



Centre for Probe Development and Commercialization (CPDC)

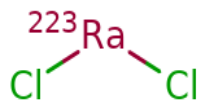
Bruno Paquin

May 27th, 2019

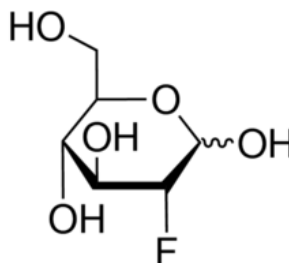
Radiopharmaceuticals

❑ Pharmaceuticals that carry a radioactive payload

- Targeted therapies, imaging
- Small molecule:



Glucovision® (FDG)



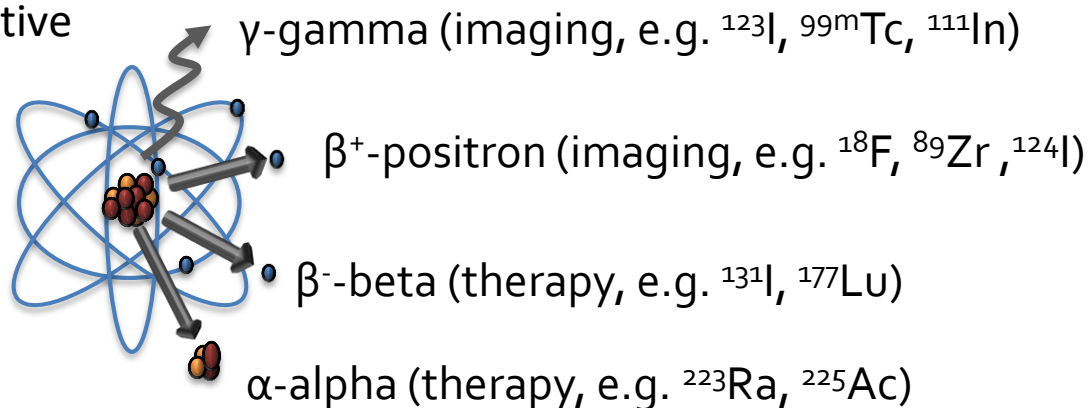
- Large molecule:



Amino acid peptide



Antibody conjugate



CPDC Overview

- ❑ CPDC is a “not-for-profit” corporation that was founded in 2008 to:
 - ✓ Provide a reliable supply of radiopharmaceuticals.
 - ✓ Advance discovery and development of innovative nuclear medicine products.
 - ✓ Create commercial entities to advance new products.
- ❑ Health Canada approved facilities (Hamilton & Ottawa) and products (e.g. FDG and NaF).
 - HQ: Hamilton, Ontario (McMaster University Campus).
- ❑ Three cyclotrons and multiple cleanrooms in manufacturing network.
- ❑ Leading developer/supplier of research and commercial PET products in Ontario.
- ❑ Supported by federal and provincial grants, and product revenues.



Mission

Be the “go-to” Centre of Excellence for development, translation and commercialization of diagnostic AND therapeutic radiopharmaceuticals

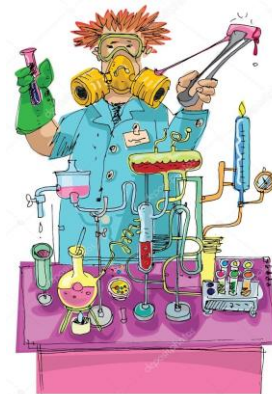
Create and maintain a self-sustaining ecosystem to support Canadian research in nuclear medicine

Bring new products to Canada through academic and industry partnerships

Enable better outcomes for Canadian patients by providing high quality products for the diagnosis and treatment of disease

