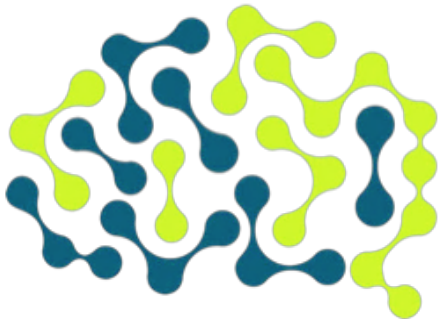


# ALZEX BIOMEDICAL GROUP INC.

Technology For The Treatment Of Neurodegenerative Diseases

# Executive Summary

- Aging world population with Alzheimer's disease (AD) affecting approximately 50 million people Worldwide, reaching 75 million in 2030.
- Global AD drug market was valued at approximately USD 3.64 billion in 2017 and is expected to grow to around USD 5.66 billion by end of 2025.
- Recent research on AD drugs have an over 99.6% failure. The 4 drugs that are FDA approved for AD have serious side effects
- Alzex has developed a bioprecursor that easily penetrates the Blood Brain Barrier and eliminates most of the side effects.
- Biological trials on small animals have been successful. Patent (WO2006/102130) has been granted.

# About Alzex

- ALZEX BIO MEDICAL [ALZEX] is a collaboration of researchers and leading scientists that have developed an innovative therapeutic approach aimed at treating brain diseases by means of highly selective bio precursor drug ("Prodrugs").
- This new class of drugs do not deploy any biological activity before they have crossed the blood-brain barrier, and hence do not induce significant side effects, common to many FDA approved Central Nervous System (CNS) drugs.
- By passing through the Blood Brain Barrier (BBB) not only are the side effects contained, prodrugs target specific receptor sites, using lower dosage of the therapeutic compound.
- The validity of this approach is evidenced by our progress on Alzheimer's research. The company has developed and patented, two families of this new class of drugs, of which we have "proof of concept" in animal trials (in-vitro).
- This technology can be applied to any number of brain diseases, thus addressing the concern of duration of therapy many clinicians are used to with current FDA approved Alzheimer drugs.

# Investment Opportunity

- Aging world population with Alzheimer's disease (AD) affecting approximately 50 million people World wide.
- Recent research on AD drugs have concentrated on BACE inhibitors and has been marked by clinical trial failure rates of over 99.6%.
- The four currently FDA approved AD drugs are mostly AChE inhibitor but have limited transportability across the Blood Brain Barrier (BBB). Most of the drug does not enter the brain but is carried to peripheral organs causing serious side effects.
- Having an effective drug that can easily cross the BBB would thus eliminated much of the side effects and would be a breakthrough in the treatment of AD

ALZEX challenge - design innovative safer drugs to substitute the current ones by limiting the current noxious side-effects

# THE BIOPRECURSOR

ALZEX has developed innovative drug candidates called Bioprecursors

Bioprecursor = Improved prodrug (drug de novo and not a simple delivery system)

Innovative Concept of Bioprecursor

- Chemically masked form of a biological active molecule
- No recognition by the biological receptors
- Lipophilic small molecule crossing the Blood Brain Barrier (BBB)

Bioprecursor Activated once passed the BBB: biological oxidative pathway

- Recognition by the biological receptors
- Induction of the targeted pharmacological effects
- Significant reduction of peripheral side-effects

