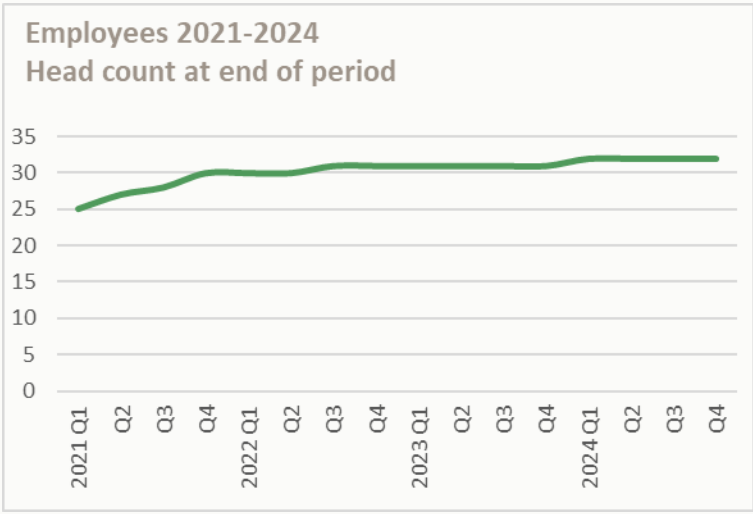
- Highlights and summary
- Analyst coverage

Financial highlights of Q4, 2024

- Cash position SEK 67 million, whereof roughly SEK 17 million is prepayments from MJFF and MSRD/Otsuka
- Sustained high activity, and thus cost, related to IRL757, which are fully financed by MJFF and MSRD/Otsuka
- IRLAB's own cost continues to decrease and is now well below SEK 30 million, whereof around SEK 10 million is external clinical cost
  - External clinical cost is predominantly cost for pirepemat Phase IIb study
- Headcount remains stable at around 30 employees







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Partnering cost: Cost for entering licensing agreements and costs which are covered by a corresponding revenue from partners.

Financial summary of Q4, 2024

	Q1-Q4 2024	Q1-Q4 2023
Net sales, SEK	94.6m	5.7m
Operating profit, SEK	- 75.1m	- 180.8m
Earnings per share before and after dilution, SEK	- 1.6	- 3.43
Cash and cash equivalents, SEK	66.9m	111.3m
Cash flow from operating activities, SEK	- 65.6m	- 164.9m
Average number of employees	31	31
Share price at the end of the period, SEK	10.75	7.50

