

Valorização da Inovação no sector da Saúde: Integrando ciência e capital de risco

Gonçalo Andrade

Director Geral da Hovione Capital

Hovione
Capital *for Health.*



Sobre a Hovione



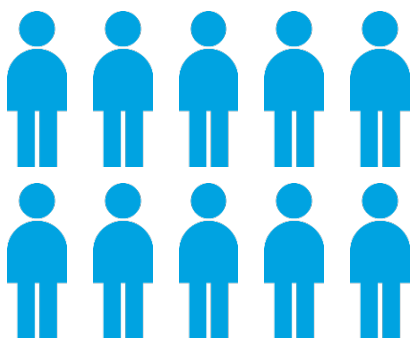
296

**Total receitas
mUSD**



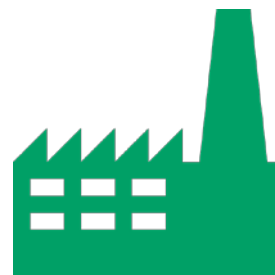
100

**# of Produtos/
Projectos**



1.575

**Hovione
Team Members**



1.307

**Manufacturing
Facilities - m3**

Um parceiro a nível global



New Jersey, USA

Manufacturing facilities small volume
R&D Labs, Kilo and pilot plant
Sales and marketing for North America



Loures, Portugal

Manufacturing facilities including
R&D Labs, kilo and pilot plants



Cork, Ireland

Manufacturing facilities



Macau, China

Manufacturing facilities

Valorização da ciência



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Inovação na Hovione

Interna

- Incremental (defensiva)

Hovione 

Externa

- Incremental (defensiva)
- Disruptiva (first mover, exploratória)
- Adjacente (novos serviços, novas tecnologias, novos dispositivos)

