



Canada's Immuno-Engineering and Biomanufacturing Hub (CIEBH): Engineering Immunity for Pandemic Responses

CBRF & BRIF Stage 2 Competition Town Hall

April 5, 2023



Agenda

- 1. CBRF/BRIF Background Context, Stages and Timelines**
- 2. CIEBH Vision and Program of Research**
- 3. Updates on the CBRF-BRIF Stage 2 Funding Opportunity**
- 4. CIEBH EOI Process and Key Dates**
- 5. Q & A Period**

CBRF-BRIF Integrated Stage 2 Competition

- Open, national call for partnered applied research, research-training, and infrastructure projects associated with the selected research hubs:
 - ❑ Canada Biomedical Research Fund (CBRF)
 - up to \$215M available
 - Research and training project applications endorsed by selected hubs
 - ❑ Biosciences Research Infrastructure Fund (BRIF)
 - Up to \$360M available in research infrastructure funding, with <\$277M for infrastructure and <\$83M through IOF
 - Infrastructure project end dates determined through the CFI's usual mechanisms
- TIPS will be hosting webinar on CBRF-BRIF Stage 2 Funding Opportunity and Notice of Intent Process:
 - ❑ In English, April 12th, 10:00-11:30am PDT (registration URL: ow.ly/JBHZ50NpmXL)
 - ❑ In French, April 13th, 10:00-11:30am PDT (registration URL: ow.ly/5MRG50Npn7x)

Role of Hubs for CBRF-BRIF Stage 2

In support of Stage 2 proposals, hubs will:

- Identify gaps, plan and integrate research, talent development and infrastructure components aligned with the hub's vision, priorities, and program of research to bring forward a portfolio of proposals that collectively addresses gaps and strengthens the biomanufacturing and life sciences sector;
- Coordinate within and across hubs to encourage collaboration and inclusivity and to avoid duplication across proposals;
- Endorse a cohesive portfolio of proposals, using a sound, inclusive process;
- Ensure proposals within the portfolio include multidisciplinary perspectives, including those in the social sciences and humanities, where appropriate

Hubs Funded through CBRF Stage 1

1. **Canada's Immuno-Engineering and Biomanufacturing Hub: Engineering Immunity for Pandemic Responses** – admin institution: UBC
2. **CBRF PRAIRIE Hub: Protecting Canada by Building on Excellence in Pandemic Preparedness** - admin institution: University of Alberta
3. **Eastern Canada Pandemic Preparedness Hub (ECaPPH)** – admin institution: Université de Montréal
4. **Canadian Pandemic Preparedness Hub (CP2H)** – admin institution: University of Ottawa and McMaster University
5. **Canadian Hub for Health Intelligence & Innovation in Infectious Diseases (HI3)** – admin institution: University of Toronto