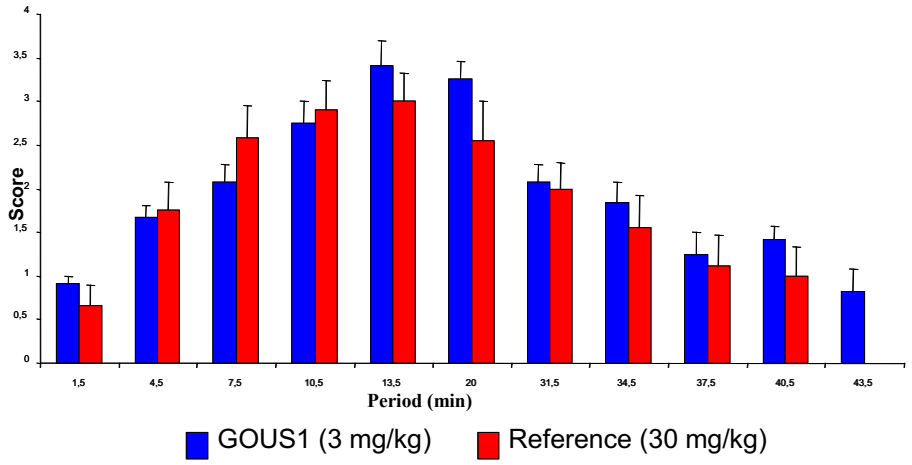
Proof of Concept is achieved

- Successful design of new drugs for AD modeling commercial FDA approved drugs
- Bioprecursor technology can be applied to other brain diseases

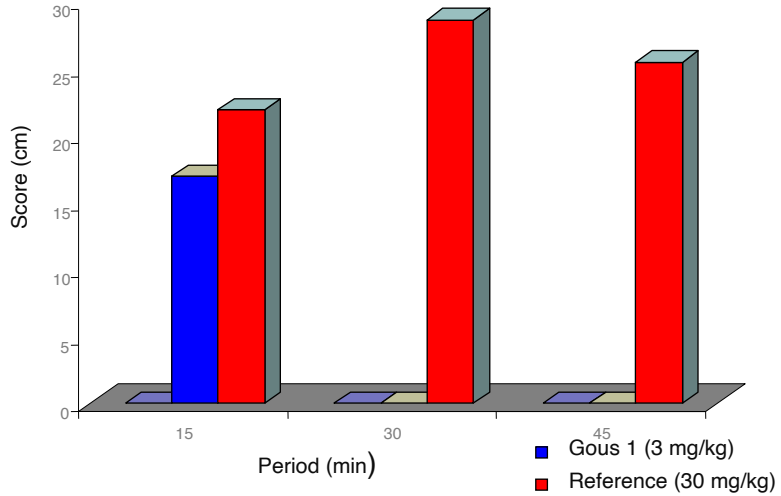
# PROOF OF CONCEPT ACHIEVED

- First Bioprecursor Gous1 reaches the brain and is activated into API
- Improvment of the targeted enzyme inhibition => 10 times lower isoactive doses
- No long lasting peripheral side-effects

**Shivering (Central effect)**




**Salivation (Peripheral effect)**




Biological trials have been successful on small animals

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Results are patented: PCT Int Appl., WO 2006/03120

# WORLDWIDE PATENTS

## PATENT WO2006/102130

Patent filed in 2006 by the INSA of Rouen and totally repurchased in 2014 by VFP Therapies (French subsidiary of Alzex).

Covers a large family of drug candidates which could be marketed in future to compete commercial drugs like Exelon®.

The patent has been granted in the main Global markets: Australia, Canada, Europe, Israel, New-Zealand, South Africa, Singapore and the USA.

A new family of molecules will be protected by the filing of a selection patent derived from the mother one WO2006/102130 by the end of 2019: improved drug candidates and rejuvenated patent.

# R & D RESULTS

1. **DONE:** We have developed innovative drug candidates called BIOPRECURSORs.

2. **DONE:** Proof of concept has been successful on animals by any administrative way (Irwing test).