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Inovação interna

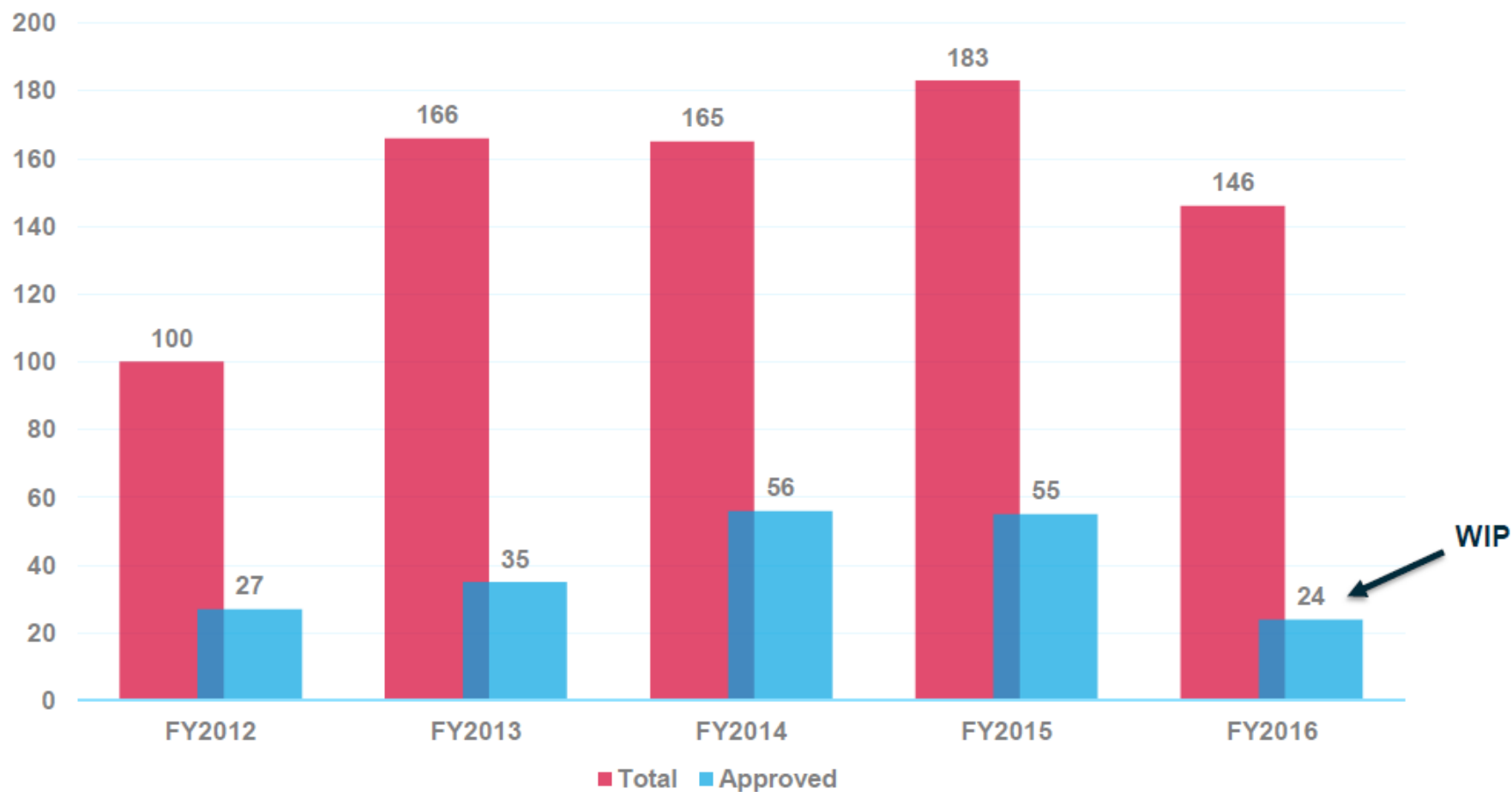
Knowledge Management



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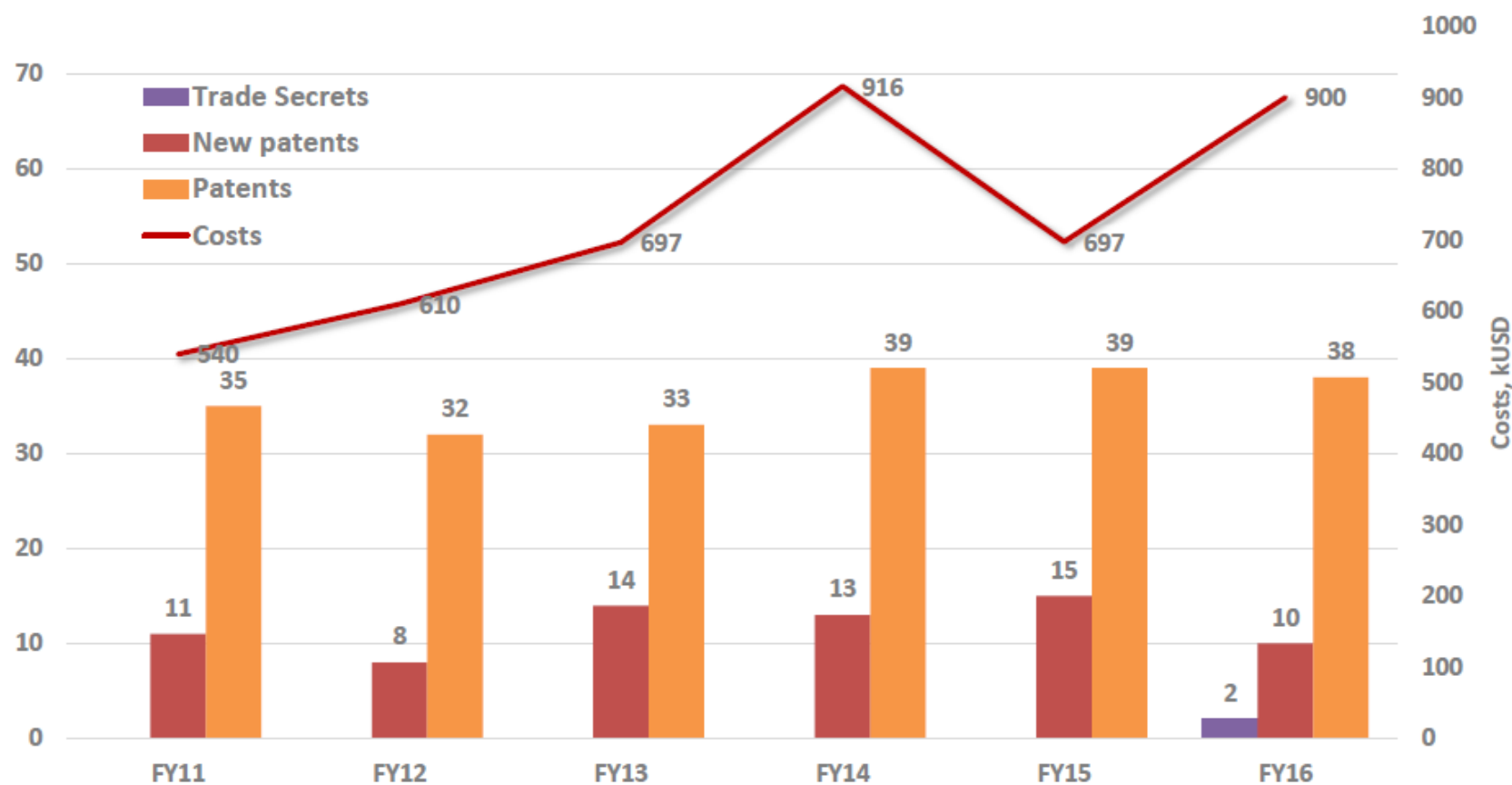
Innovation at Hovione

Idea Generation Process



Innovation at Hovione

IP portfolio



Inovação externa
Parcerias com as
Universidades
Programa 9º West



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Programa 9ºWest

É um programa de três anos, em parceria com Universidades, com o objective de desenvolver soluções inovadoras para alguns dos desafios internos que a Hovione enfrenta no seu dia a dia.

