



VACCINE AND INFECTIOUS DISEASE ORGANIZATION

[VIDO.ORG](http://VIDO.ORG)



Healthy People,  
Healthy Animals

# VIDO: Canada's Centre for Pandemic Research

Volker Gerds, Director & CEO ([www.vido.org](http://www.vido.org))

- Research Centre of the University of Saskatchewan
- Canada's largest high containment infrastructure (CFI-MSI)
- 45 years of expertise in human and animal health

BE WHAT THE WORLD NEEDS

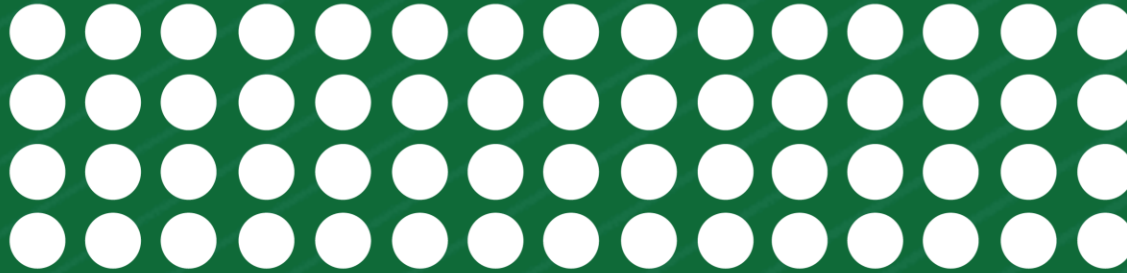




Personnel from **32 countries**

**60**

PhD level  
researchers



Certified to

**ISO  
9001**



**> \$400M**

in biocontainment infrastructure



**Located in**  
Saskatchewan, Canada

**> 175**

**members of staff**

55% female, 44% male, 1% not specified  
41% visible minorities

**8**

commercialized  
vaccines...**6 world firsts**



**1000+**

HQP trained since inception

# One Health Research

## Human Health

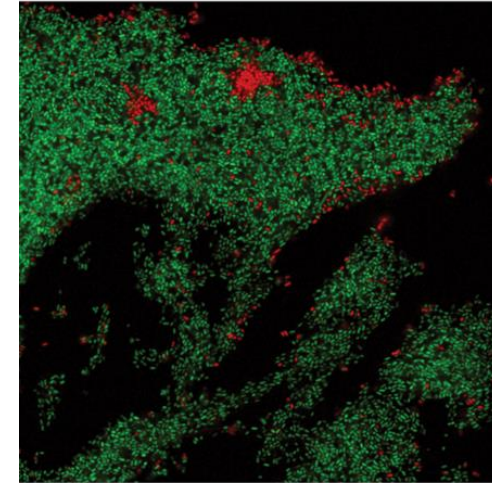
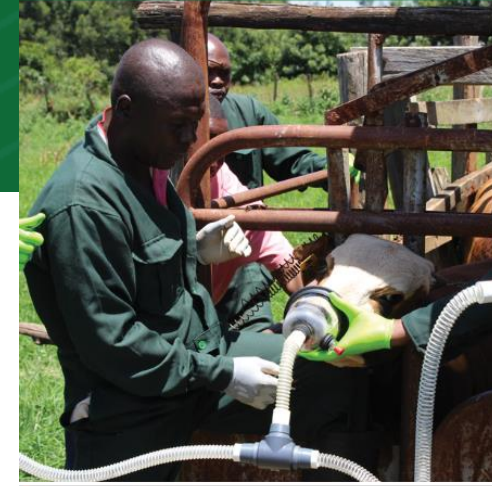


COVID-19, ZIKA, MERS-CoV, JEV  
RSV, Tuberculosis, Parainfluenza 3, Influenza,  
Gonorrhea, Chlamydia, Pertussis, Salmonellosis  
Vaccine platforms, adjuvants

## Animal Health



Respiratory diseases (BHV, CBPP, BRSV, BVD, Mycoplasma, *Histophilus somnus*, etc.)  
Enteric diseases (Johne's disease) & Pink-eye  
Neonatal immunity, adenoviral vectors  
**African Swine Fever**, PEDV, PRRSV, SIV, *E.coli*, *S. suis*, *L. intracellularis*  
Microbiota, mucosal delivery  
**Avian influenza**, Necrotic enteritis, Salmonellosis, *E.coli*,  
yolk-sac infections,, IBDV  
Wildlife diseases incl. Chronic Wasting Disease & protein misfolding