Strength

❑ Discover



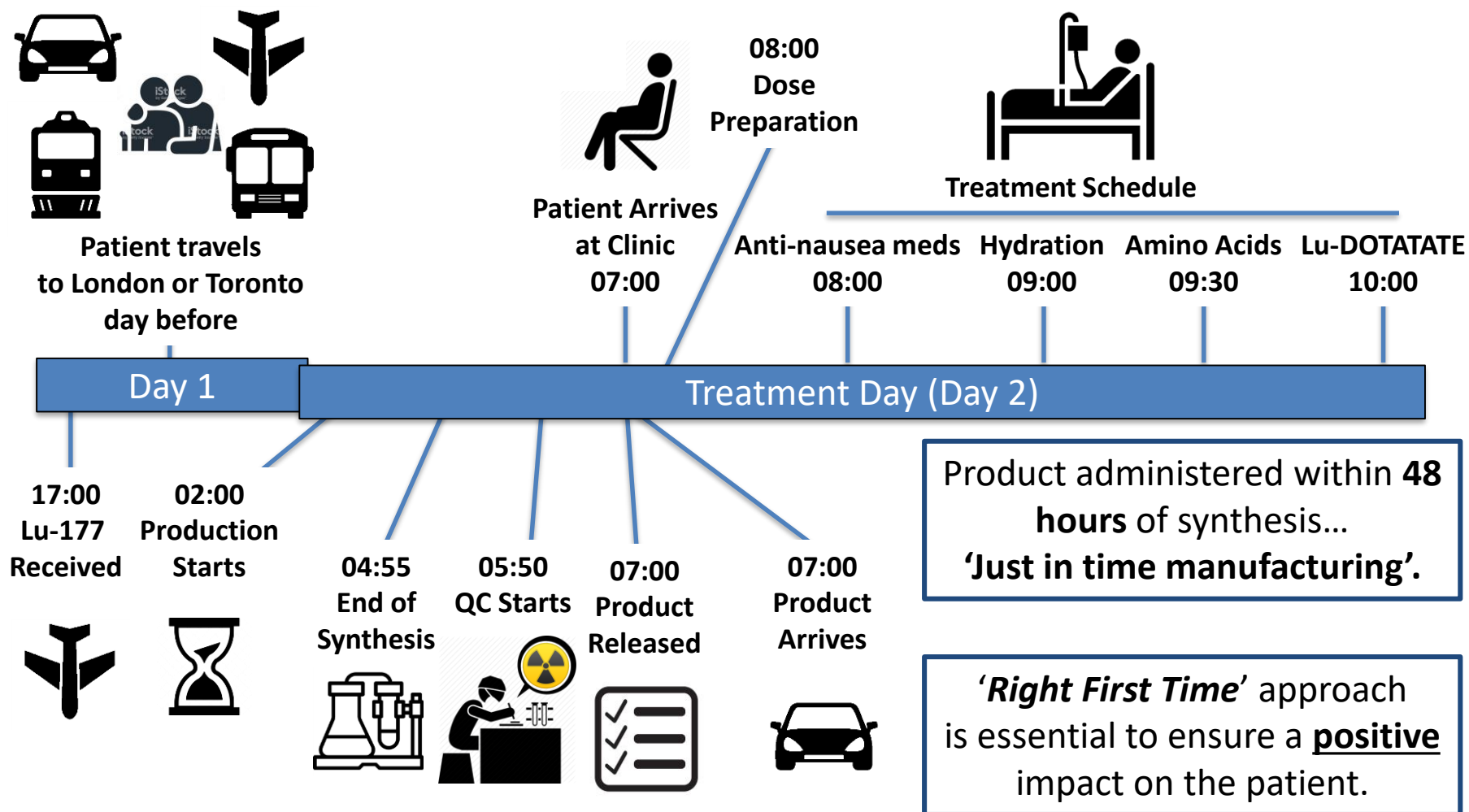
❑ Develop



❑ Distribute



A day in the life of a patient

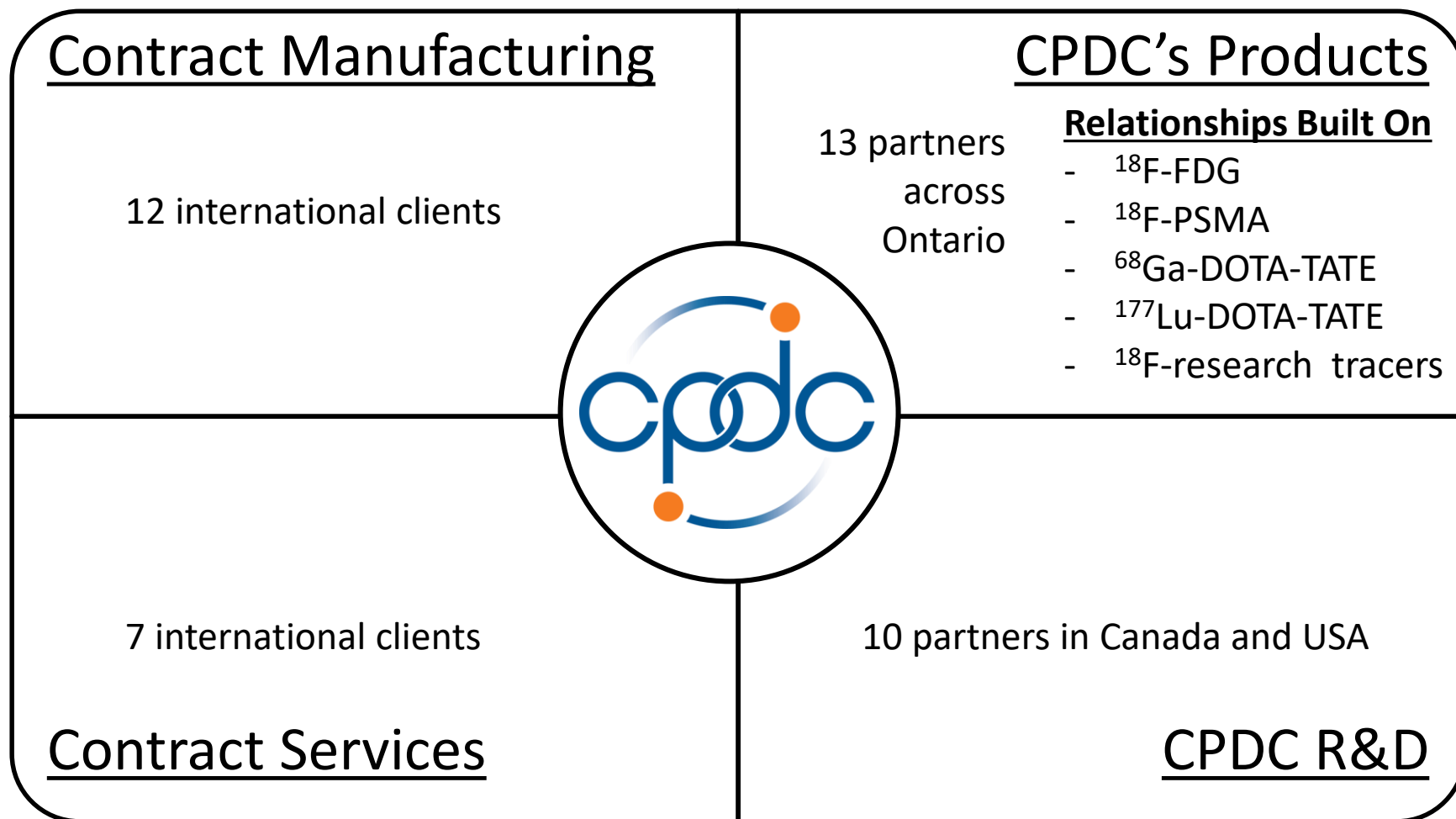


Strong Network of Partners

- ❑ Foundational partner **McMaster University** supports CPDC's manufacturing facilities and offices on McMaster's campus.
- ❑ Long standing clinical relationship with **University Health Network** through joint venture with CPDC (CanProbe)
- ❑ **University of Ottawa Heart Institute** is a international leader in cardiac imaging working with CPDC on FDG supply that is expanding into clinical stage products
- ❑ Immuno-oncology program being initiated in Boston with the **Dana Farber Cancer Institute**