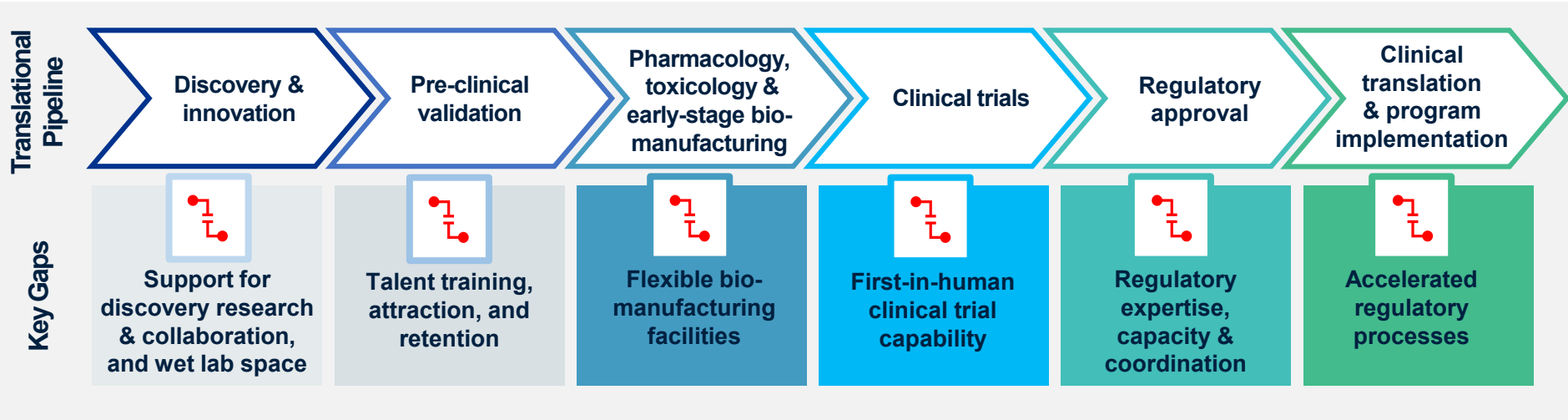
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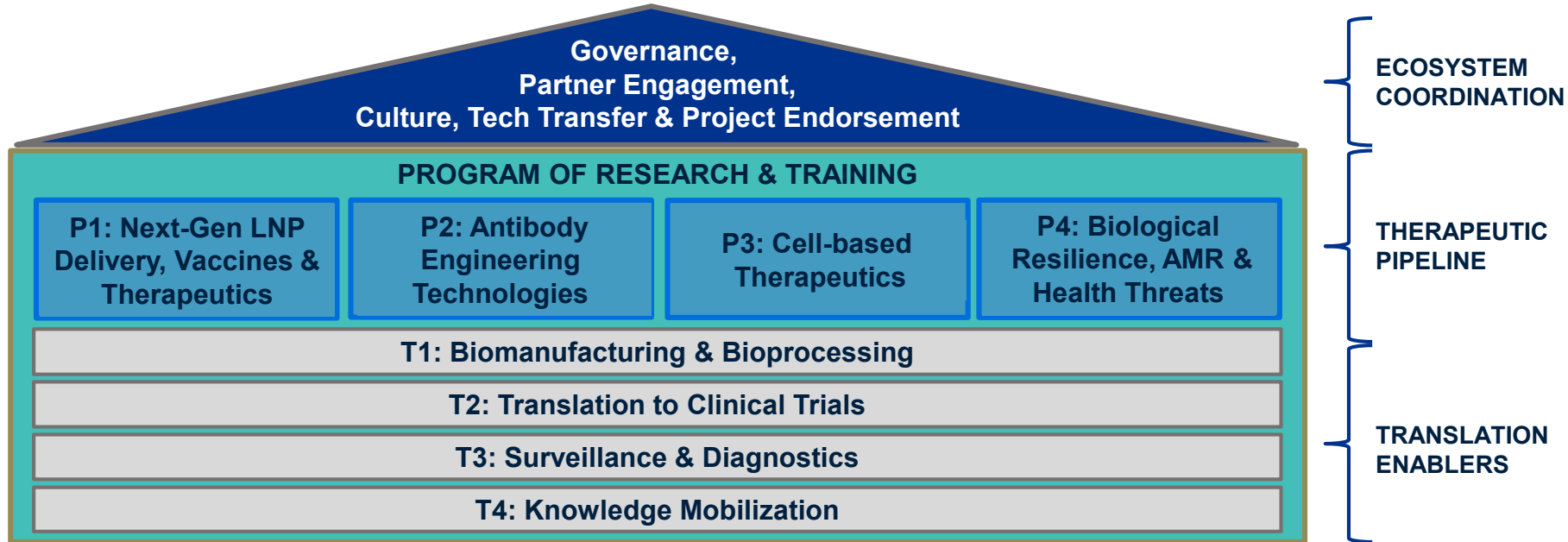
CIEBH: Vision and Mission

- Hub strategy is built around addressing critical gaps and doubling down on our proven Canadian strengths through a focus on manufacturing related to immune engineering approaches.
 - **Vision:** To make Canada a global epicentre for developing next-generation **immune-based therapeutics** that can be rapidly produced domestically, using the latest innovations in biomanufacturing, in response to future pandemics and other health threats.
 - **Mission:** To harness the collective research and training excellence of our multidisciplinary, multisectoral partners to greatly increase Canadian capacity to translate scientific discoveries into patient-ready treatments at rapid speed — ***saving more lives, sooner.***
- Equity, diversity and inclusion are key principles that are embedded into all aspects of CIEBH

Key Gaps in Canada's Translational Pipeline



CIEBH Programs of Research: Priorities & Cross-Cutting Themes



CIEBH's framework includes cross-cutting research themes, priorities and coordinated activities toward enhancing Canada's capacity for biomanufacturing and pandemic preparedness.

