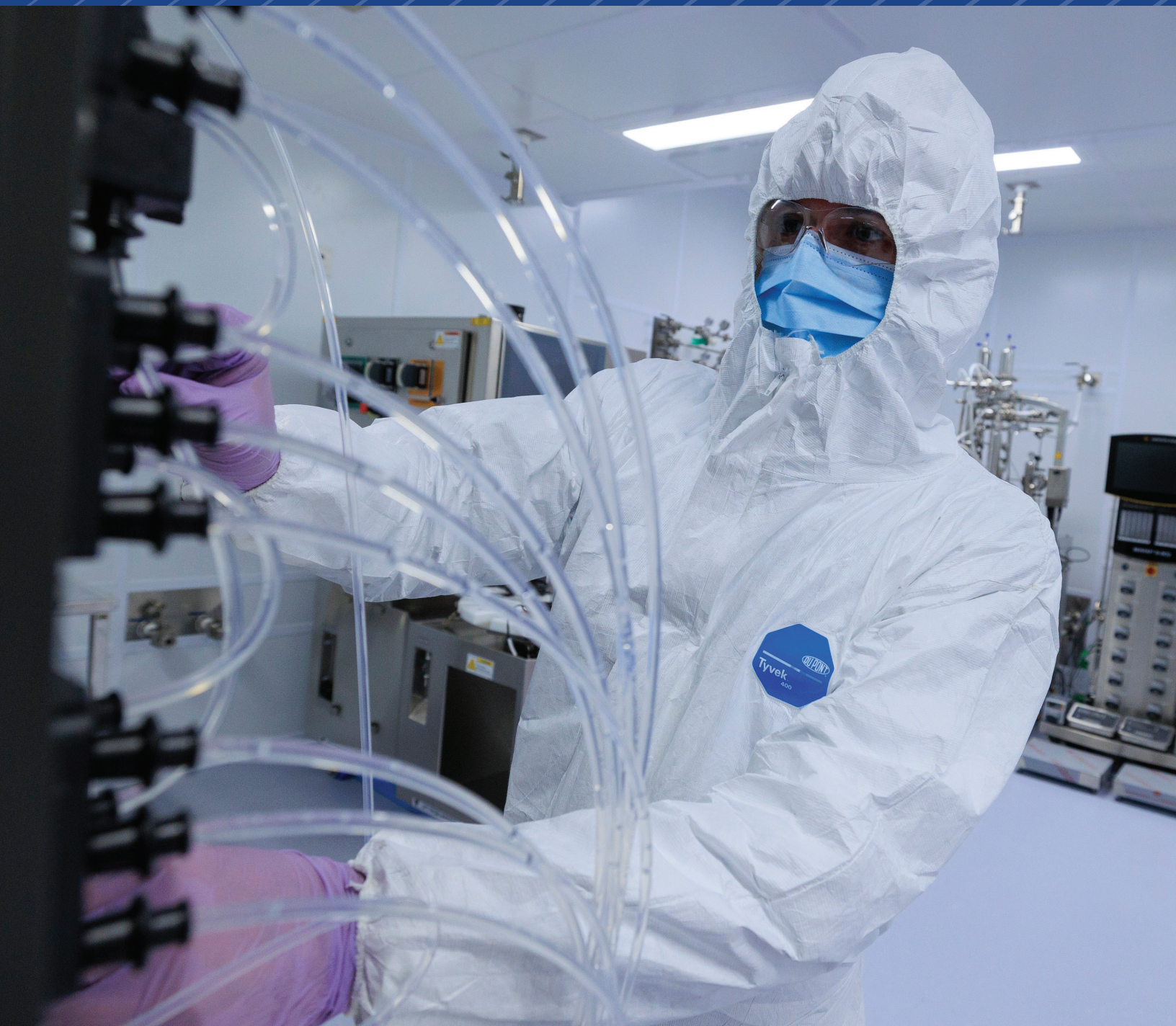
VIDO

VACCINE AND INFECTIOUS DISEASE ORGANIZATION

VACCINE DEVELOPMENT CENTRE

PROCESS AND PRODUCT DEVELOPMENT CLINICAL MANUFACTURING



YOUR VACCINE DEVELOPMENT & MANUFACTURING PARTNER

The Vaccine and Infectious Disease Organization (VIDO) has been a world leader in infectious disease research and vaccine development for almost five decades. We expedite new technology development to ensure humans and animals are protected from infectious diseases.

Our Vaccine Development Centre (VDC) is a BSL3-capable biologics manufacturing facility. To bridge the gap between discovery and commercialization, the VDC performs Quality by Design technical transfer, process development, scale-up, production of Phase I/II clinical trial material, and commercial-scale veterinary biologics.

Our VDC team has 40 years of combined experience and are dedicated to being your dependable manufacturing partner, at the scale you need.

