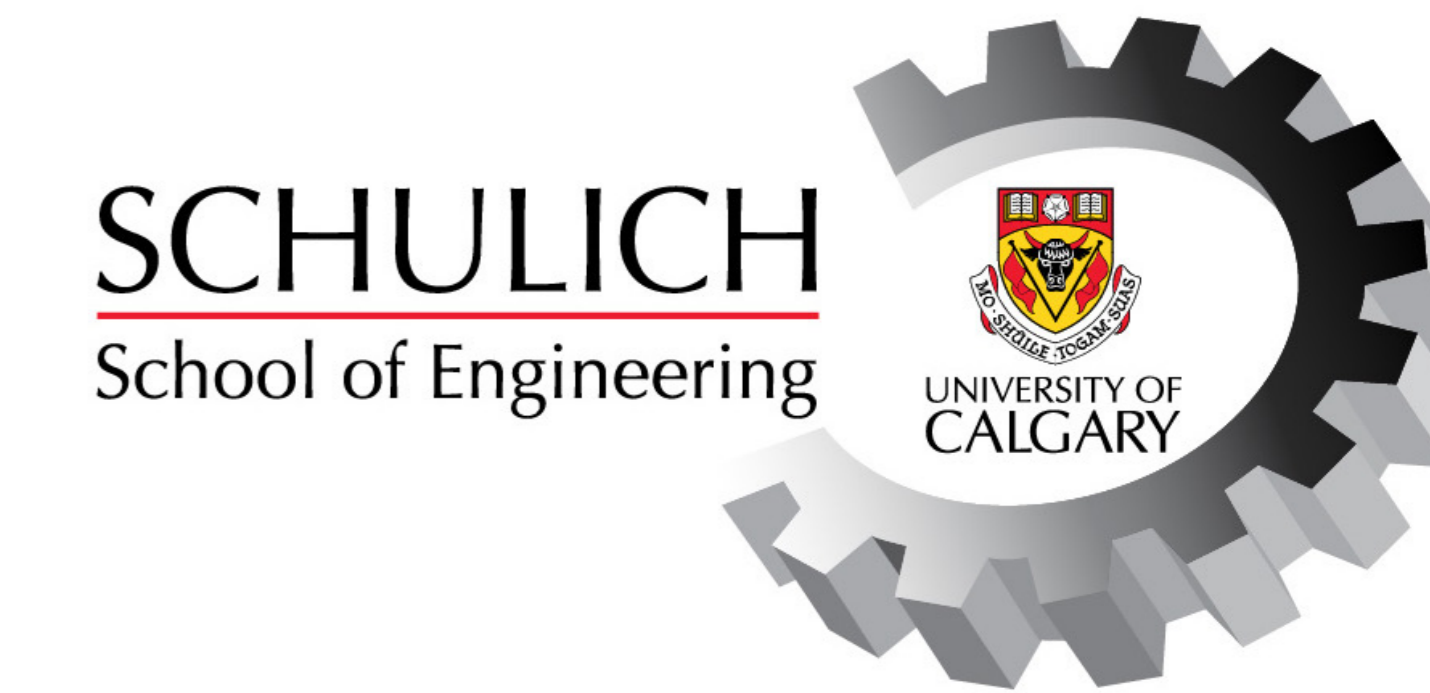


EXOZIA



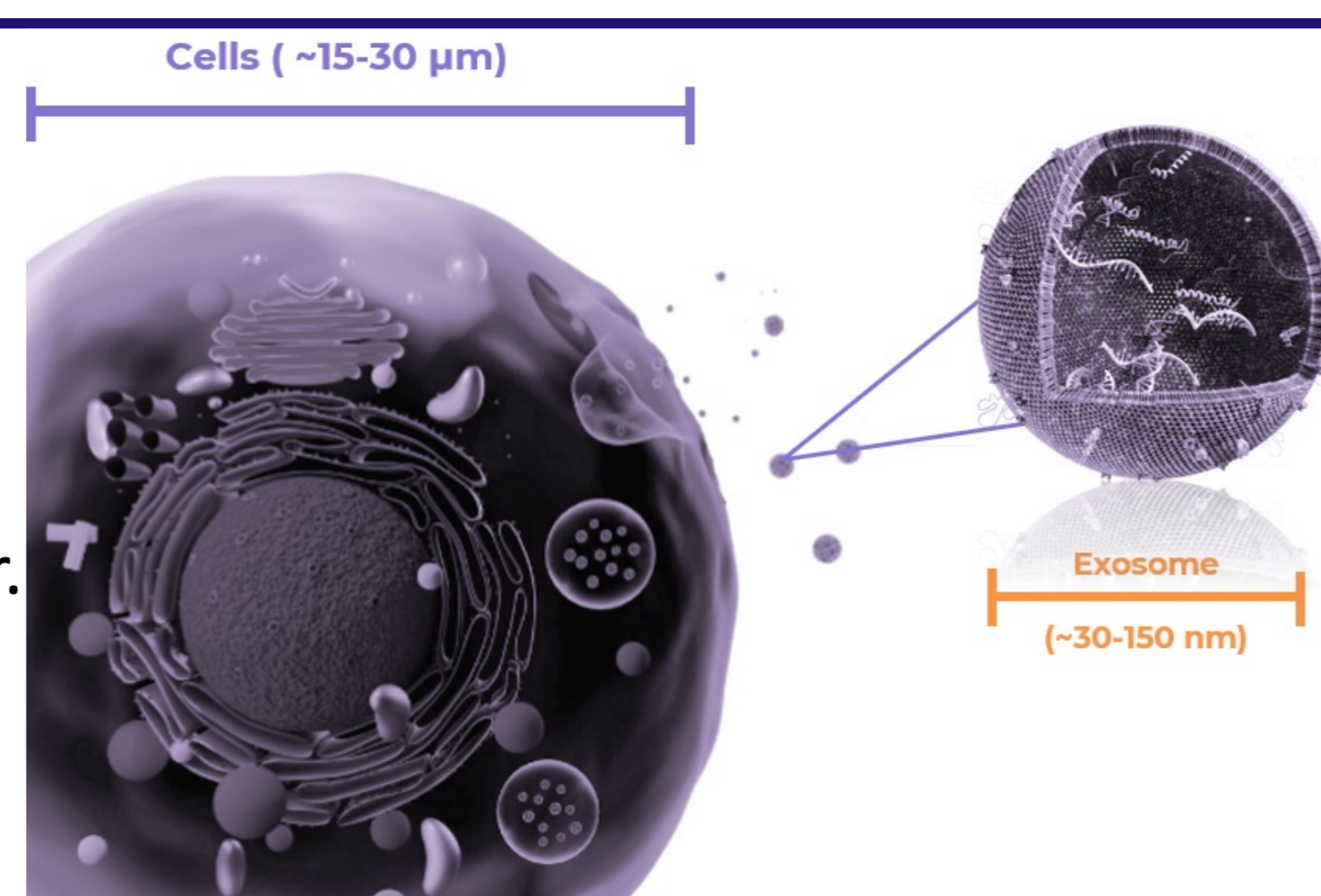
Large-Scale Production of Exosomes for Targeted Therapeutics

Rebecca Heather, Meryck Mucenski, Rigel Tormon, Phuong (Christina) Trinh, Helen Zhang
Department of Chemical and Petroleum Engineering