CIEBH Biomanufacturing Talent Training Pipeline

CANADA'S IMMUNO-ENGINEERING & BIOMANUFACTURING HUB

UNDERGRADUATE

- BSc Life Sciences** Dalhousie; SFU; UBC; UBCO; UNBC; UVic; Waterloo
- BSc Biotechnology** BCIT-UBC
- BASc Biomedical Engineering** Dalhousie; SFU; UBC; UVic; Waterloo
- BASc Chemical & Biological Engineering** UBC, Dalhousie, UVic, Waterloo, SFU
- BASc Pharmaceutical Sciences** Dalhousie; UBC; Waterloo

GRADUATE

- MSc/MPP/PhD Life Sciences & Public Policy** Dalhousie; SFU; UBC; UVic; Waterloo
- MASc/MSc/PhD CHBE Bioprocess Engineering** UBC
- MASc/PhD Biomedical Engineering** Dalhousie; UBC
- Masters of Biotechnology (MBiotech)** UBCO
- PharmD** Dalhousie; UBC; Waterloo

UPSKILL/RESKILL

- Upskilling/Re-training Modules and Certification** CASTL/NIRBT; BCIT
- GMP Certification** CATTI; BioCanRx's CanPRIME
- GCP Certification** Clinical Trials BC/Health Research BC
- Biosafety Training** BCIT; Dalhousie; SFU; UBC; UVic; VIDO; Waterloo

PROFESSIONAL

- Executive Development Program** adMare Academy Executive Institute
- BioInnovation Scientist Program** adMare Academy
- Regulatory Sciences Microcredentials** UBC Academy of Translational Medicine & CDL-Vancouver

BIOMANUFACTURING TRAINING PIPELINE

Biomanufacturing Workforce

CIEBH Partners

Academic & Other Research Organizations



- BC Ministries of
- Health
 - Post-Secondary Education and Future Skills
 - Jobs, Economic Development and Innovation



Public Sector



BC Centre for Disease Control



Canada's Immuno-Engineering & Biomanufacturing Hub

Private Sector



Not-for-Profit Sector



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CBRF-BRIF Stage 2 Funding Opportunity

Purpose of the CBRF-BRIF Stage 2 integrated competition:

- To improve readiness for pandemics and other health threats, which include domestic vaccine and therapeutics development and production capabilities across priority and next-generation platforms; and advance other important health and economic outcomes associated with the biomanufacturing and life sciences sector
- To create partnered proposals for *high risk* and **applied research, talent development** and **research infrastructure** funding. Each proposal must be aligned with one of the hubs' priorities, vision, and program of research, support pandemic preparedness and respond to emerging health threats

CBRF-BRIF Stage 2 Competition Timeline and Deadlines

Activity	Date
CIEBH Expression of Interest (EOI) process launch	April 6, 2023
CIEBH EOI deadline	April 27, 2023
National NOI deadline on Convergence	June 8, 2023*
National full application deadline on Convergence	September 7, 2023*
Results announced	March 2024

**There will be CIEBH internal deadlines in advance of National deadlines for preparation of the hub endorsement report*

Stage 2 National Competition Budget & Value

	CBRF	BRIF
Competition Budget	<ul style="list-style-type: none">Up to \$215M over 4 years	<ul style="list-style-type: none">Up to \$360M (\$277M for infrastructure & \$83M operating costs through IOF)
Project Value	<ul style="list-style-type: none">Each project between \$0.5M to \$5M per yearEach project may include up to 25% of total for ICR	<ul style="list-style-type: none">Total cost of an infrastructure component must be >\$1MCFI will fund up to 60% of eligible infrastructure costs
Funding Envelope per Hub	<ul style="list-style-type: none">No envelope for CBRF funding	<ul style="list-style-type: none">Each hub can endorse up to \$138.5M in CFI funding for research infrastructure

Stage 2 National Competition Budget & Value

Biosciences Research Infrastructure Fund (BRIF):

- Infrastructure requests submitted to CBRF-BRIF Stage 2 must directly support a research component submitted to the same competition
 - Key equipment/instrumentation/tools; new research space or renovation of existing space; whether it builds on an existing research facility or technology platform
- To provide flexibility to hubs and applicants, a hub may exceed its \$138.5M envelope by up to 10% at the NOI stage (i.e., envelope at NOI = \$152.35M)
- Request has been made by hubs to TIPS regarding whether the \$138.5M envelope for hub can be applied to new proposals only, as the CFI Infrastructure Fund 2023 competition results will likely be unavailable until after CBRF-BRIF Stage 2 NOI deadline (June 8th)