# Canada's largest high containment lab



**180,000 ft<sup>2</sup>**

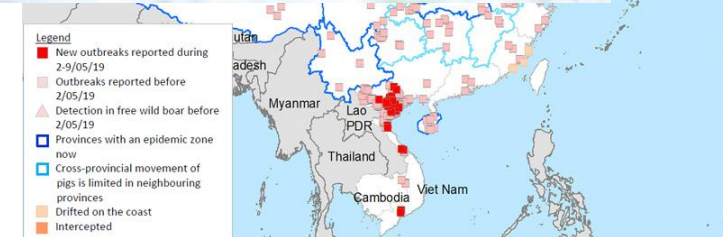
World-class CL3-Ag facility

Canada Foundation for Innovation  
Government of Saskatchewan  
University of Saskatchewan

- **Major Swine Industry Threat**
  - Global spread
  - Only facility outside CFIA
- **Research Program**
  - Establishing stable cell lines for virus culture
  - Vaccine and anti-viral screening
- **Partnering globally**
  - CFIA, Pirbright, USDA, others

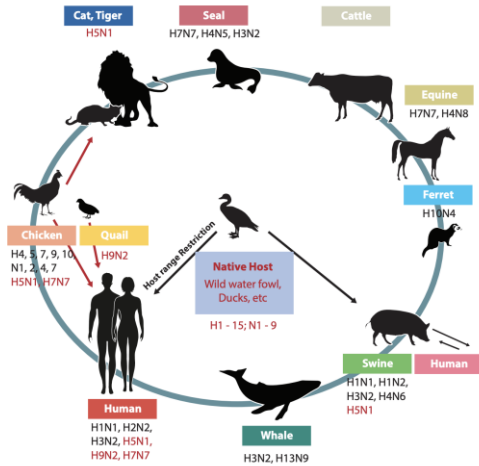
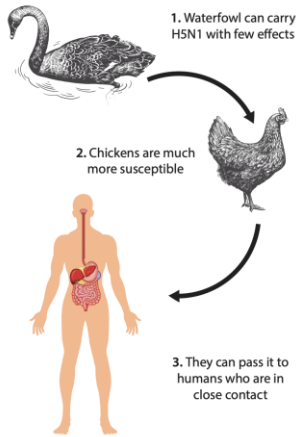