Custom assay development and validation

Development Services

- BSL2-/BSL3-capable manufacturing
- Technology transfer and validation for:
  - DNA/RNA vaccines
  - Live attenuated, inactivated, and recombinant vaccines
  - Viral-based products
  - Mammalian/insect systems
  - Bacterial/yeast systems
- Cell banking (MCB/WCB) and viral seed banking
- Upstream and downstream process development
- Viral Clearance studies
- Scale-up from 3L to 1,000L in stainless steel and single-use bioreactors
- Scale-up from 0.5 m^2 to 500 m^2 in adherent cell systems

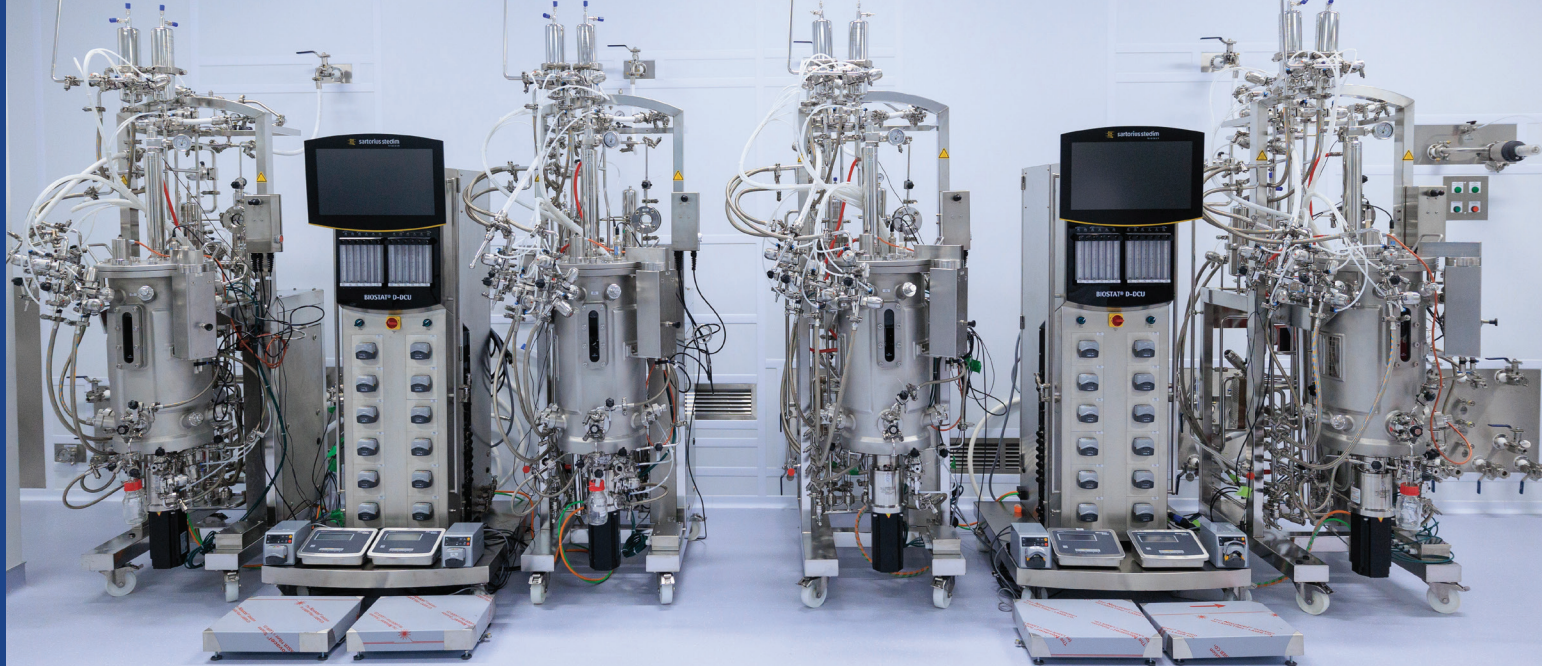
Pre-Clinical and GMP Clinical Manufacturing Services

- Non-GMP pre-clinical engineering lots and GMP Phase I/II clinical trial lots
- Full traceability and QA release of raw materials and components
- Formulation of and filling in Grade A isolators

Commercial Manufacturing Services

- USDA-/CFIA-compliant processes for suspended or adherent cell systems

GMP-compliant manufacturing at Bio-Safety Levels 2 and 3



Quality Control Services:

- Microbiology testing, including sterility, bioburden, and adventitious agents
- Impurity/residual testing for endotoxin and host cell protein/DNA
- Assay method development and validation
- Product lot release testing
- ICH stability storage studies

Regulatory Support and Compliance

- Regulatory Consulting and Project Management support
- Detailed batch records and full technical transfer support of all process and analytical methods to GMP Phase III or higher-capacity production
- Quality Management Systems (QMS) compliant with:
  - Good Manufacturing Practice (GMP)
  - Health Canada (HC)
  - Canadian Food Inspection Agency (CFIA)
  - United States Department of Agriculture (USDA)

Pre-clinical and GMP clinical manufacturing

Advancing Your Technology

VIDO has the capacity and expertise to support human and animal vaccine development through the Technology Readiness Levels (TRL) from discovery to commercialization.

Discovery TRL 1, TRL 2, TRL3, TRL 4		**Development** TRL 5, TRL 6, TRL 7		**Commercialization** TRL 8, TRL 9
Basic Technology Research, Candidate Identification and Optimization (proof-of-concept)		*Manufacturing Process Development, Technology Development*		*Regulatory Approval, Commercialization*
Human	Animal	Human	Animal	Animal

For more information contact:

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UNIVERSITY OF SASKATCHEWAN

www.vido.org

Process development and GMP ***manufacturing*** up to BSL3

Certified to
ISO 9001

> $400M
in containment ***infrastructure***

Specialized housing for ***all animal species***

Extensive expertise. World-class facilities. From discovery to commercialization.

50+ PhDs and veterinarians

Eight commercialized vaccines; ***six world firsts***

Located in ***Saskatchewan, Canada***

Established in
1975