Com uma dotação de €5 milhões de euros, desenvolve-se ao longo de três eixos estratégicos:

- Pharmaceutical Continuous Manufacturing
- Analytical training lab
- Modelling chemical reactions

Programa 9ºWest

- Universidade do Porto – FEUP e Faculdade de Farmácia
- Universidade de Lisboa – IST, Faculdade de Farmácia
- Universidade de Coimbra – Faculdade de Farmácia

Parcerias com as
Universidades
Formação avançada



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Innovation at Hovione

Hovione Research Program – Metrics

MSc

Total: 25 (17 completed)

Ongoing: 8

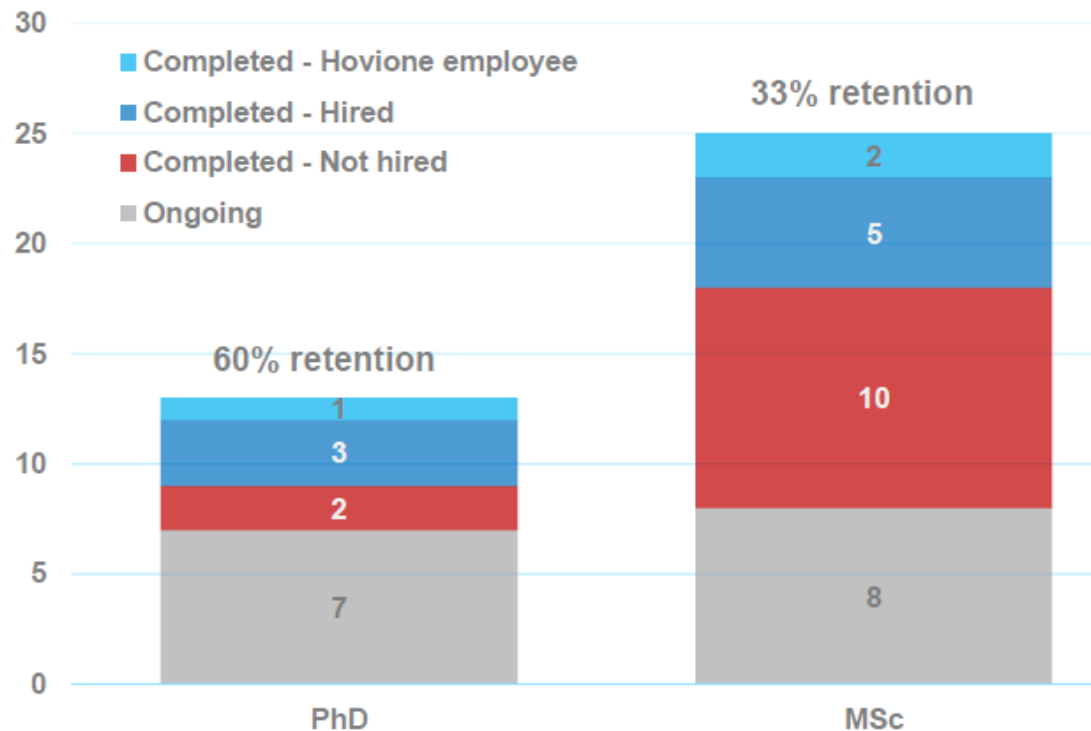
Retention: 33%

PhD

Total: 13 (6 completed)

Ongoing: 7

Retention: 60%



Programas de mestrado e doutoramento

- Universidade do Porto – FEUP e Faculdade de Farmácia
- Universidade de Lisboa – IST, Faculdade de Farmácia
- Universidade de Coimbra – Faculdade de Farmácia, Faculdade de Engenharia

Inovação Adjacente

A Hovione Capital



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Foco na experiência

Com base na experiência de mais de 55 anos na indústria farmacêutica e mais de 20 anos no desenvolvimento de dispositivos médicos.

Visão

Criar, financiar e monitorizar novas empresas que se distingam no mercado pela unicidade dos seus produtos e das suas tecnologias no campo da tecnologia médica.

Missão

Seleccionar e suportar projectos em fase de capital semente e fase inicial em campos bem definidos ao mesmo tempo que oferece elevado suporte e envolvimento na gestão e no desenvolvimento do projecto, de forma a reduzir a variabilidade da criação de valor.

História de sucesso no desenvolvimento e licenciamento de um dispositivo médico

O desafio

Administrar um fármaco anti-gripe por inalação pulmonary a pacientes sem experiência de inalação pulmonary, numa situação de pandemia e sem necessidade de supervisão médica.

Objectivos:

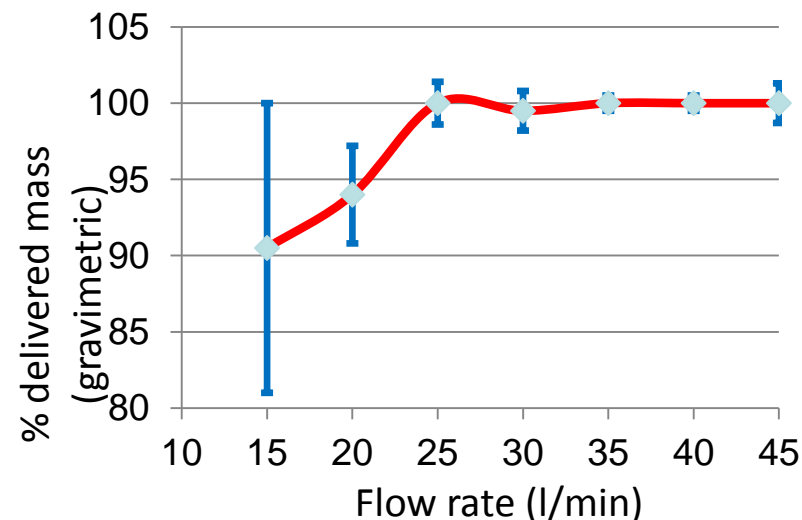
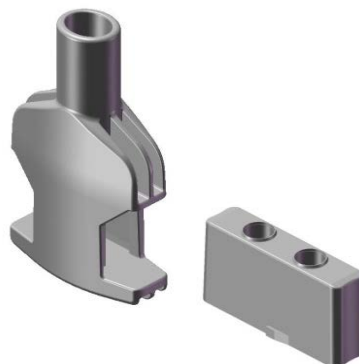
- Facilidade de utilização
- Muito baixo COGS
- De toma única

História de sucesso no desenvolvimento e licenciamento de um dispositivo médico

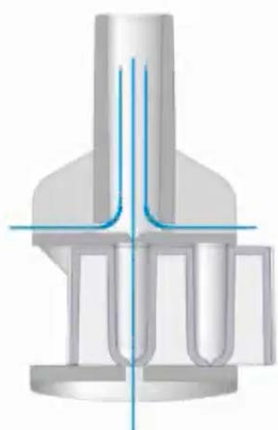
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A SOLUÇÃO

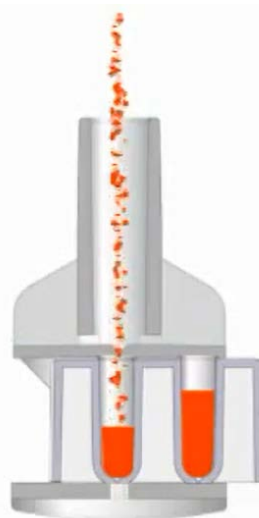
- Toma única
- Descartável
- Simples
- Fácil de usar
- Prático