Stage 2 Proposals

- Proposals should present innovative initiatives on a *larger scale* and *higher risk* than typically supported via individual research funding agency programs
- Each proposal can include **one or more** of the following components:
 - Partnered, **applied research** in the biomanufacturing and life sciences sector to accelerate the translation of discoveries into products and services to strengthen the sector
 - Partnered **talent development** to provide skills and training needed to drive innovation and growth in Canada's biomanufacturing industry
 - **Research infrastructure** to support Canada's biosciences research needs
- Each research infrastructure or talent development component **must directly support** one or more proposals that include a **research** component
- Proposals requesting funds to conduct clinical trials are **not eligible** for CBRF-BRIF support

Stage 2 Proposals

- Submission of an EOI is expected for endorsement to move forward to an NOI
- All applicants must complete a **notice of intent**, followed by a **full application**
- For final submission to TIPS & CFI, applicants must use the [Convergence Portal](#) for both CBRF and BRIF, for the NOI and full application stage
- TIPS has indicated that applications may be cross-referenced within the same funding opportunity and across other funding opportunities within the scope of the BLSS, to ensure there is no duplication of funding requests

Notice of Intent (NOI)

- National Deadline: **June 8th, 2023**
- NOIs will not be adjudicated by TIPS & CFI, but will be used to identify potential reviewers for Stage 2 full applications
- NOIs will require proposals to identify one hub that the proposal will align with.
- Endorsement by the hub is *not officially required* by TIPS at NOI stage, but highly recommended.
- Only proposals with hub endorsement at full application stage will be considered for funding by TIPS & CFI

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Expression of Interest (EOI)

- To help facilitate the NOI application stage, the 5 successful hubs across Canada have been working together to develop an EOI process across the hubs, to be reviewed prior to the NOI deadline
- EOIs are intended for an initial screening for alignment with the hubs' visions and objectives, to reduce duplication of proposed project ideas, and to identify and encourage collaborations
- Information requested at EOI stage has been cross-referenced and aligns as closely as possible with the expected requirements for the NOI stage
- EOI process details will be posted on CIEBH website on **April 6th**.
- CIEBH is currently developing an online portal for EOI submission to our hub. The submission link will be added to the CIEBH website by mid-April.
- Deadline for CIEBH EOI: **April 27th, 2023**

EOI Content for CIEBH Submissions

I. Project Information

- Submitting institution; nominated PI name, email, and phone #; project title; project key words (up to 10); project summary (250 words max);
- Alignment with CIEBH's vision, objectives, and program of research and with Canada's Biomanufacturing and Life Sciences Strategy (100 words max);
- Selection of CIEBH priorities and themes the project covers; selection of preferred and alternate hub option; selection of components the project will include (i.e., Research and/or Talent Development [CBRF], Infrastructure [BRIF])

II. Research Proposal

- a) Research component (1000 words max)
 - Background and context of the project; project objectives, approach, methodology, etc.; existing technologies, platforms, and other resources that the project builds upon; expected outcomes
- b) Talent development program (if applicable) (250 words max)
- c) Requested Infrastructure (if applicable) (max 500 words)
 - Key equipment/instrumentation/tools; new research space or renovation of existing space; proposed location; whether it builds on an existing research facility or technology platform, and if so, provide a short summary of the integration of the new infrastructure

III. List of Core Team Members (up to 10)

- Name, title, organization, role in the project

EOI Content for CIEBH Submissions

IV. Partnership Details (Organizations contributing or collaborating on the proposal)

- a) List all academic partner organizations (Canadian and international) and indicate the nature of the partnership (250 words max)
- b) List all non-academic partner organizations, type of organization (e.g., not-for-profit, public, private, etc.) and indicate the nature of the partnership (250 words max)