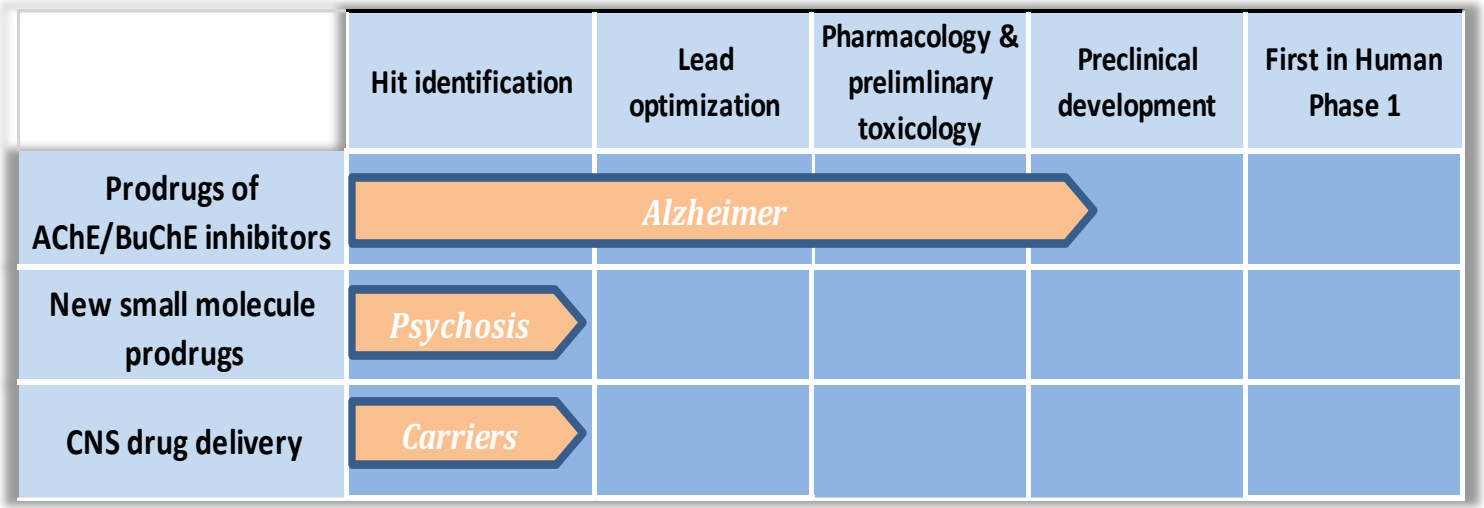
3. **DONE:** Selection of some lead molecules through supplementary trials:
   - ✓ Physicochemical optimisation: solubility, stability.
   - ✓ Biological screening in order to avoid undesirable biological effects: genotoxicity, cardiotoxicity, enzymatic screening.
   - ✓ The risk of failure has been anticipated by preparing backup molecules.

4. **UNDERWAY:** Preclinical Assays: the selected leads molecules (possible drug candidates) are currently subjected to preclinical studies

The main goals of pre-clinical studies are to determine the safe dose for first-in-human studies and assess the product's safety profile.