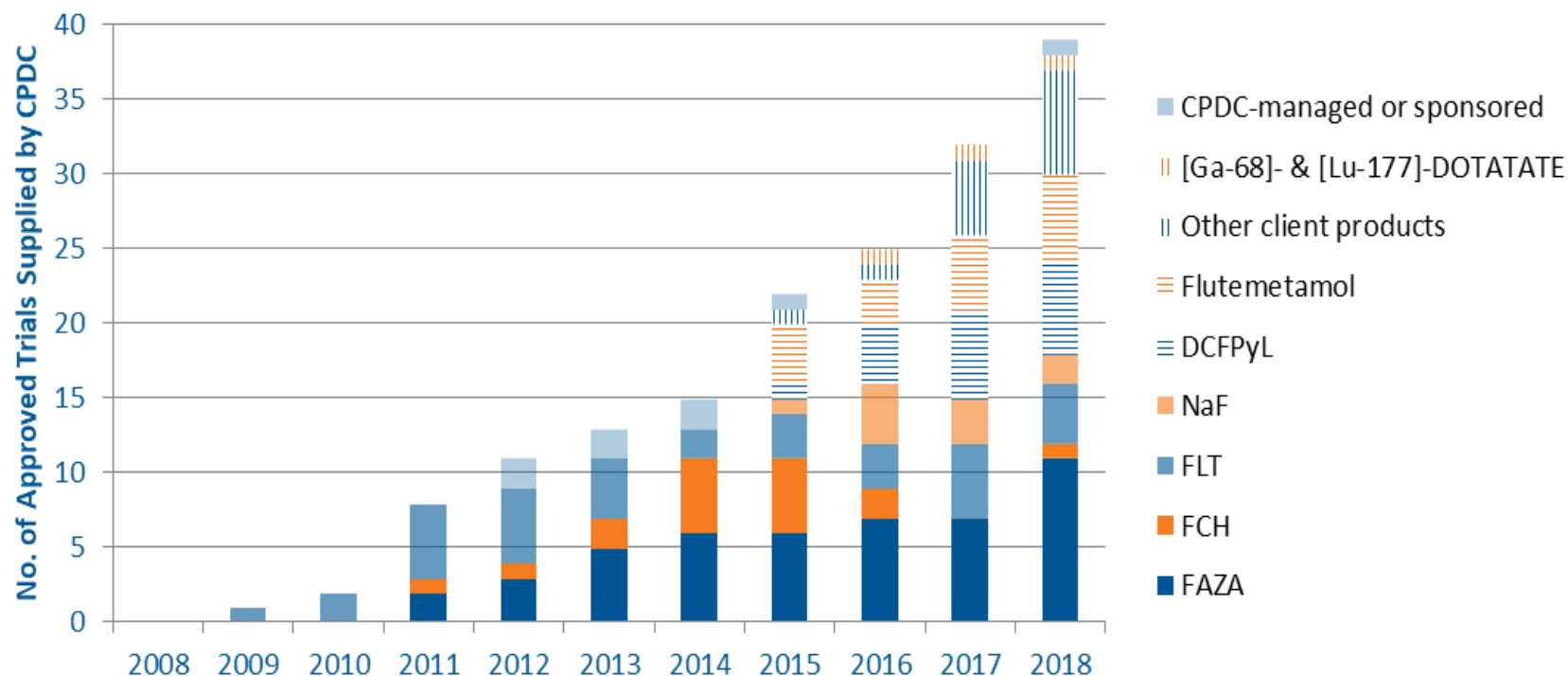


Clients and Stakeholders



Supporting Clinical Research in Ontario

CPDC Clinical Trial Supply (2008 - October 2018)



Use of CPDC products in clinical research has increased year over year!

Important Programs

❑ Neuroendocrine Imaging and Therapy

- CanProbe, supported by CPDC manufacturing and regulatory programs, establish supply programs for ^{68}Ga and ^{177}Lu -DOTATATE
- *CPDC will seek regulatory approval for these products*



❑ Prostate Cancer Imaging and Therapy

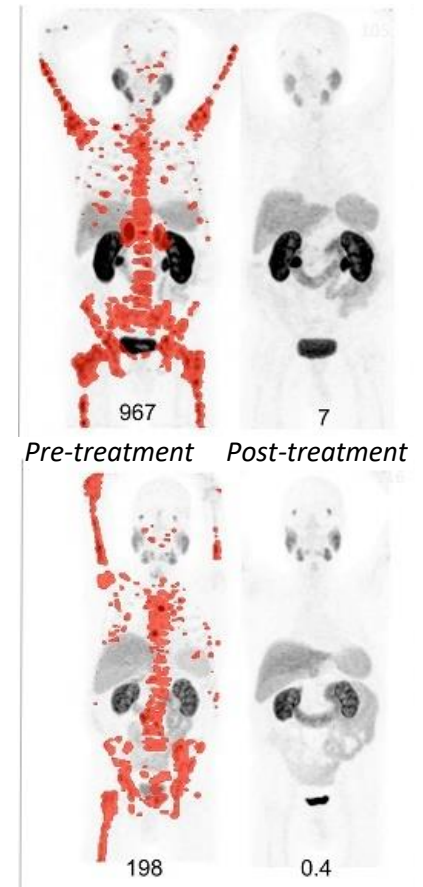
- CPDC, with the help of collaborators and major funding agencies, has taken a major leadership role in changing how Prostate Cancer is diagnosed and treated in Canada
- ^{18}F -DCFPyL program spearheaded by CPDC/CanProbe (funded by Movember)
- Next generation ^{18}F -PSMA (PSMA-1007) program in development to allow enhanced imaging of prostate bed
- CPDC owns the licence for PSMA-1007. This is a novel metastatic prostate cancer imaging agent developed by ABX advanced biochemical compounds GmbH
- ^{177}Lu -PSMA therapy program ramping up to support Prostate Cancer Canada initiative