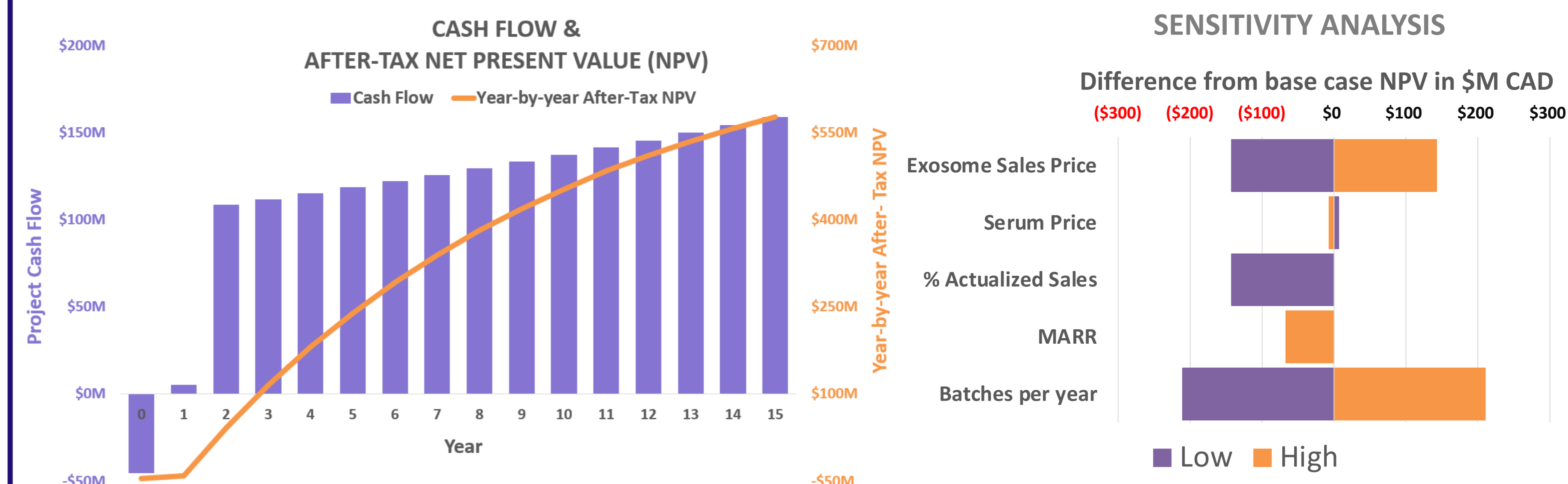
INTRODUCTION^{1,2,3}

Exosomes are extracellular vesicles that are secreted by cells for **cellular communication**. They carry **bioactive cargo** like nucleic acids, proteins, and other metabolites and can precisely deliver them to recipient cells, making them an effective vehicle for **targeted drug delivery** and **disease diagnostics**.