**Suresh Tikoo**

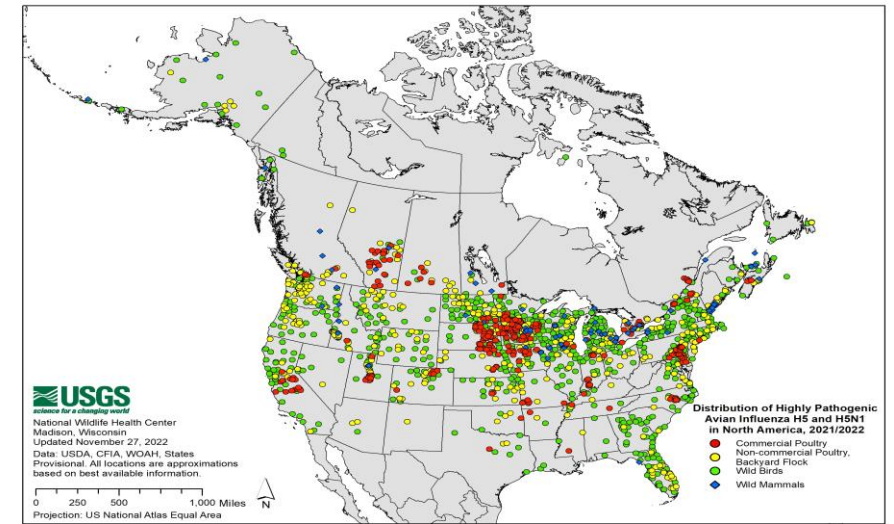


# Highly Pathogenic Avian Influenza

## HOW BIRD FLU SPREADS TO HUMANS



6.7 Million Birds on Canadian farms lost to AI in Canada in 2022



Yan Zhou



Alyson Kelvin



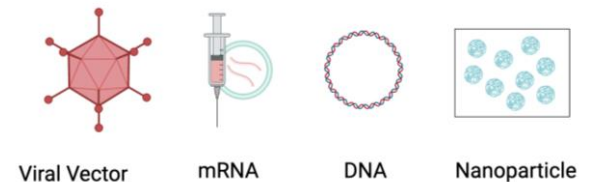
Phase 1 – Candidate Vaccine Viruses



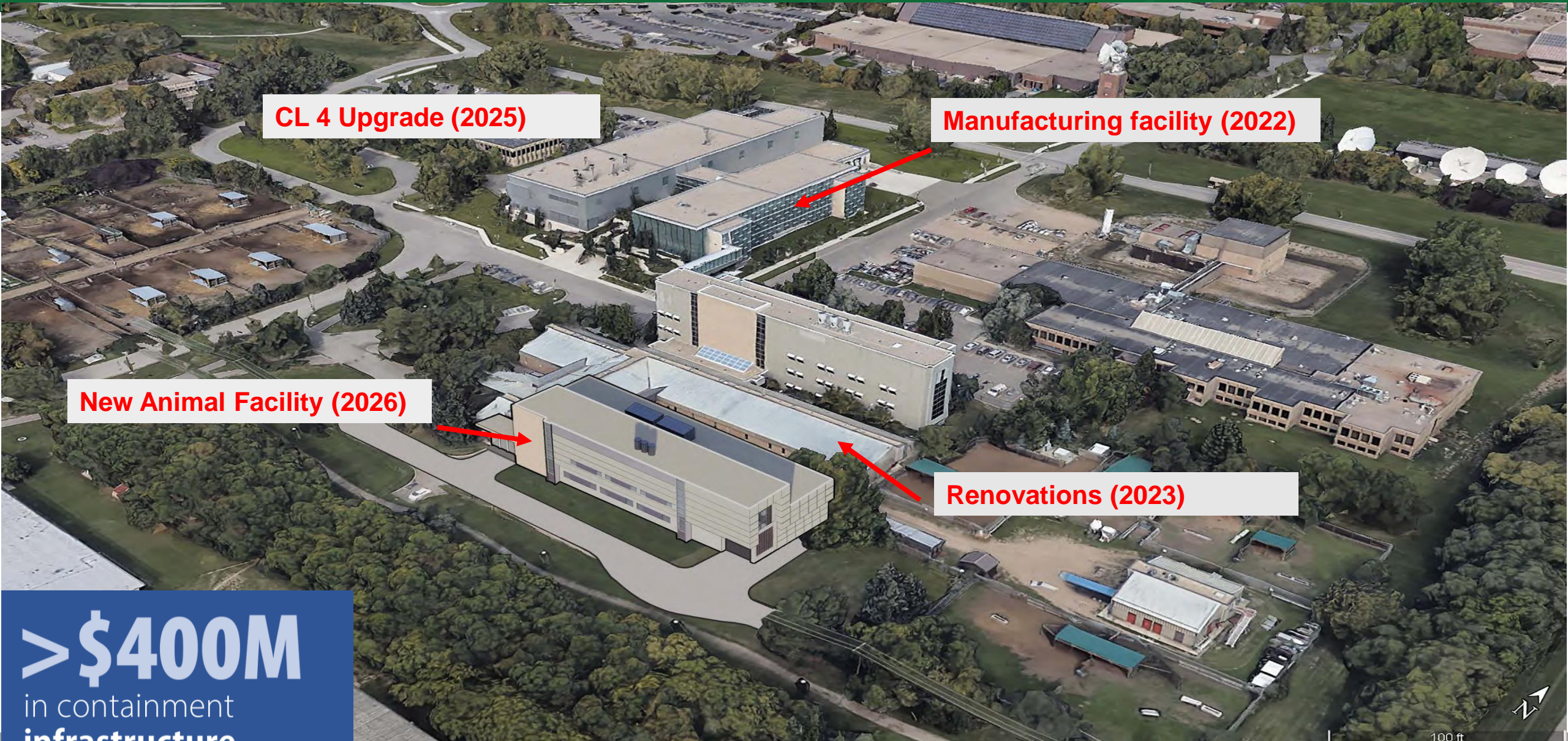
Phase 2 – Next Generation Vaccines



Next Generation Vaccines for Poultry



# Canada's Centre for Pandemic Research



CL 4 Upgrade (2025)

Manufacturing facility (2022)

New Animal Facility (2026)

Renovations (2023)

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



# Enhancing Canada's Research Capacity



**TABLE 1: Estimates of animal numbers that could be housed in Canada's Centre for Pandemic Research**

Species	Level 2	Level 3	Level 4
Non-human primates (macaques)	50	72	72
Pigs	400	500	150
Cattle	60	100	30
Bison	60	80	16
Alpacas	40	100	30
Bats	200	500	300
Poultry	1,200	3,000	300
Rabbits	60	400	300
Cotton rats	400	400	300
Mice	>10,000	>30,000	>6,000
Insects, ticks, etc.	thousands	thousands	thousands

\*VIDO also operates a farm that is capable of housing > 400 cattle.