Prostate Cancer Canada Supported Treatment Trial

- ❑ Canadian therapy clinical trial with Lu-177 PSMA-617 (supported by Endocyte)
 - CPDC is providing CMC and Regulatory expertise and will be a supplier of the Lu-177 based therapy
 - BCCA will lead the clinical program
- ❑ CPDC's program is on schedule to supply a 300 patient trial
- ❑ Expected trial start in Fall 2019

SNMMI Image of the Year



J Nucl Med May 1, 2018 vol. 59
no. supplement 1 531

Discover Develop Distribute

CPDC Outreach – Company Creation



Lead CPDC's R&D team

\$46M in 2017 and \$105M in 2019



Joint venture BCCA, TRIUMF, Lawson and CPDC
Solid target technology



Joint venture UHN-CPDC
R&D and clinical trial support



Contract Manufacturing Organization

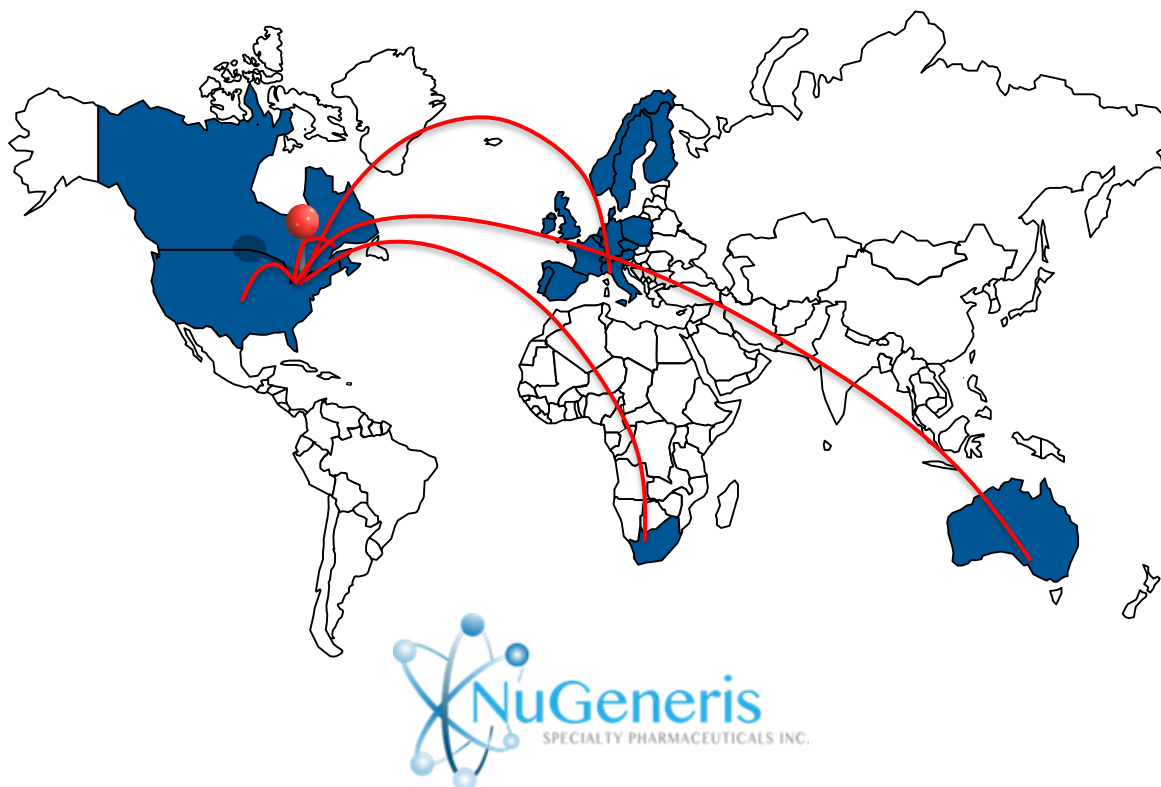
NewCos

Two more planned, Specialty pharma, Diagnostic

World Class Manufacturing Program

- CPDC is a leading manufacturer and distributor of radiopharmaceuticals
- Combination of branded generics and partner products
- Profitable and rapidly growing business, basis of NuGeneris spin-out

12 International Clients



NuGeneris



- Initiate commissioning in 2021

The Commercial Facility

NUGENERIS'S WILL CONSTRUCT THE 1ST COMMERCIAL, PURPOSE-BUILT, RADIOTHERAPEUTICS MANUFACTURING FACILITY.

