



## Perma-Fix Medical – Investor Presentation

Dr. Louis F. Centofanti, CEO

October 2014



# Safe Harbor

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Certain statements contained within this presentation may be deemed “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (collectively, the “Private Securities Litigation Reform Act of 1995”). All statements in this presentation other than a statement of historical fact are forward-looking statements that are subject to known and unknown risks, uncertainties and other factors which could cause actual results and performance of the Company to differ materially from such statements. The words “believe,” “expect,” “anticipate,” “intend,” “will,” and similar expressions identify forward-looking statements.

While the Company believes the expectations reflected in such forward-looking statements are reasonable, it can give no assurance such expectations will prove to have been correct. There are a variety of factors which could cause future outcomes to differ materially from those described in this report.

# Investment Highlights

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Disruptive technology to produce the most commonly used medical isotope in the world – Technetium-99m (TC-99m)

Leading institutions in North America & Europe have validated the process

Strong intellectual property portfolio

40% of current N.A. supply chain for Tc-99m will be eliminated in 2016

Highly scalable business model leveraging strategic partners

# Isotope Market Overview



- **Tc-99m is the most widely used medical isotope in the world**
  - Allows medical practitioners to image internal body organs
  - Used in 80-85% of the 25M diagnostic nuclear medical procedures each year
  - Common procedures include:
    - cardiac imaging
    - gastrointestinal issues
    - cancer detection bone scans
    - Imaging of the brain, kidney, spleen and infections
- **The radioisotope market in Europe alone is expected to reach \$1.6B in 2017, up from \$1.1B in 2012**
  - Nearly all of the world's supply comes from the thermal fission of highly enriched uranium (HEU) targets in a small number of highly specialized reactors
  - Current process is costly and unreliable; raises serious proliferation concerns

# Supply Chain Elimination – A Perfect Storm

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- Beginning in 2016, the National Research Universal (NRU) reactor in Canada **will no longer receive government funding** for isotope production
  - 40% of the supply of Tc-99m in North America derived from this one reactor (referred to as the Chalk River Reactor)
- The OSIRIS reactor in France is also **scheduled to close in 2018**
- Without an alternative source of Tc-99m, these planned shut downs will put **billions of USD in medical procedures at risk**