3-D VIEW - SOUTHWEST  
UNIVERSITY OF SASKATCHEWAN - VIDO  
23 Jan 2023



3-D VIEW - SOUTHEAST  
UNIVERSITY OF SASKATCHEWAN - VIDO  
23 Jan 2023

**CEPI network of animal facilities**

# Enhancing Canada's Manufacturing Capacity



- Pilot-scale GMP
- Human and animal vaccines
- CL3 containment
- All relevant vaccine technologies
- > 40 Million doses

"We need as much domestic capacity for vaccine production as possible,"

Prime Minister Trudeau said during a news conference in Ottawa on Feb. 2, 2021, when he announced the "good news" that VIDO is projecting to produce up to 40 million vaccines annually, once the new manufacturing facility is built.

# Grand Opening



Prime Minister Justin Trudeau and team



Prime Minister Trudeau, Vice-President Research Baljit Singh, Board Chair Ryan Thompson, V. Gerdts

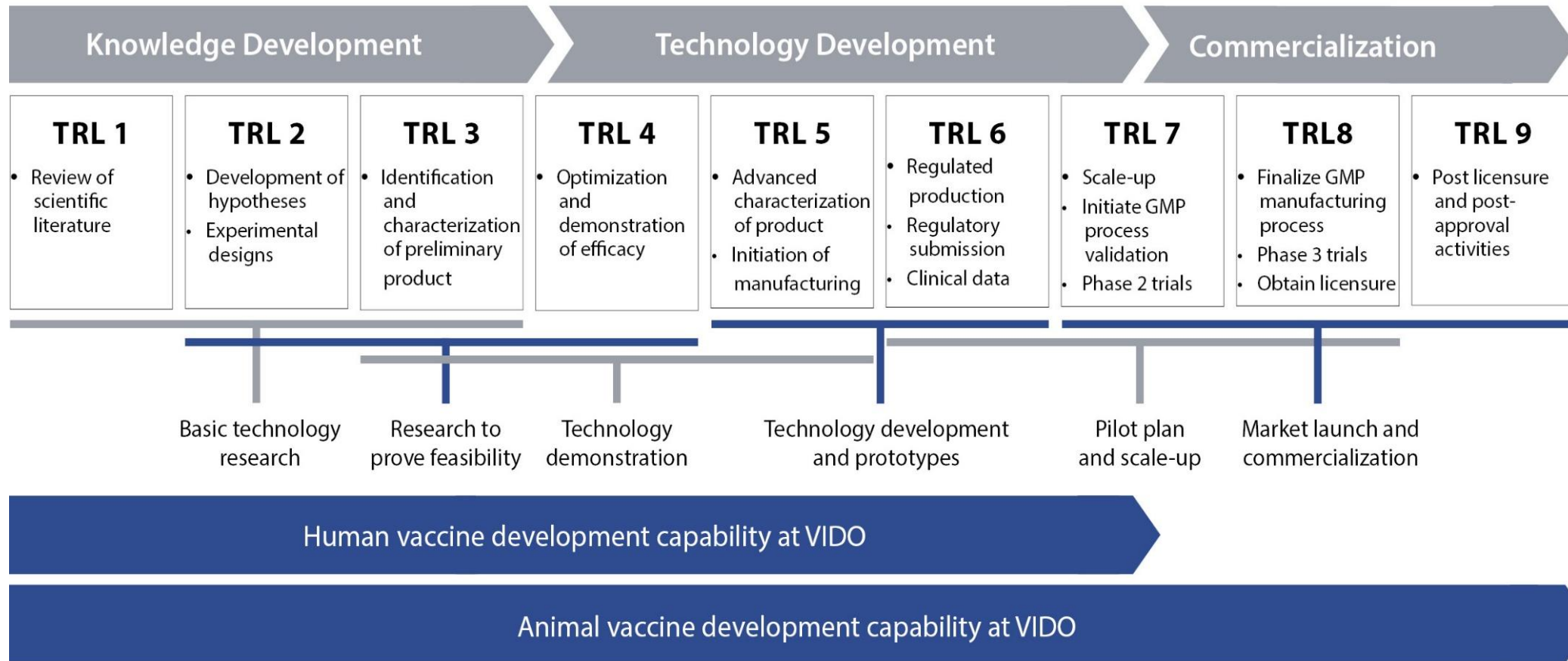
Premier Scott Moe, Volker Gerdts, Trina Racine



