



Toronto, Canada, is the Site of New Centre for Advanced Therapeutic Cell Technologies

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Centre for Commercialization of Regenerative Medicine

Toronto, Canada

On January 13, 2016, Canadian Prime Minister **Justin Trudeau** demonstrated his commitment to life sciences by declaring that the federal government was awarding CAD \$20 million to the Centre for Commercialization of Regenerative Medicine (CCRM), a unique not-for-profit group that develops and commercializes RM technologies.

In the official news announcement about the funding, Prime Minister Trudeau said “supporting this new, world-class facility will have significant benefits for innovative health-related technology in Canada and around the world.”



Rt. Hon. Justin Trudeau, Prime Minister of Canada, announcing \$20 million for new CCRM-led centre. Credit: The Canadian Press Images/Centre for Commercialization of Regenerative Medicine/Salvatore Sacco.

The congratulations and expressions of interest just keep coming.

The funding, also being matched dollar-for-dollar by GE Healthcare, is being used to build a centre for advanced therapeutic cell technologies and advance co-development projects with industry partners to integrate unique technologies into cell manufacturing workflows.

Kieran Murphy, CEO of GE Healthcare's Life Sciences business, commented, "It is increasingly clear that cell therapies and regenerative medicine will transform healthcare globally, but successful industrialization is now crucial to widespread adoption. This new centre will enable us to work with cell therapy companies to push beyond existing technical limits and problem-solve."

CCRM, a five-year-old, federally funded Centre of Excellence, has the mission to create and sustain a global nexus for company creation, technology and cell therapy development, and clinical trials in RM. This new centre will develop the next generation of solutions for effective manufacturing of cell and gene therapy products. Industry will benefit from new tools, processes and advanced technologies to move their products to the marketplace. Patients will benefit when the potential and promise of RM is realized.

Michael May, President and CEO of CCRM, foresees that "the new centre will provide jobs for highly skilled workers and help the cell therapy industry overcome critical manufacturing bottlenecks. Most importantly, the outputs of this centre will enable access to revolutionary medical treatments for patients around the world."

GE Healthcare chose to partner with CCRM for several reasons. First, Canada has a rich and productive history in RM. The centre, to be called BridGE@CCRM, will be embedded within Toronto's critical mass of globally respected stem cell science, bioengineering, and clinical trial capacity, and will encourage the introduction of new technologies that are co-developed with CCRM and GE to solve emerging technical challenges and bridge gaps in workflows.

BridGE@CCRM will be located next to the city's research hospitals and stem cell and cancer institutes, and within walking distance of the University of Toronto, where stem cells were discovered in the 1960s. Additionally, Toronto is the 4th largest city in North America and boasts a top quality health-care system.

"CCRM has coalesced local expertise into an organization with a commercial focus. Together with the University of Toronto – recognized as a top-tier biomedical engineering institution with excellent research and development faculty – Toronto provides access to a wealth of talent and know-how that supports the commercialization of regenerative medicine," says **Phil Vanek**, GM Cell Therapy Technologies at GE Healthcare.

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L-R Phil Vanek, Elyse Allen (GE), Justin Trudeau, Min. Chrystia Freeland, Michael May, Min. Navdeep Bains and Cindy Collins (GE). Credit: The Canadian Press Images/CCRM/Salvatore Sacco.

From Dr. May's point of view, "GE's deep domain expertise, skills, and efficiency are a good fit for all involved."

Adds Mr. Murphy, "Toronto's concentrated and collaborative clinical infrastructure, combined with the strong guidance of the internationally-renowned CCRM, make it an ideal location for the centre."

Cell therapy process development and co-development opportunities

BridGE@CCRM will develop the tools, processes and advanced technologies necessary for efficient and reliable manufacturing of cellular therapies. Those efforts are already underway in CCRM's existing facility, and the following services are available to interested cell and gene therapy developers:

- Process closure and automation;
- Scale-up/Scale-out;
- Cost reduction;



- Process optimization;
- Media optimization/screening; and,
- Process and manufacturing operations modelling.



Prime Minister Justin Trudeau and guests tour CCRM's development facility. Credit: The Canadian Press Images/CCRM/Salvatore Sacco.

When BridGE opens in its new facility later this year, it will be looking to partner with select companies that have unique technologies that can be integrated into cell manufacturing workflows. Interested parties can write to bridge@ccrm.ca.

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The future and promise of the CELL THERAPY INDUSTRY

Cell Therapy Potential

Cell Therapy Industry will reach \$108 by 2021

The number of patients treated with engineered cancer-fighting T-cells will break the 100,000 mark by 2021

Cell therapies have the potential to treat...

- Cancer
- Cardiovascular illnesses
- Alzheimer's & Parkinson's Disease, ALS
- Ocular, musculoskeletal disorders and spinal cord injuries

Manufacturing innovation will need to include

New devices
 New technologies that are physically closed, connected, disposable, easy to use, and increasingly automated will help to de-risk workflows.

Automation
 Developing in-line feedback sensors and physically connecting equipment, as well as using data to improve processes, and removing the need for repeated human intervention so resources are optimally allocated in the laboratory.

Data management and software
 Data entry and collection will be critical to managing the chain of custody for cell batches during the complex, workflow, and gathering data to gain insights on how to make production continually more efficient.

Reagents, diagnostic tools
 Requires standardization of reagents to help drive consistency in production, which in itself will help drive down batch-to-batch variability.

Laboratory logistics
 Optimizing the use of manufacturing spaces will help therapy providers efficiently scale their operations to meet current demand and effectively plan for the future.



For further information please visit www.gehealthcare.com/xuri