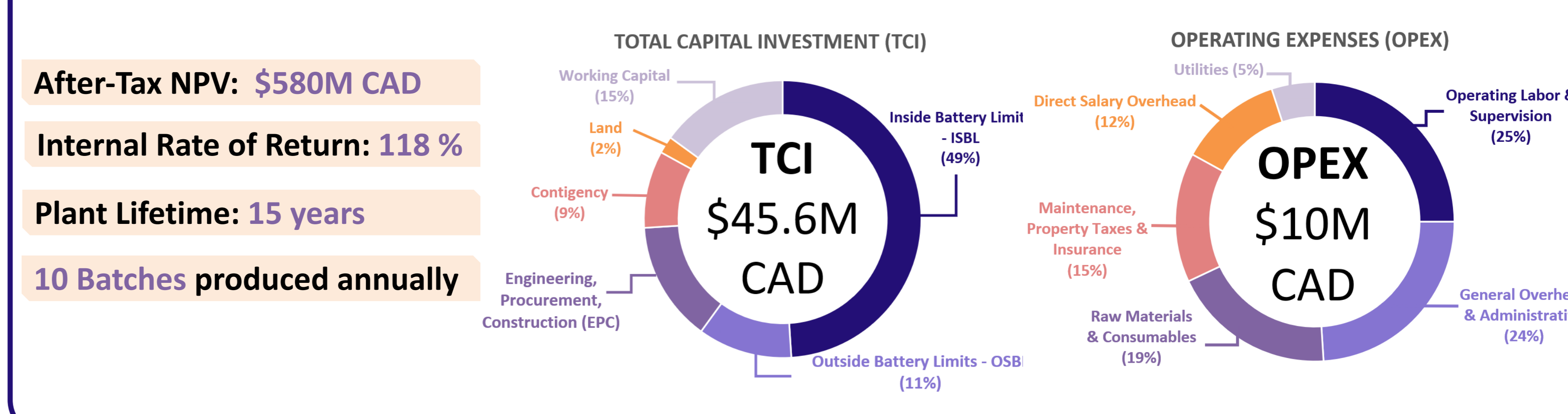
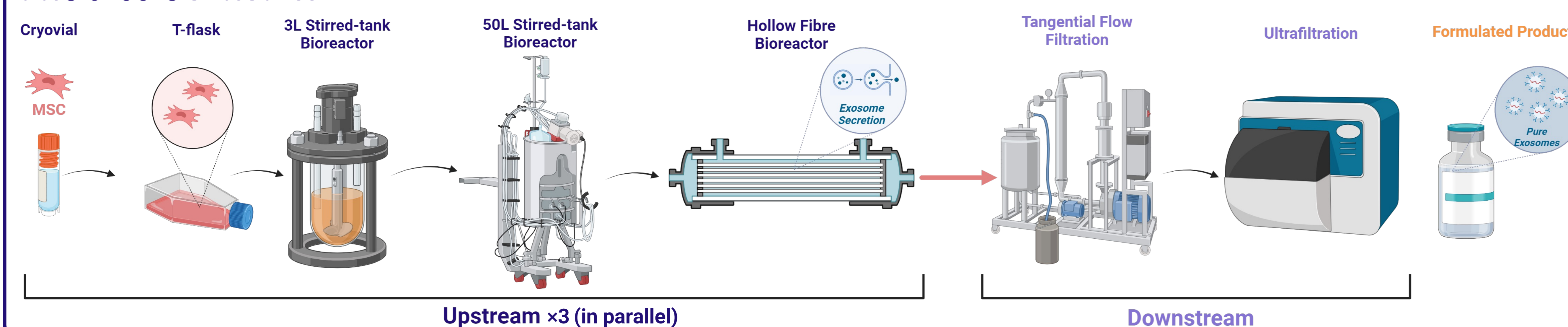
Currently, clinical trials are exploring their use in various diseases, such as diabetes, stroke, and cancer. However, current exosome production methods are **cost-ineffective, labour-intensive, and lack scalability**. This is where EXOZIA comes in, as we are designing an **economically viable process for producing exosomes on a large scale**, in our facility based in Calgary.