Analyst coverage

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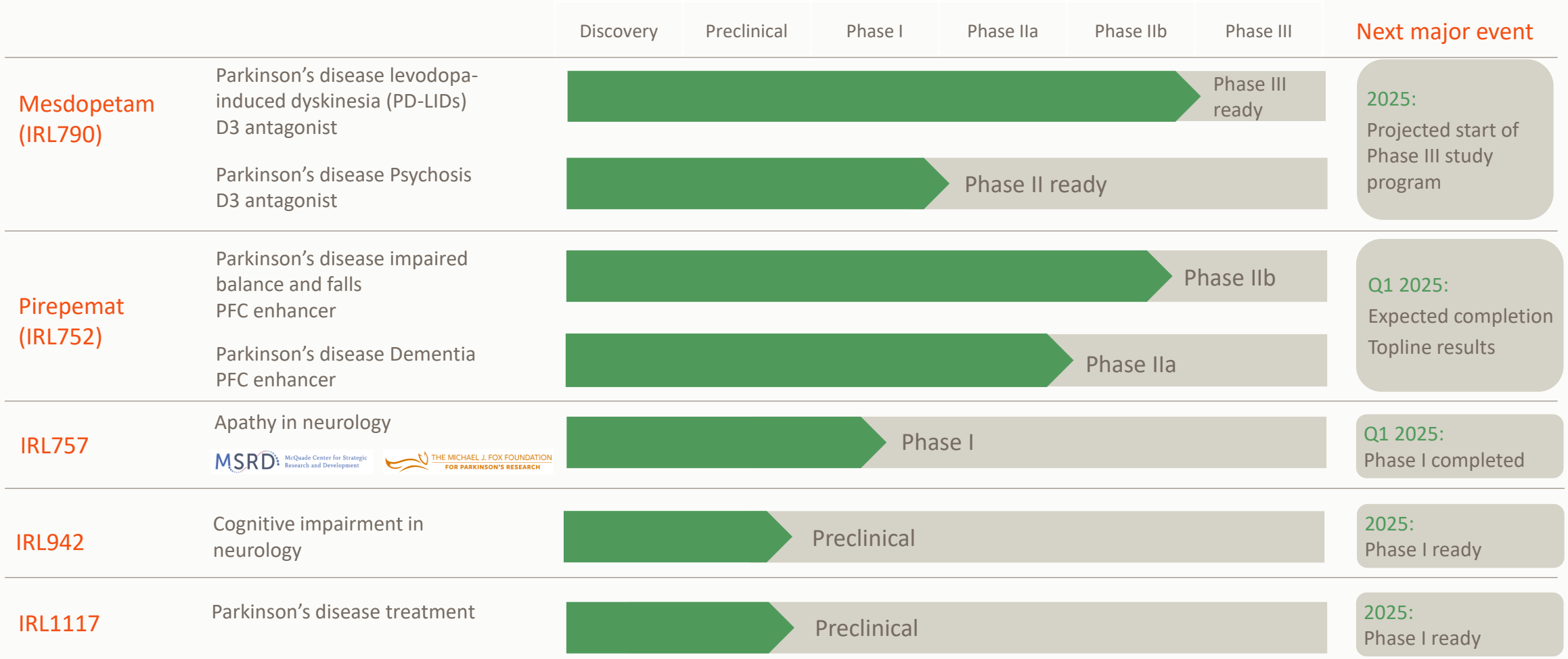
Concluding words

World leading portfolio of development programs for Parkinson's disease



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IRL757 progress according to plan – fully funded through clinical PoC

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Strengthens commercial opportunity for mesdopetam

Intensive Business Development efforts

Awareness of IRLAB and our development pipeline is increasing

Continuous and frequent dialogue with potential partners

Partnering opportunities being evaluated across the portfolio

Following the successful collaboration deal for IRL757, the focus is on mesdopetam and pirepemat

Multiple possibilities for high value creation in the project portfolio during the next 12-18 months

Mesdopetam	• BD activities • Initiation of the Phase III program
Pirepemat	• Top-line data Phase IIb study in PD-Falls • BD activities
IRL757	• Completion of Phase I studies (SAD/MAD, food interaction & healthy older adult) • Initiation of Proof-of-Concept study (efficacy and safety signal finding)
Preclinical projects	• IRL942: Phase I readiness, start Phase I • IRL1117: Phase I readiness, start Phase I

IRLAB – a world-leading portfolio in Parkinson´s

Pioneering biology & ISP

Deep profound understanding of Parkinson's. Team from Nobel laurate Prof. A Carlsson's research group

Focused strategy

Discover and develop treatments for PD patients throughout their disease journey

Validated business model

From discovery through Phase I and Phase II to Phase III ready projects and dealmaking

Broad & Solid portfolio

Five unique drug candidates each with blockbuster potential generated by our disruptive ISP platform

Organization positioned for success

Experienced international organization. Listed Nasdaq Stockholm

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IRLAB discovers and develops a portfolio of transformative treatments for all stages of Parkinson's disease. The company originates from Nobel Laureate Prof Arvid Carlsson's research group and the discovery of a link between brain neurotransmitter disorders and brain diseases. Mesdopetam (IRL790), under development for treating levodopa-induced dyskinesias, has completed Phase IIb and is in preparation for Phase III. Pirepemat (IRL752), currently in Phase IIb, is being evaluated for its effect on balance and fall frequency in Parkinson's disease. IRL757, a compound being developed for the treatment of apathy in neurodegenerative disorders, is in Phase I. In addition, the company is also developing two preclinical programs, IRL942 and IRL1117, towards Phase I studies. IRLAB's pipeline has been generated by the company's proprietary systems biology-based research platform Integrative Screening Process (ISP). Headquartered in Sweden, IRLAB is listed on Nasdaq Stockholm (IRLAB A).

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