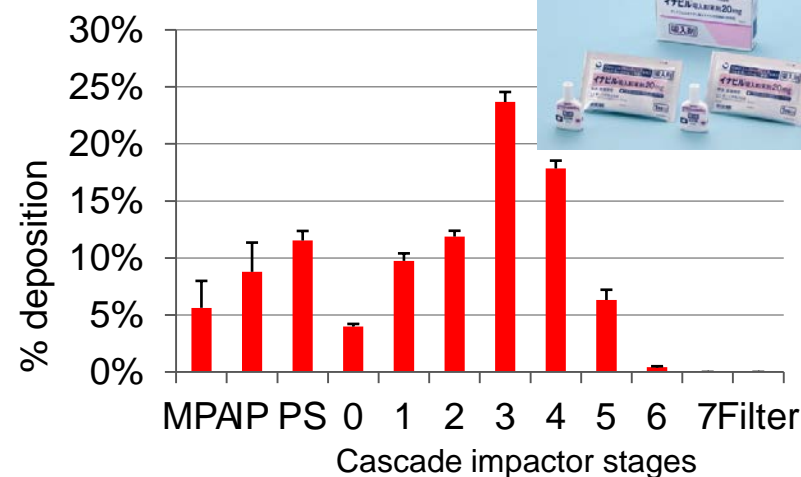
Storage



Push

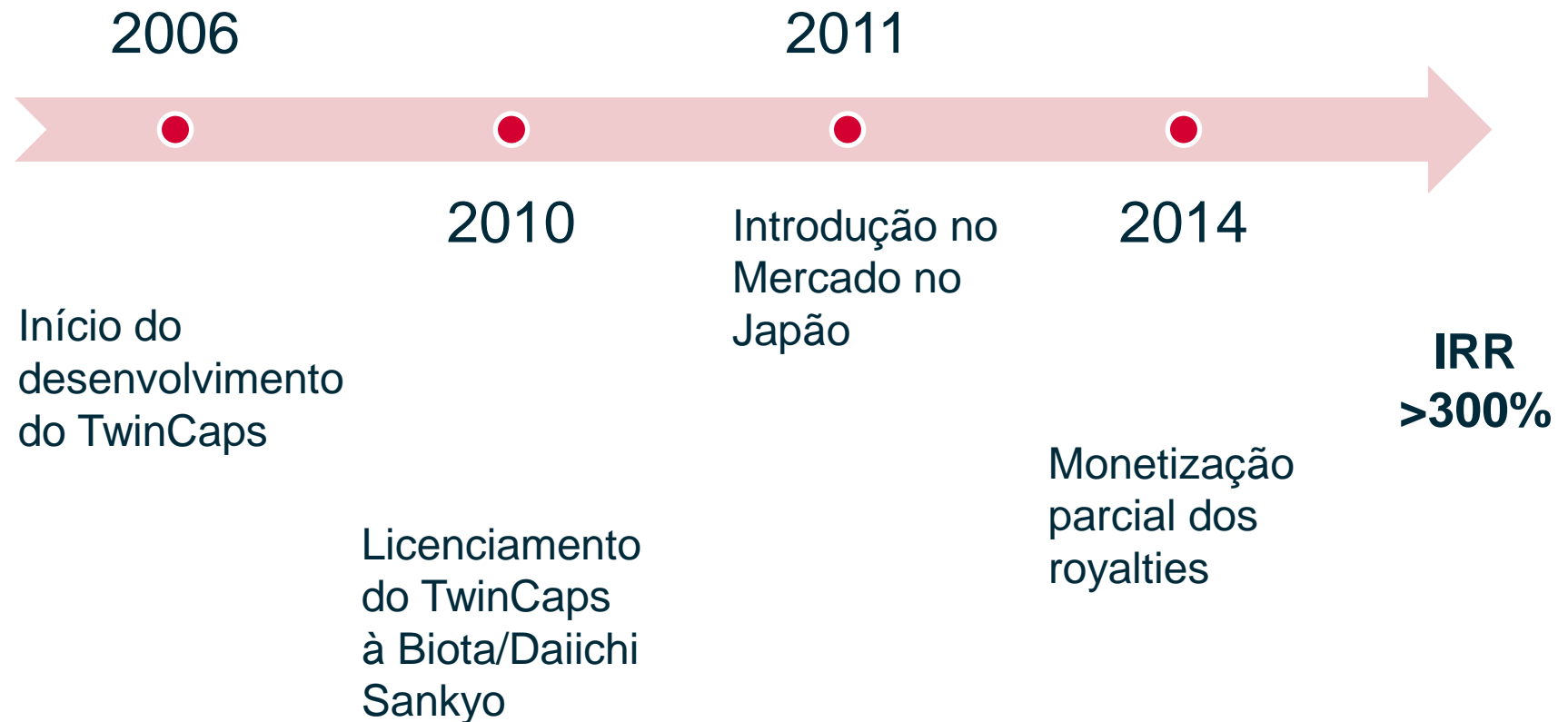


Inhale



História de sucesso no desenvolvimento e licenciamento de um dispositivo médico

O Resultado



Hovione Capital – a equipa



Peter Villax

Chief Executive Officer

- >30 years in the Pharmaceutical Industry in IT, Sales, R&D and Business Administration roles
- President of the Family Business Enterprise Association (Portugal)
- President of the Supervisory Board InnoStars/EIT Health (EU)
- Inventor and patent holder in the medical device field
- Board member at Health Cluster Portugal, Instituto de Tecnologia Química e Biológica (Nova), Faculdade de Farmácia (Coimbra)



Gonçalo Rebelo de Andrade

General Manager

- >15 years in the Pharmaceutical industry in In Vitro Diagnostics, Drug Discovery and Drug Development, Business Development and Sales roles.
- Microbiology undergraduate studies and Biochemistry PhD
- MBA from UCP, Wharton Business School and ISEG alumnus
- Experienced IP consultant



João Ventura Fernandes

Venture Partner

- >10 years in aerospace and medical device engineering
- PhD in mechanical engineering
- 3 years in class I medical device R&D development, focusing on drug delivery
- Experienced patent drafter and holder

