



**Developing the first medical treatment dedicated to
1.5 million patients with a hemorrhagic stroke every year**

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Reachable Population of Intracerebral Hemorrhage

> 200,000 patients every year

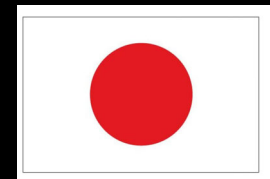
75% death or severe disability



130 000



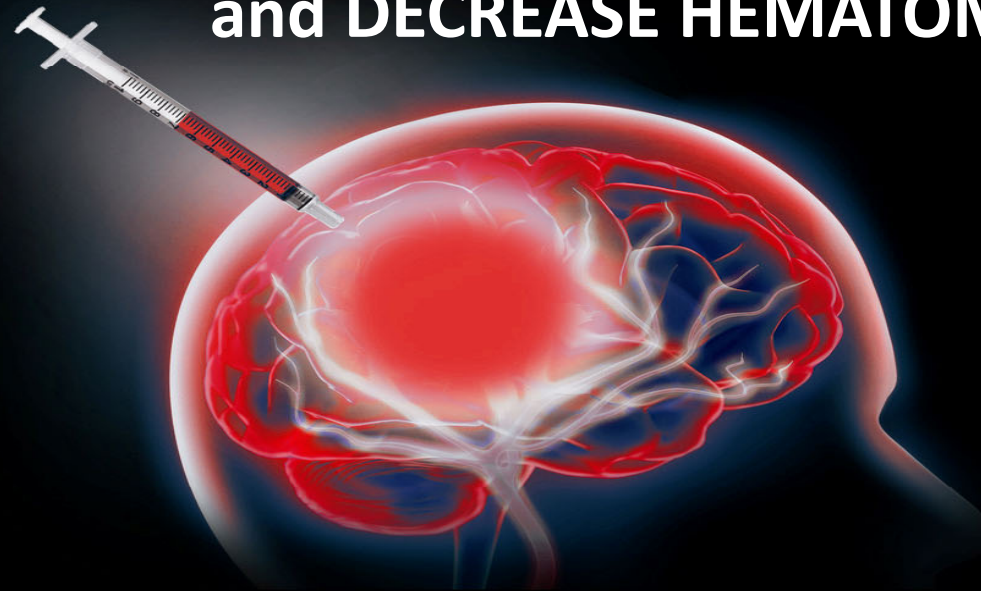
150 000



80 000

No effective and safe treatment currently available

**INTRACEREBRAL ADMINISTRATION
OF A THROMBOLYTIC AGENT (minimally invasive surgery)
CAN LIQUEFY THE HEMATOMA
and DECREASE HEMATOMA VOLUME***



BUT...

Neurotoxicity

Pharmacokinetic limitations

- Multiple injections needed

*MisTIE academic NIH-funded program, coordinated by BIOS at Johns Hopkins, Baltimore, MD, USA



IP

- EU Patent 2011
- International extension (PCT) 2012
- Granted in US and JP 2017, soon in EU
- Exclusive licence to Op2Lysis

Op2Lysis O2L-001

A MUTANT OF rt-PA DESIGNED FOR INTRACEREBRAL ADMINISTRATION

Local drug administration and blood elimination through a thin catheter (**minimally invasive procedure**)

Ability to achieve better/faster hematoma liquefaction **with a unique injection** (sustained release formulation)

Safer with an adjusted quantity of a **non-proneurotoxic** lytic agent

DEVELOPMENT STAGE

- ✓ Preclinical proof of concept in vitro and in vivo with *Drug Substance*
- ✓ Feasibility of production and purification
- ✓ Feasibility of sustained release formulation
- ✓ Cell line identification
- ✓ **Market analysis**



Superiority to Projects Currently in Development in Acute Hemorrhagic Stroke Patients