V. Project Budget Estimate and Leveraged Funds

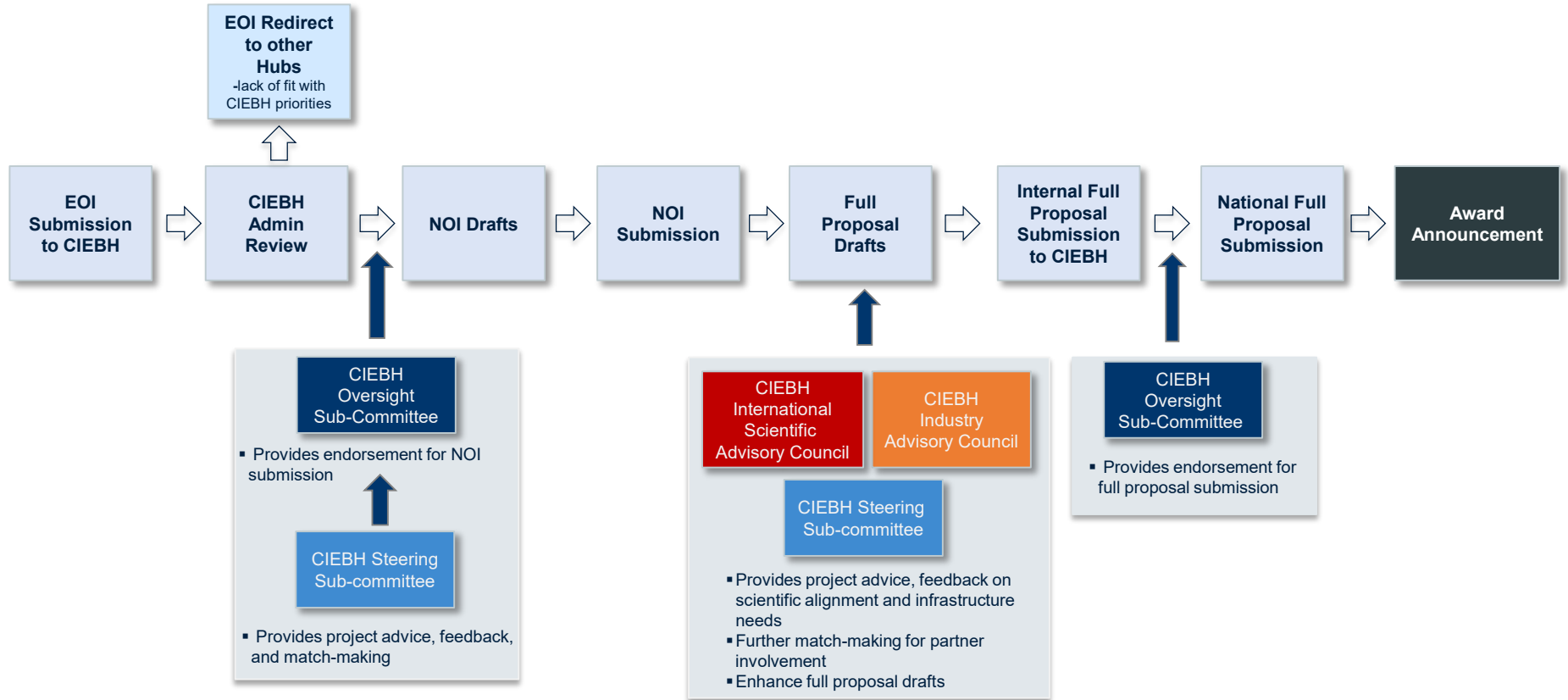
	Request from CBRF (25% indirect costs included)	Request from BRIF*	Other sources (cash or in-kind)
Research	<input type="text"/>	NOT APPLICABLE	<input type="text"/>
Talent Development	<input type="text"/>	NOT APPLICABLE	<input type="text"/>
Infrastructure	NOT APPLICABLE	<input type="text"/>	<input type="text"/>
Total Estimated Request	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total Project Budget	<input type="text"/>		

- For BRIF, indicate the portion requested from CFI-BRIF >\$1M total cost of infrastructure. CFI will fund up to 60%; matching 40% is required from other sources.
- List cash or in-kind contributions from other sources, indicate if secured or expected, provide brief explanation (if applicable) (250 words max)

VI. Declaration

- Confirm agreement that the submitted EOI may be shared with the other CBRF Hubs
- Sign off to be completed by both:
 - Nominated PI
 - Lead applicant institution (VP Research or delegate)

CIEBH Stage 2 Timeline and Review Stages



April 27

May 19

June 8

September 7

March 2024

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Thank you for attending and for your interest in CIEBH!

- **Questions:** Please e-mail us at: immunoengineering.hub@ubc.ca

- For more info on CIEBH, please visit our **website:** immunoengineeringhub.ca