Capacity

- 24,000 sqft
- >200 units per day
- 24/7 operation, daily production
- 50,000+ units per year

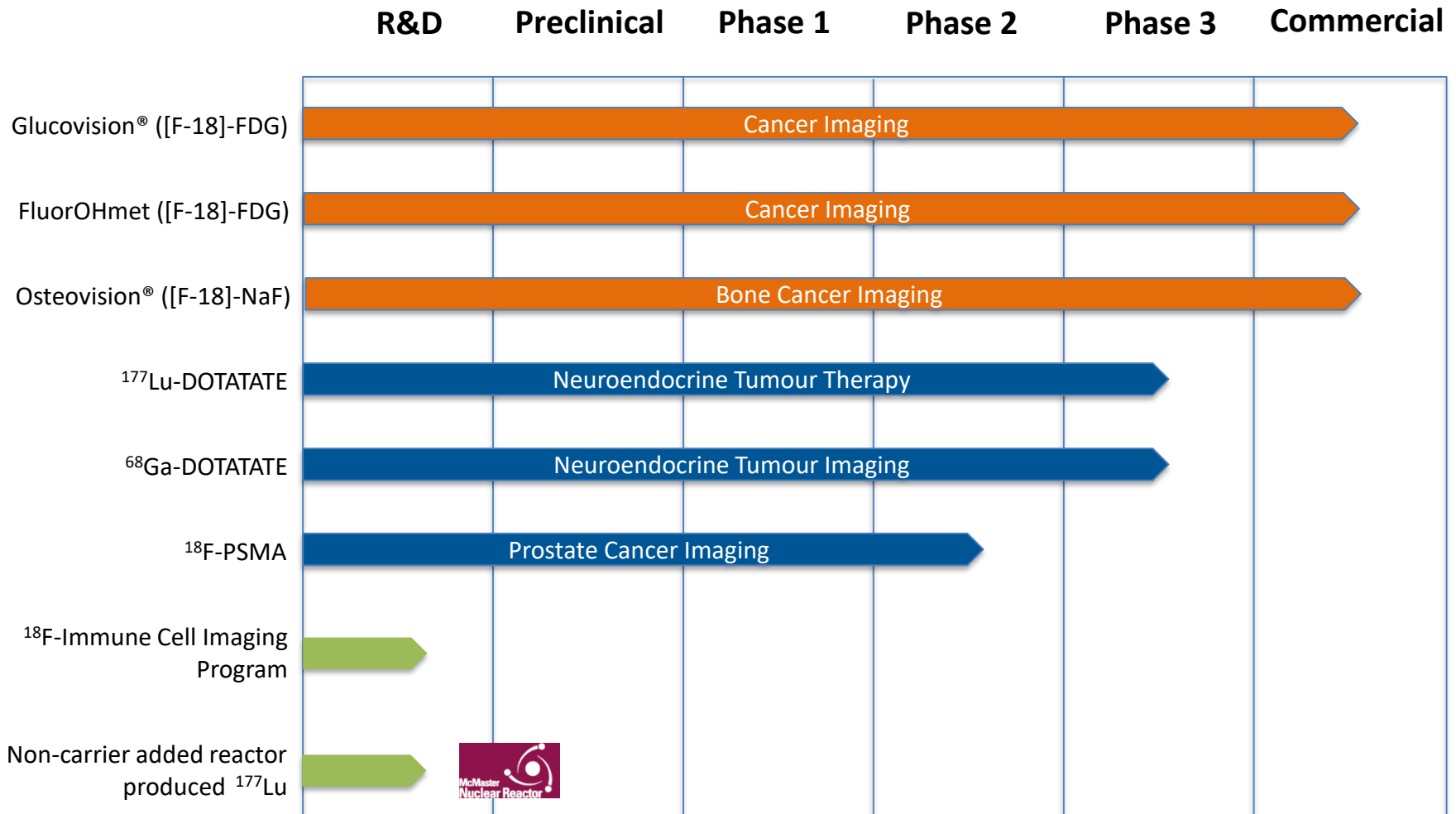
Infrastructure

- cGMP cleanrooms
- High-volume production & fill/finish lines
- QC laboratories
- Warehouse & Distribution
- 150 employees at its peak
- Commercial supply in 2024

CA\$ 14M
Investment
Secured*

**Conditionally*

CPDC's Product Pipeline



Q & A





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