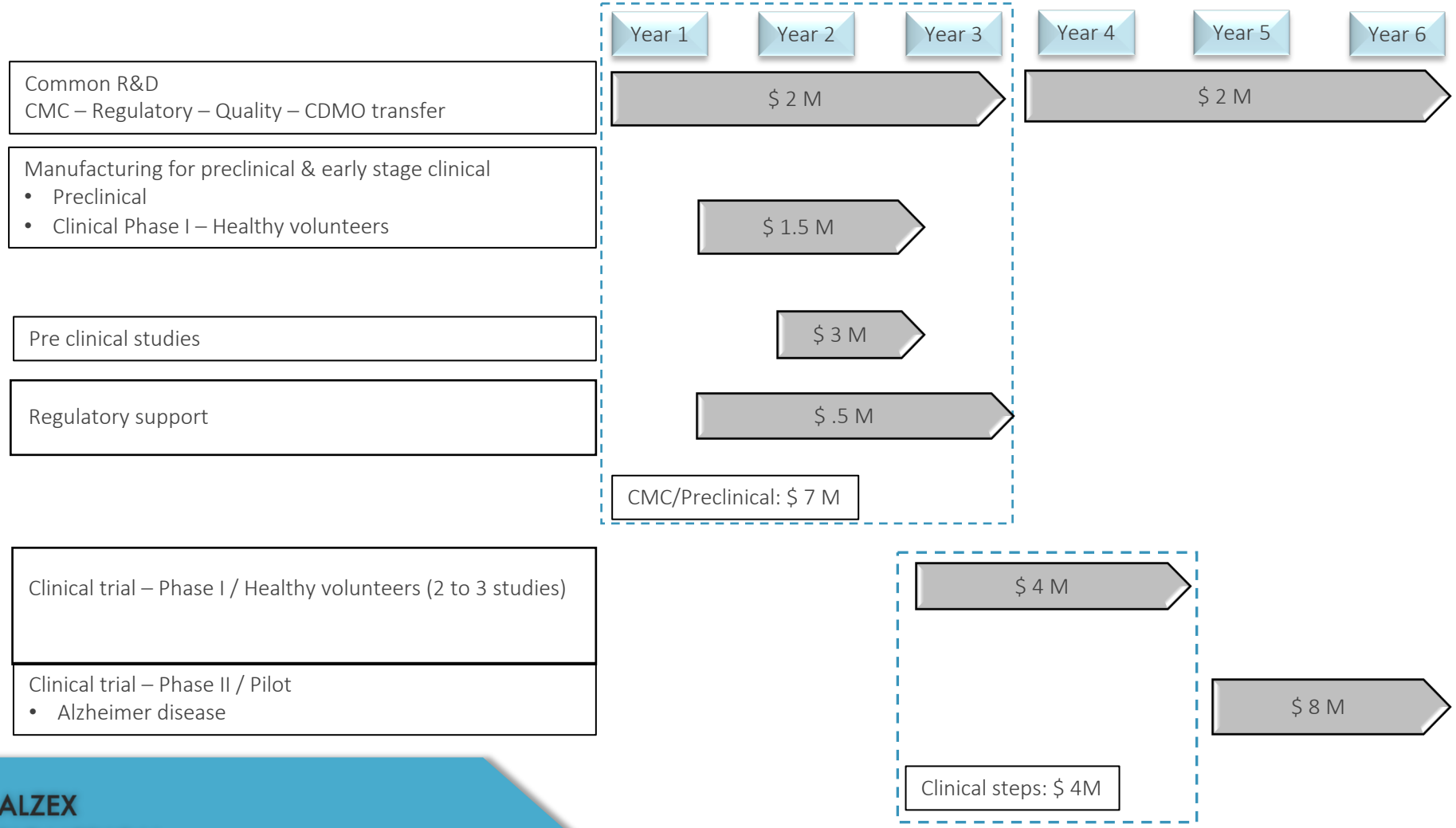
As our drug candidates are targeting **similar biological targets as** well known AD drugs (Aricept / Esai-Pfizer and Exelon / Novartis), we will take advantage of known animal models for the first phases and clinical development programs for the clinical phases.

# R & D PIPELINE




- With the benefit of over ten years of research in France, the VFP Therapies approach brings an innovative response to minimizing the noxious side-effects of drugs as well as overcoming crossing the Blood-Brain-Barrier issue. The completed R & D studies have already demonstrated the technical proof of its concept in initial *in vitro* and *in vivo* models (mice & rats).
- The R&D target = achievement of preclinical assays and successful phase 1 trials.
- Such a record, once positive, will allow to enter into discussions with pharmaceutical companies either to license our families of products or to negotiate a co-development program for their own Alzheimer drugs or other treatments for central nervous system diseases.

# DEVELOPMENT PLAN

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# MOVING FORWARD

THE STRATEGY = FOCUS ON THE CURRENT R&D AND EXPLORE NEW TRACKS

- Enhancing value of the R&D assets:
  complete selection of new lead molecules and one of them in clinical phase I in 2020-21

- Licensing one pharmaceutical project in 2021-22

- Partnership with Pharmaceutical Industry:
  Setup of a co-development platform to associate Drug Discovery and Brain Targeting Technologies. The vision of Alzex Biomed Group at mid-term is to focus on the development of its 1st family of drug candidates which proved to be effective and safe as inhibitors of acetyl and butyryl cholinesterase.

- On the basis of the current results, the company is ready to launch a full preclinical phase and is targeting to enter in phase 1 within 18 months.

- Such a schedule could allow to initiate the first negotiations with pharmaceutical companies in 12 months according to the first axis.