Minister Dan Vandal, Premier Scott Moe, President Peter Stoicheff

## Driving Principles

- Respond to ANY emerging pathogen
- Access to a variety of animal models
- Discovery through Manufacturing
- Grow Canada's Talent Pool



## Discovery through Commercialization

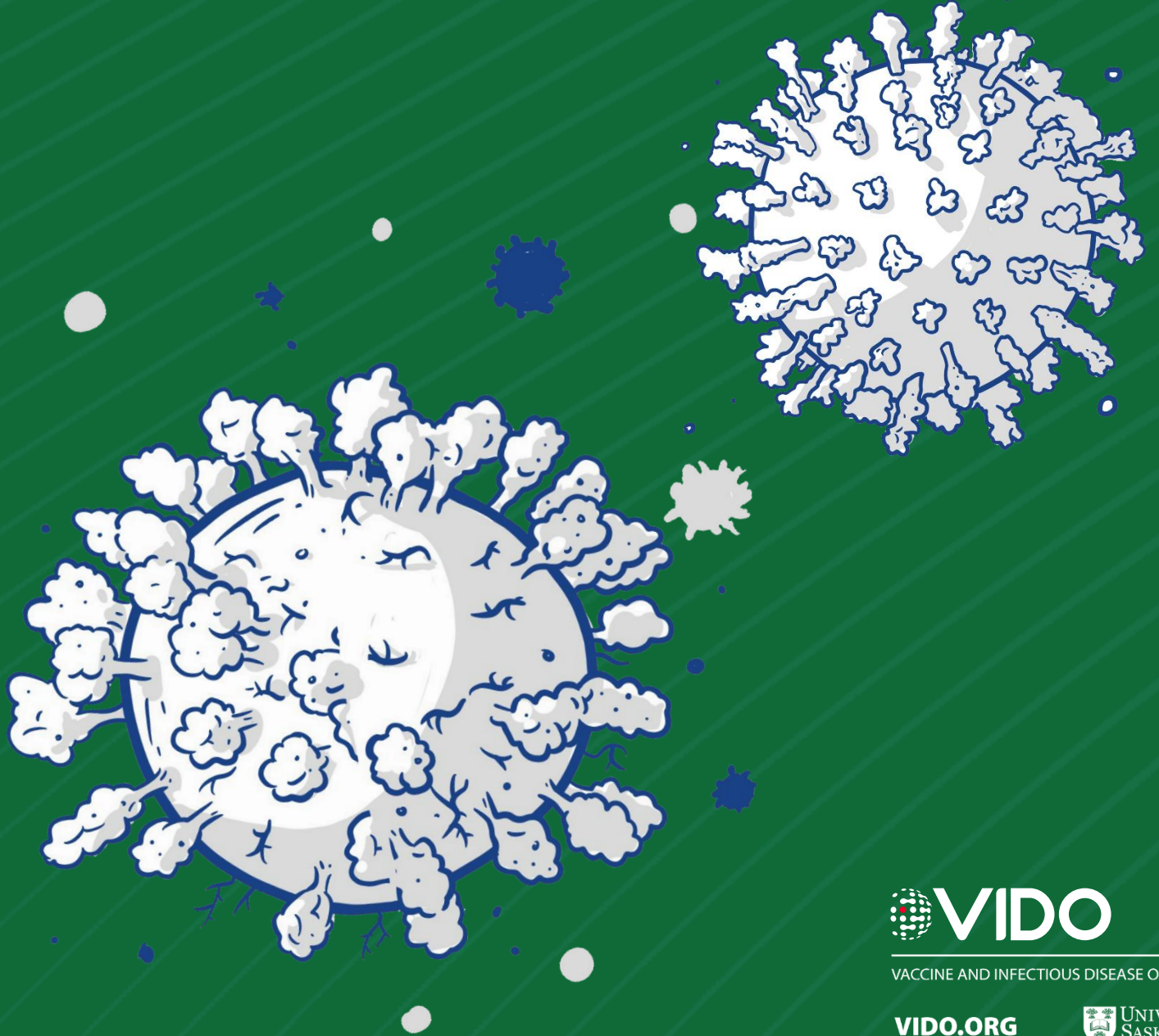
“The chance to work in CL3 afforded by VIDO gives an unparalleled opportunity for student growth and training—this is something that is not common in Canada or even globally.”

— **Magie Francis**

*Magie is a PhD student supervised by Dr. Alyson Kelvin. She came to VIDO with Alyson at the start of the pandemic to study COVID-19 and has since transferred universities and will complete her graduate studies here.*



THANK YOU



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