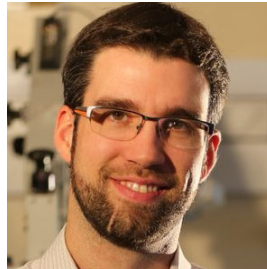
| Stop bleeding | Evacuate the hematoma |
|---------------------------------------------------------------|--------------------------------------------------|
| Facteur VII (biologic) | Alteplase (rtPA, biologic) |
| Nicardipine (chemical) | Brainpath™ NICO Corporation (device) |
| tPA S481A (biologic) | Artemis™ system, Penumbra (device) |
| None of the tested options was substantially effective | Op2Lysis O2L-001 Best-in-Class* |

*** Optimal benefit - risk ratio
and facilitated implementation/use with reduced costs at hospital level (enhanced market access)**

✓ A Complementary Team Dedicated to Op2Lysis Growth



**Christophe
Gaudin, MD**
Co-Founder
20 yr. Cardiovascular and
Thrombosis Drug Dev.



Jérôme Parcq, PhD
Co-Founder
10 yr. in Neurosciences
Engineer in Agronomy,
Challenge + (HEC)



**Jean-Claude
Müller, PhD**
Advisor
20 yr. Pharm and
Business Dev.



✓ A core operational team 3 employees in 2018 - adjusted to project needs

✓ A strong international network

- **Strategic Committee**

Patrick Cassagne, Christophe Gaudin, Philippe Monteyne, Jean-Claude Muller, Jérôme Parcq, Thierry Sempere

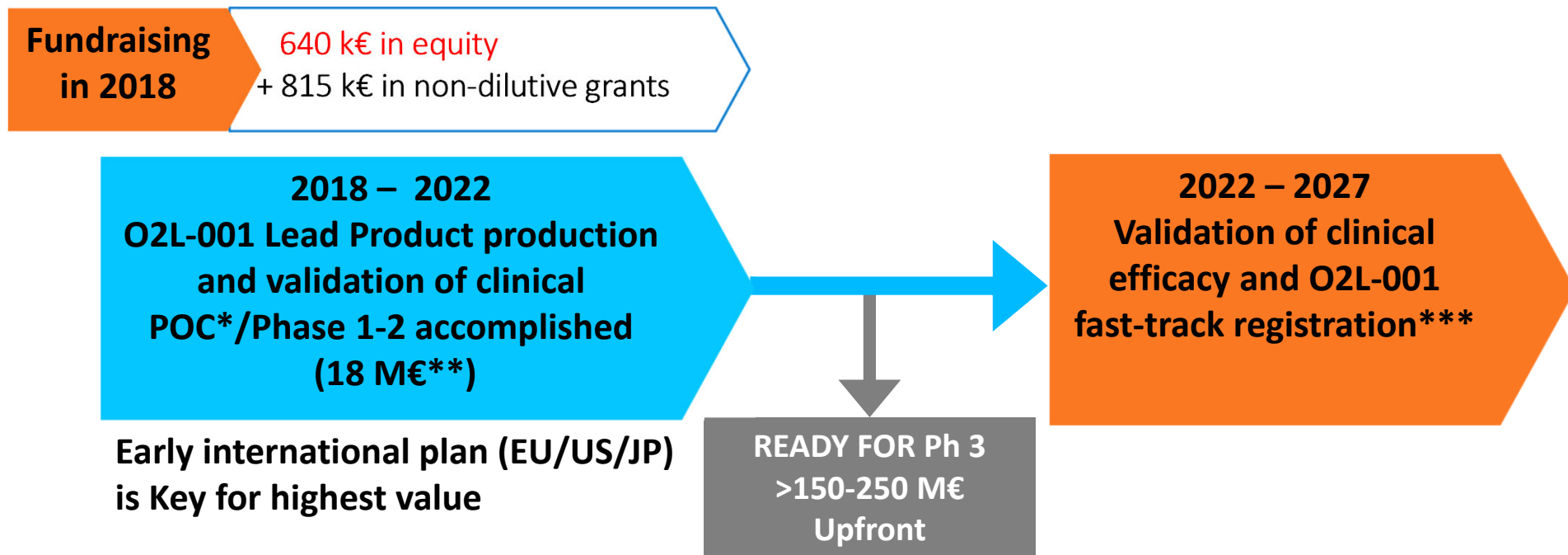
- **International Scientific Experts**

- Prof. Denis Vivien and Prof. Emmanuel Touzé (Caen, France)
- Prof. Javier Romero (Boston, US)
- Prof. Daniel Hanley (Baltimore, US)