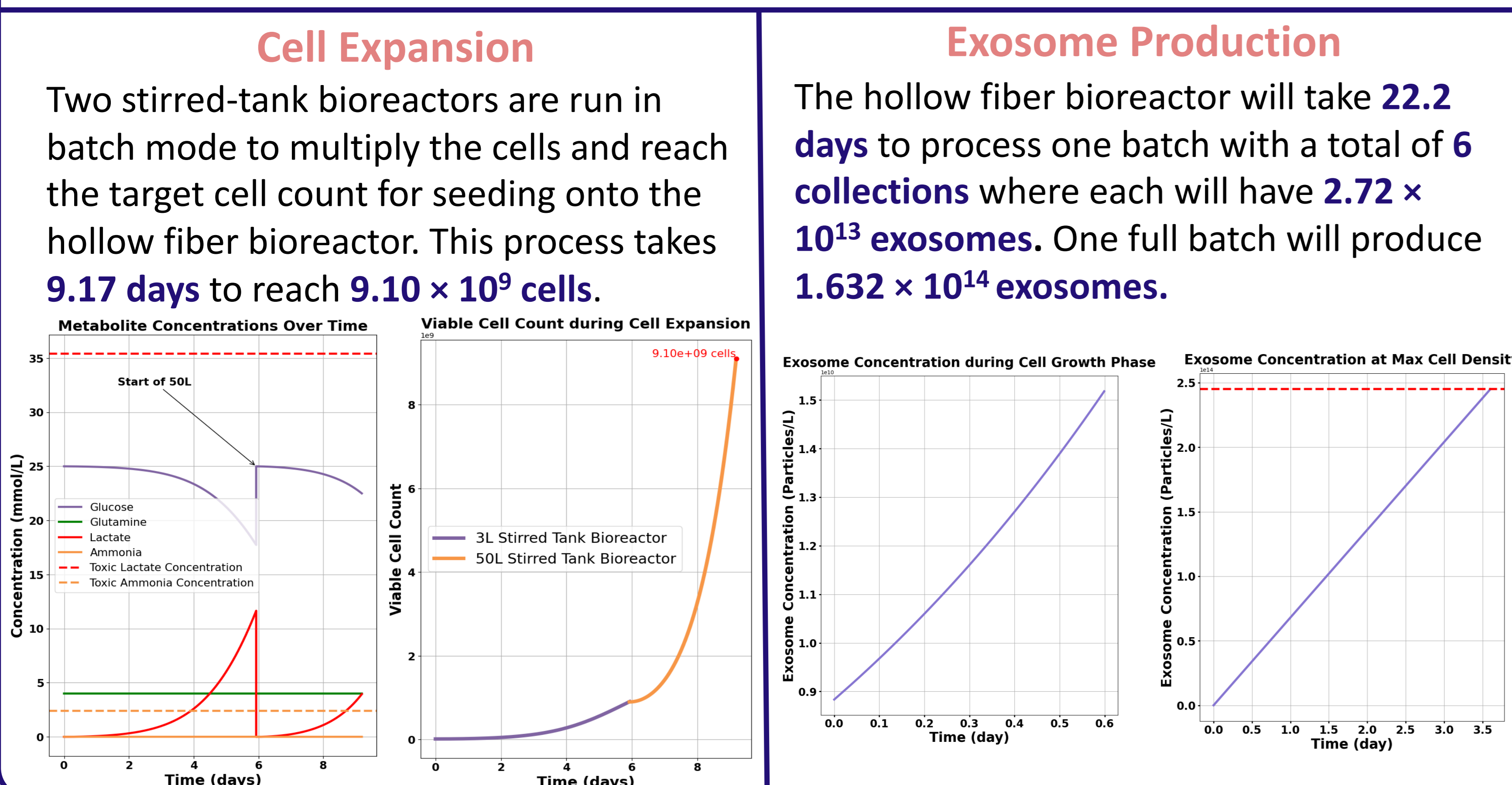
ECONOMICS



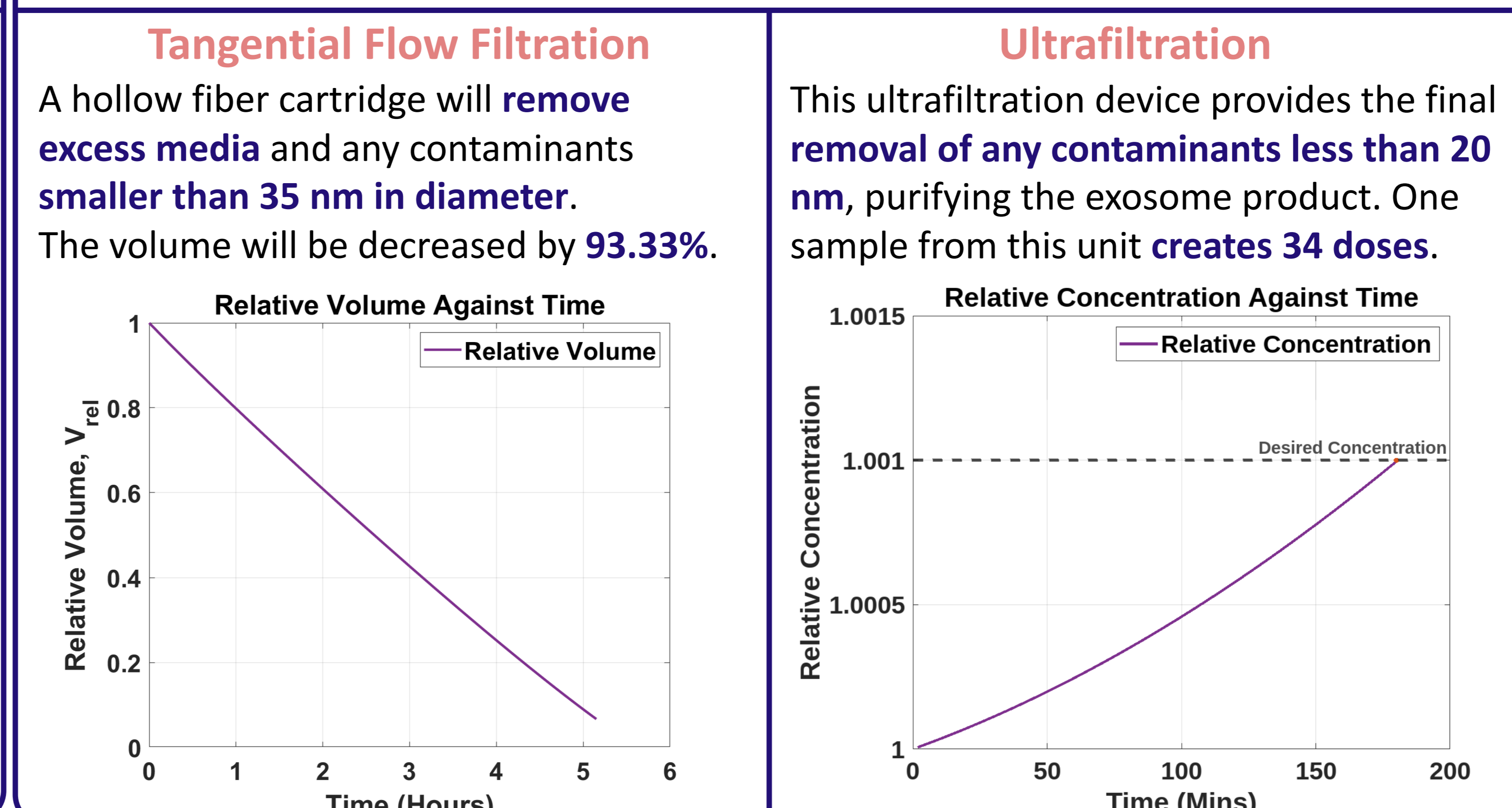
PROCESS OVERVIEW



UPSTREAM⁴



DOWNSTREAM^{5,6}



PRODUCT

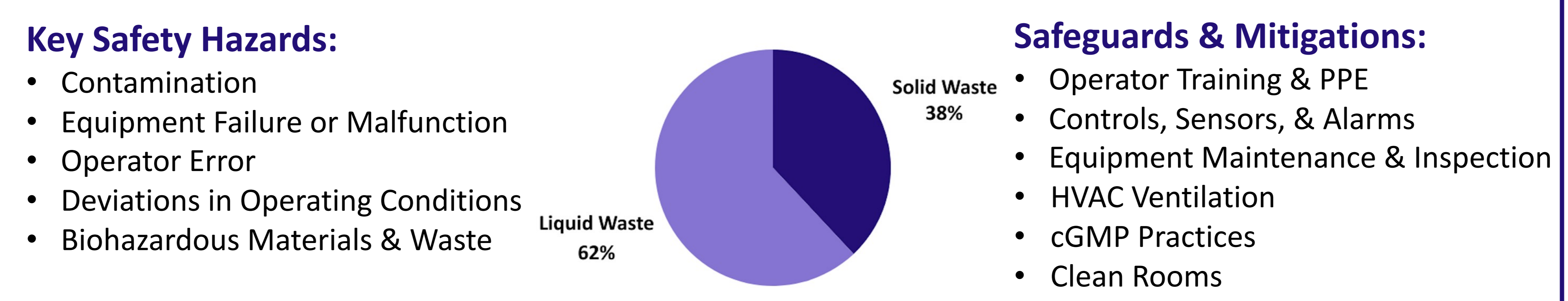
EXOZIA produces **10 high-quality annual batches** using a **Quality by Design** approach and adheres to **Good Manufacturing Practices**, supplying **14,500 vials** for **57 clinical trials** across the **U.S. and China**, capturing a major share of the global exosome trial market.

× 14,500 vials manufactured annually

Acknowledgement

We thank **Dr. Michael Kallos** for his consistent guidance and support for the duration of this project. We would also like to extend our gratitude to our industry sponsor, **Dr. Krishna Panchalingam**, from Lonza for his time, expertise, and industrial insights.

ENVIRONMENT, HEALTH, AND SAFETY⁷



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