**Projectos que capitalizem numa tecnologia
Única, Patenteável e Monetizável**

Modelo de negócio válido e claro, com alcance global

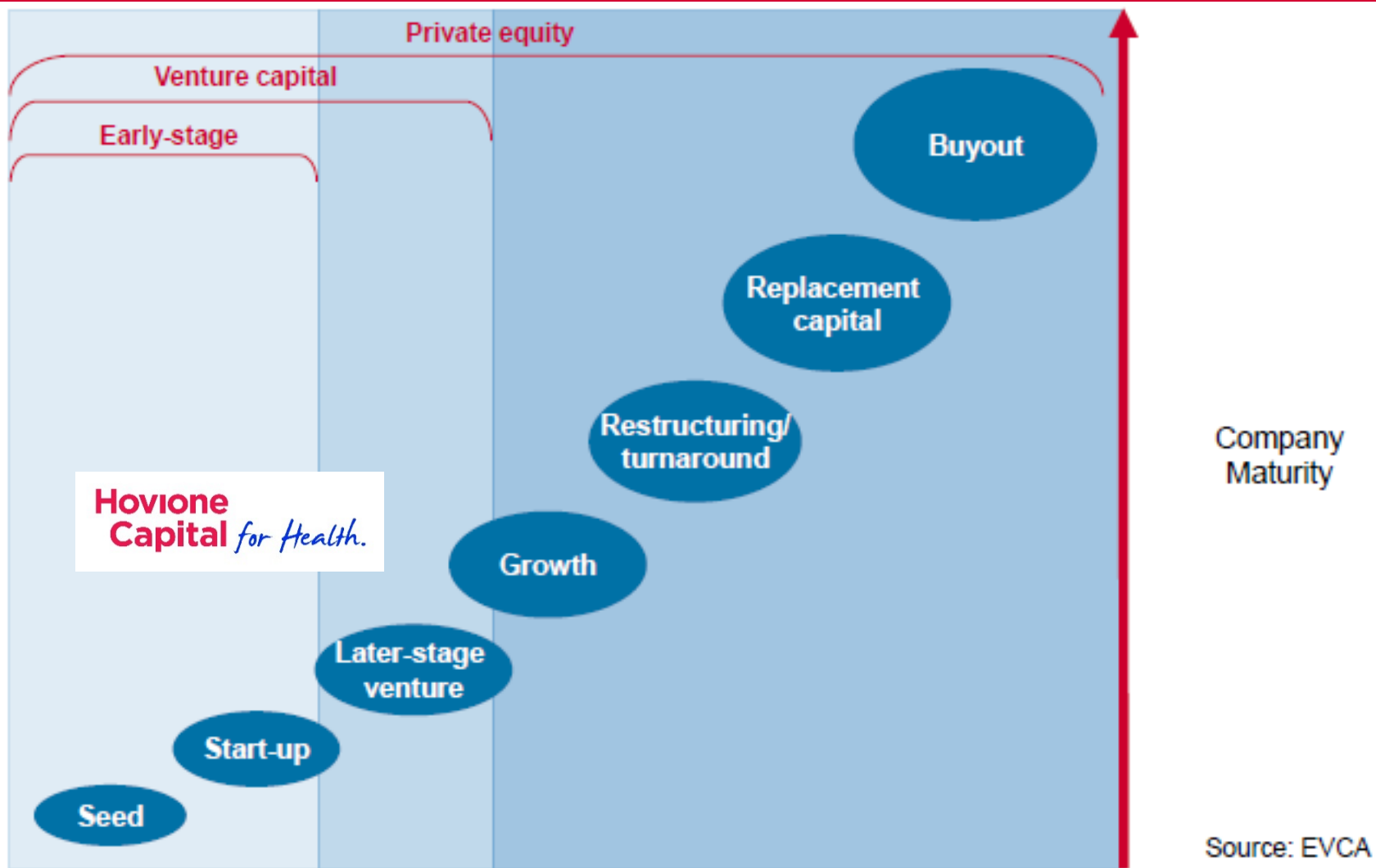
Produto mínimo viável possível com €1 milhão de investimento

Equipa comprometida, dedicada, motivada e conhecedora

Estratégia clara de go-to-market e uma exit strategy delineada

**Alinhamento com a nossa estratégia – medical devices, digitally
charged products for patient monitoring, medtech**

Posicionamento estratégico

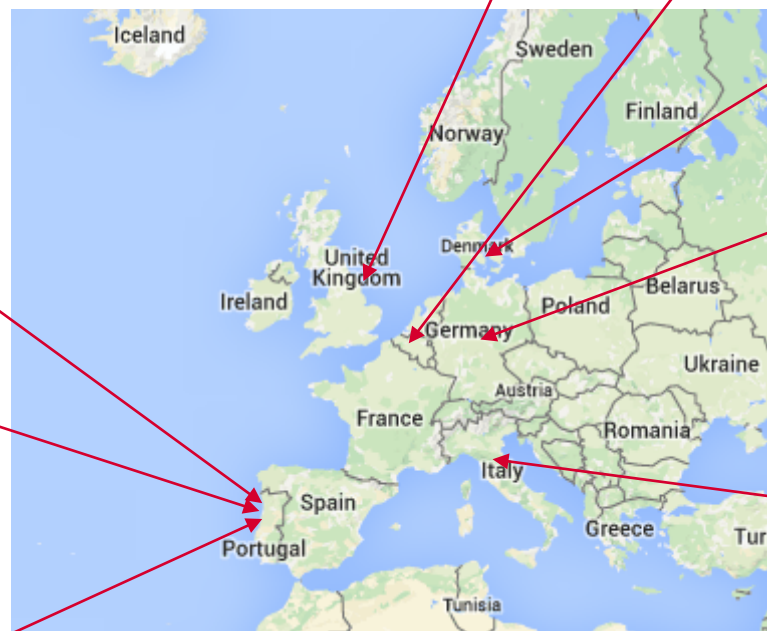


Dealflow

O nosso Dealflow

Não vamos a “leilões”