- **Academic collaborative support (incl. US investigators involved in the MisTIE clinical study)**

Biotech Business Model based on product valorization in 4 years

18 M€ needed to get a product ready for Phase 3 development

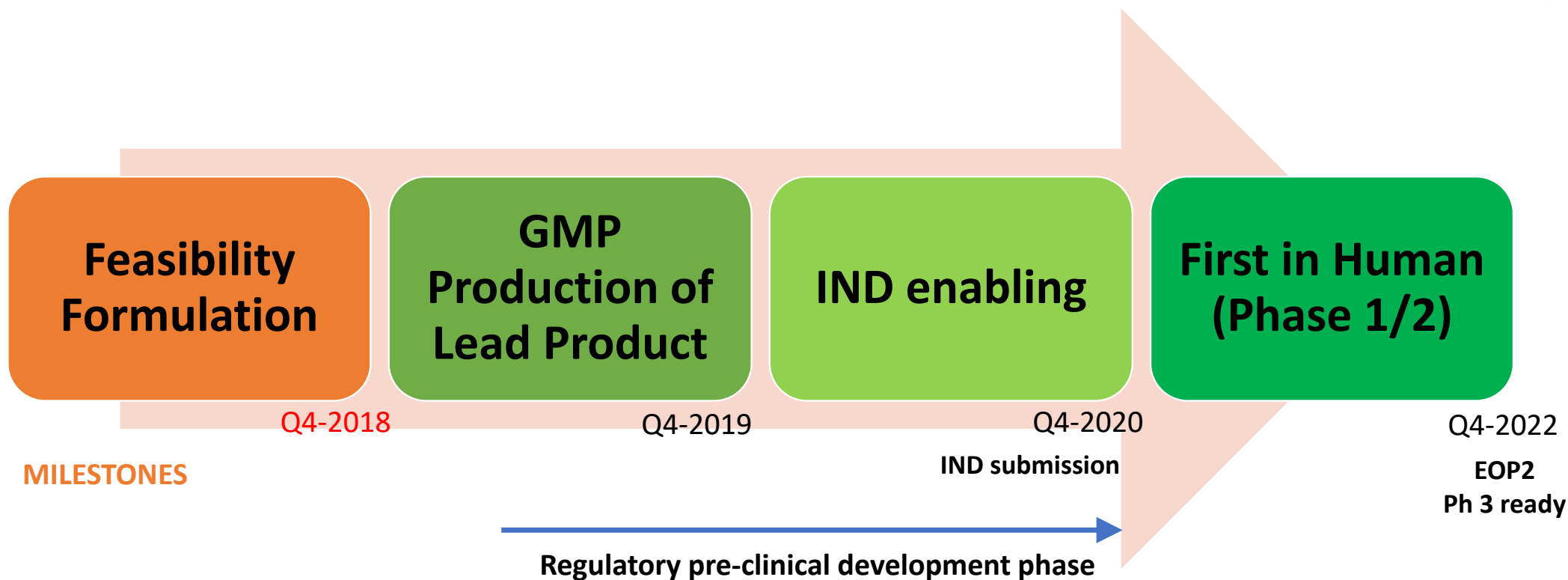


* Clinical Proof of Concept (decreased intracerebral hematoma volume on MRI/CT-Scan)

** Equity and non-dilutive, to allow POC demonstration both in EU and US and production ready for Phase 3

*** Potential for Orphan Drug Designation in US

Milestones of O2L-001 Development Plan



Proof of success