Procura activa de projectos



ECTOSENSE

medilet



487
received

36 deep
dived

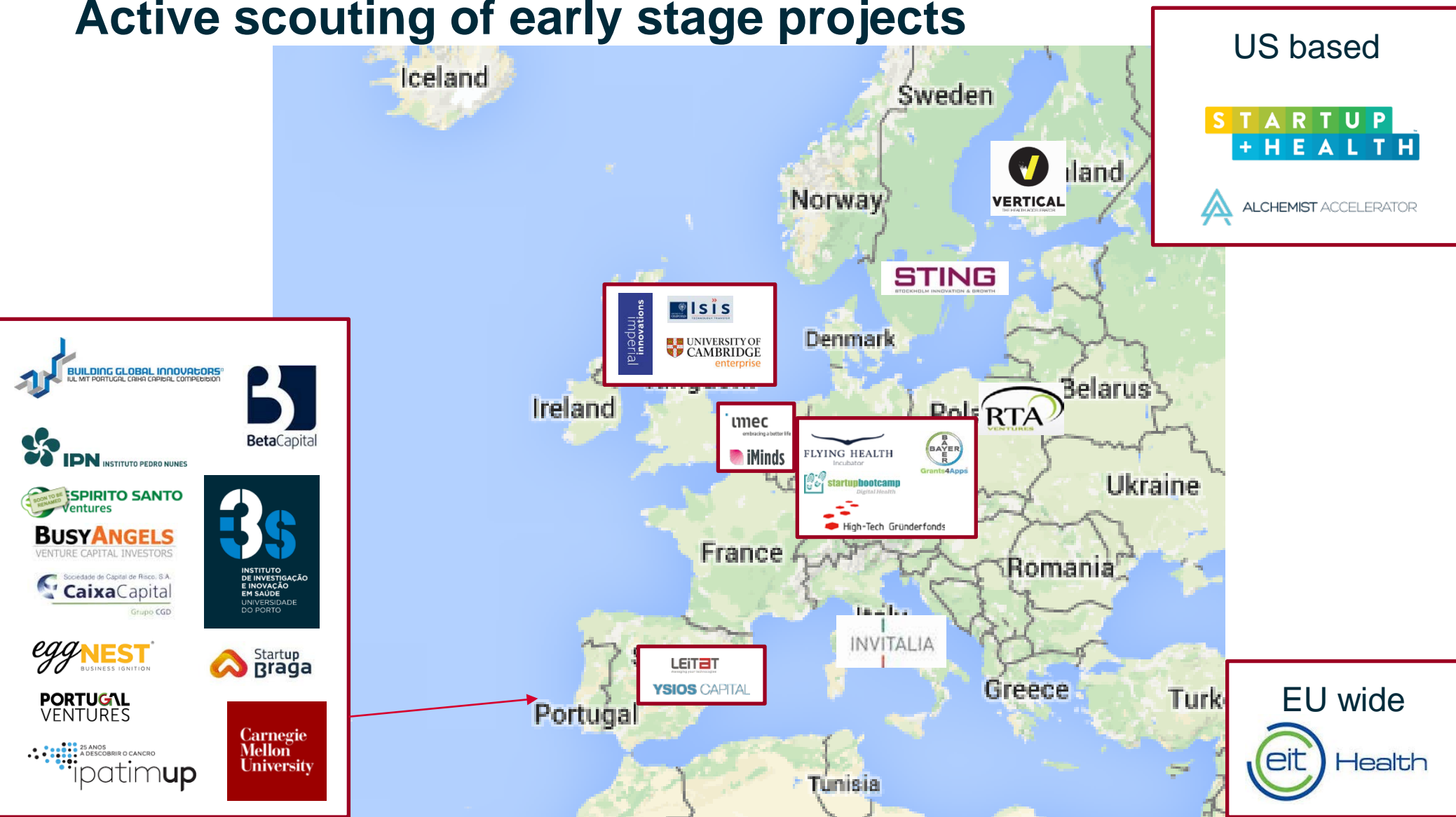
19 in due
diligence

3 invested

2 in
discussion

Our Partners

Active scouting of early stage projects



Project Portfolio

LaserLeap

Laser-based system for drug delivery

Make the syringe history in dermatology !

Coimbra team has developed laser-based pore opening system, to deliver drugs through the skin,

- Granted patent protection in EU, JP, CN, KR, pending in the US
- Targeting dermocosmetic drug delivery market as first choice
 - **Wrinkle remover, hyaluronic acid**
 - **Will compete against injected versions Juvederm & Restylane**
- Expands customer base for dermocosmetics treatments as LaserLeap enables addressing non-injection friendly population
- Class I medical device regulatory path, CE mark concluded for market introduction.

Investment Stage: Early Stage. Busy Angels, Armilar as co-investors

Novel delivery system – www.lldermal.com

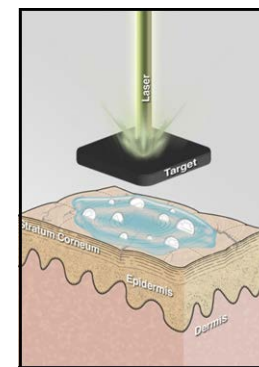
LaserLeap

Non-invasive transdermal delivery system

Hyaluronic acid formulation delivery pilot study:

- 8 clinics
- 80 subjects already treated
- 75% of clinics want to purchase Laserleap system

Skin whitening product in development (5 subjects treated)



The chief advantage is that the Laserleap administration requires no injection



Wrinkle reduction: observable and documented effects

Laserleap: New application to strengthen tradesale

Abnormal skin pigmentation: the photo on the right is **after a single** 20 minute treatment with skin whitening compound

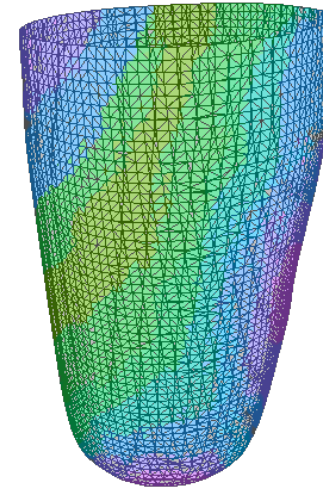


Adapting prostheses to amputated limbs

There are around 27 million lower-limb amputees worldwide, and all of them need properly-fit prosthesis. Because of this, prosthetists require several interventions (trial and error methodology) and lots of time to reach a final acceptable socket

The product consists in a smart fitting solution for prosthesis; capable of mapping the patient's unique pressure and temperature profiles over the 3D model of the prosthesis' socket inner surface. This allows us to localize problems within the stump-socket interface, assess the level of adaptation and suggest the required modifications to maximize it.

The product speeds up the fitting process by up to 60 % (less than 48 h) and **increases profit margin.**



Novel prosthetics fitting system

AdaptTech

Functional prototype completed.

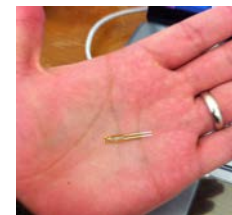
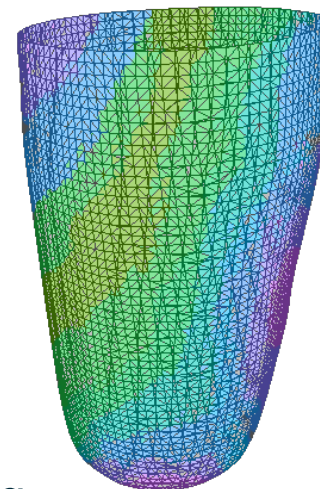
- Already developed a scanner model to scan the prosthetics' inside
- Functional sensorized strips to detect pressure

Pilot study started in May 2017 at Alcoitão.
CE Marking and ISO 13485 certification ongoing

Pilot study with Walter Reed Military Hospital to start in December 2017

Exit Strategy:

Tradesale to Ossur, Ottobock, WillowWood
(Letter of Intent signed)



Carnegie
Mellon
University





Software that tracks mouse and keyboard movements to diagnose and quantify **levels of awareness and fatigue**, according to the 7-level US Air Force scale for mental fatigue assessment.

A product with >5 years' R&D effort, with electro-encephalogram monitoring validation.

Investment Stage: Seed Investment. Co-investment with EggNEST.

Market positioning is solely on B2B and addressing three verticals:

- Helpdesk management – Talkdesk (distribution agreement), Prosodie (negotiations), Fujitsu, GoContact, Concentrix, Bit, Nestlé and Oney.
- Critical command center - Air traffic controllers, military command and control centers (e.g. Thales – R&D partnership in discussion)
- Oil and gas – distribution agreement with Offserve signed.
- E-learning – Abu Dhabi investment authority demo ongoing.

Performetric

Software-based awareness diagnosis



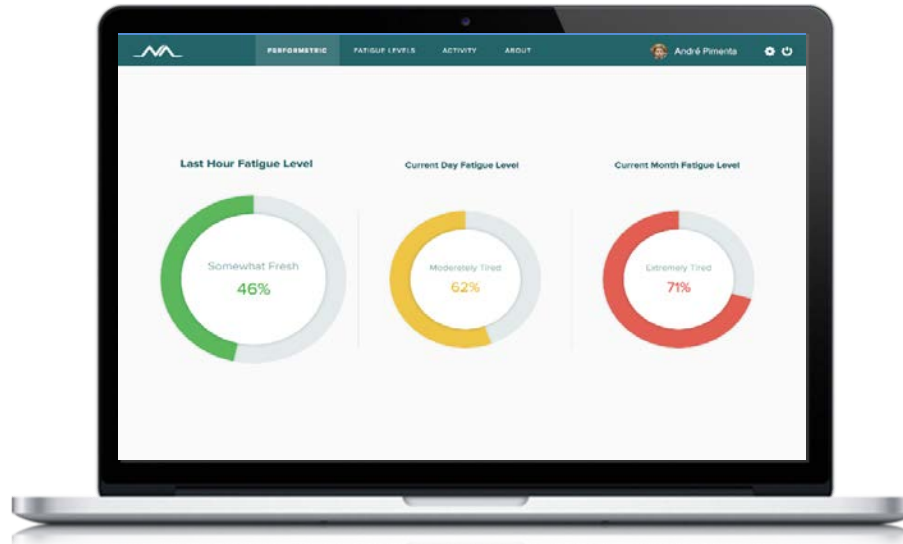
Use of machine learning algorithms



Adapts to the user and context



Use of mouse and keyboard as sensors



SaaS or on-prem



Provide a set of data reports



Provide a set of alerts and recommendations

Under a SaaS business model



PerforMetric

Real-time machine-learning based mental fatigue monitoring system

Received €400,000 non-dilutive funding for the next 24 months.

High growth potential

(offer received at 6x invested capital)

Our partner



Pilots and users from:





Thank you for your attention.

Peter Villax

pvillax@hovionecapital.com

hovionecapital.com

Gonçalo Andrade

gandrade@hovionecapital.com