Chalk River, ON

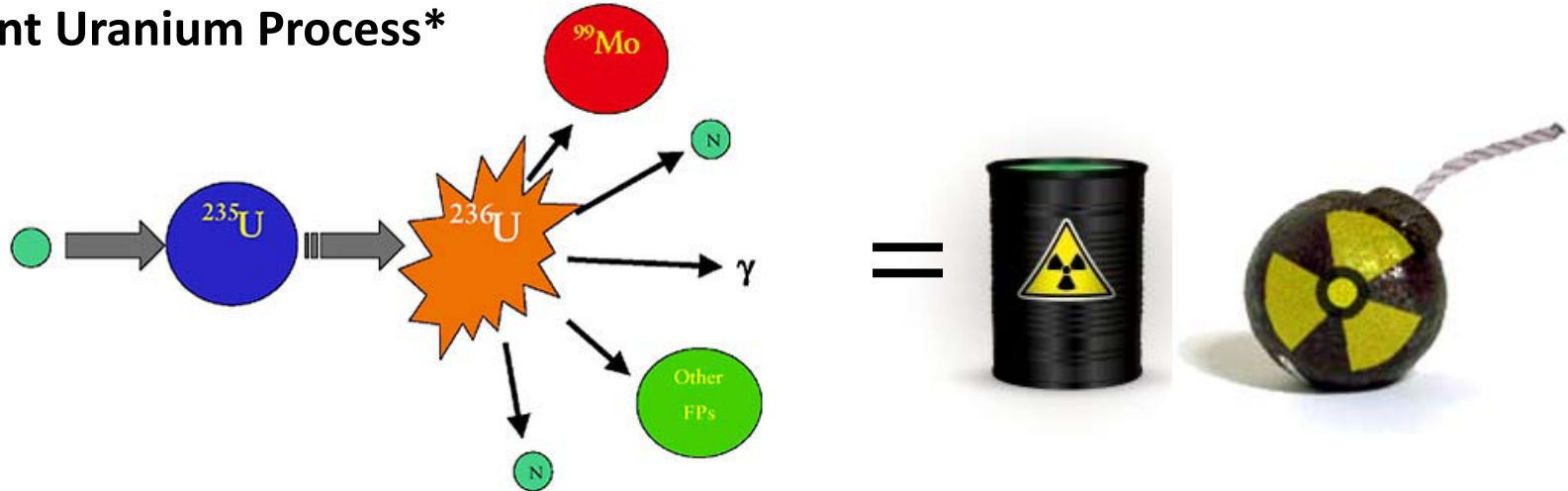
# Isotope Production

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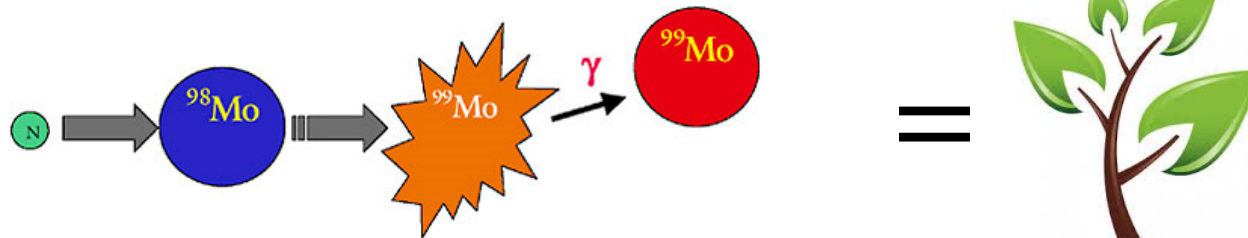
- Completed initial development of **new process to produce Tc-99m** for medical diagnostic tests
  - ✓ **Expected to solve worldwide shortages of Tc-99m**
  - ✓ Far **less expensive** process
  - ✓ Does not require the use of government-subsidized, weapons-grade materials
  - ✓ Designed to **improve safety** and **security of radioactive materials**
- Process encompasses full production cycle: reactor to final medical supply
  - Easily deployed worldwide using standard research and commercial reactors
  - **Eliminates the need for special purpose reactors**
  - **Stabilizes the worldwide supply of Tc-99m by decentralizing production**

# Isotope Production

## Current Uranium Process\*



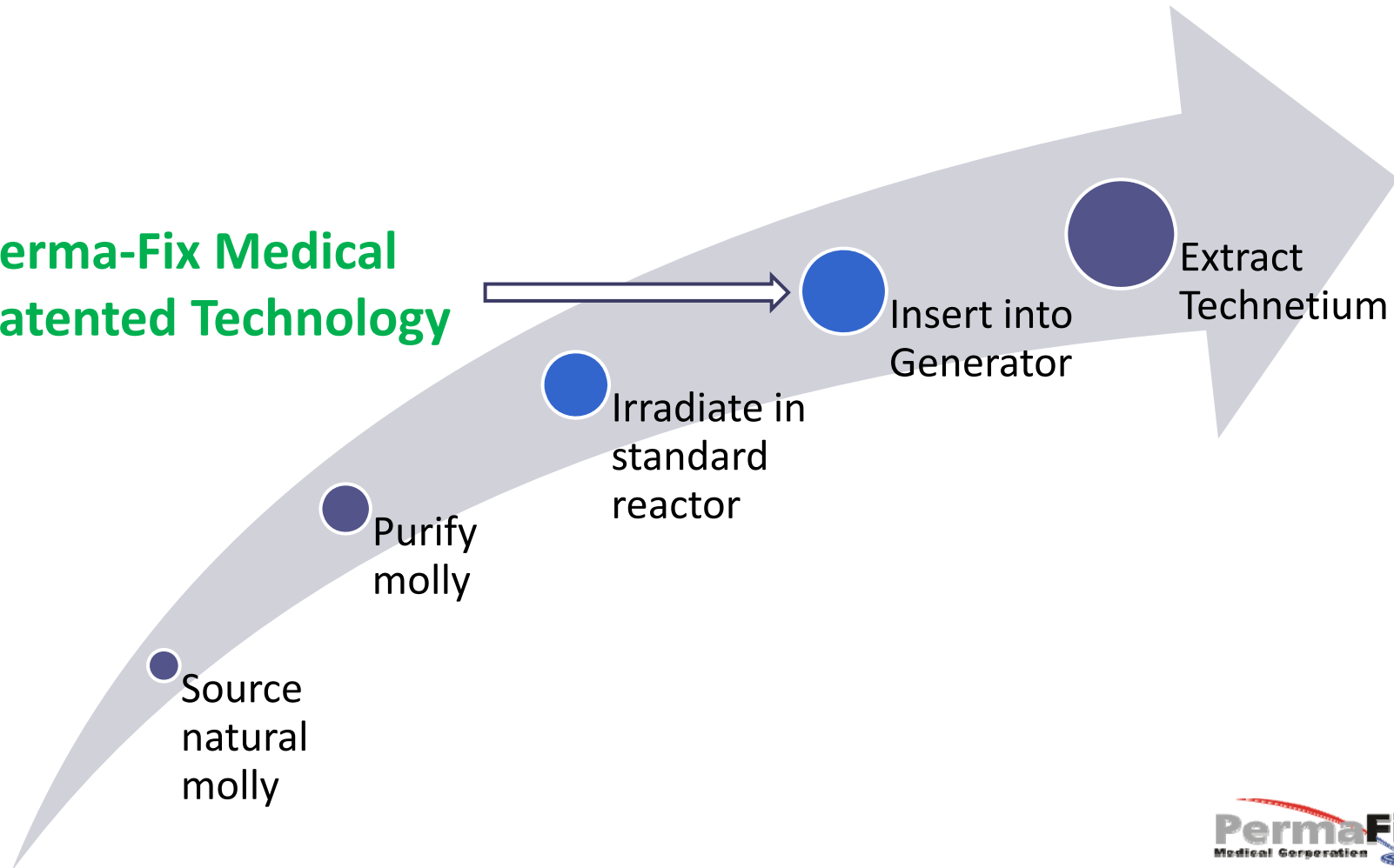
## Perma-Fix Molybdenum Process\*



\*Source: NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES

# Proprietary Production Process

**Perma-Fix Medical  
Patented Technology**





# Patents & Licenses

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- In mid-August 2014, the US Patent Office issued a notice of allowance to Perma-Fix Environmental Services, Inc.
  - **Allowed all claims in the key patent application**
  - **Composition of matter and use patent**
- Additional patents underway
- Third-party license agreements in place



# Technology Validation

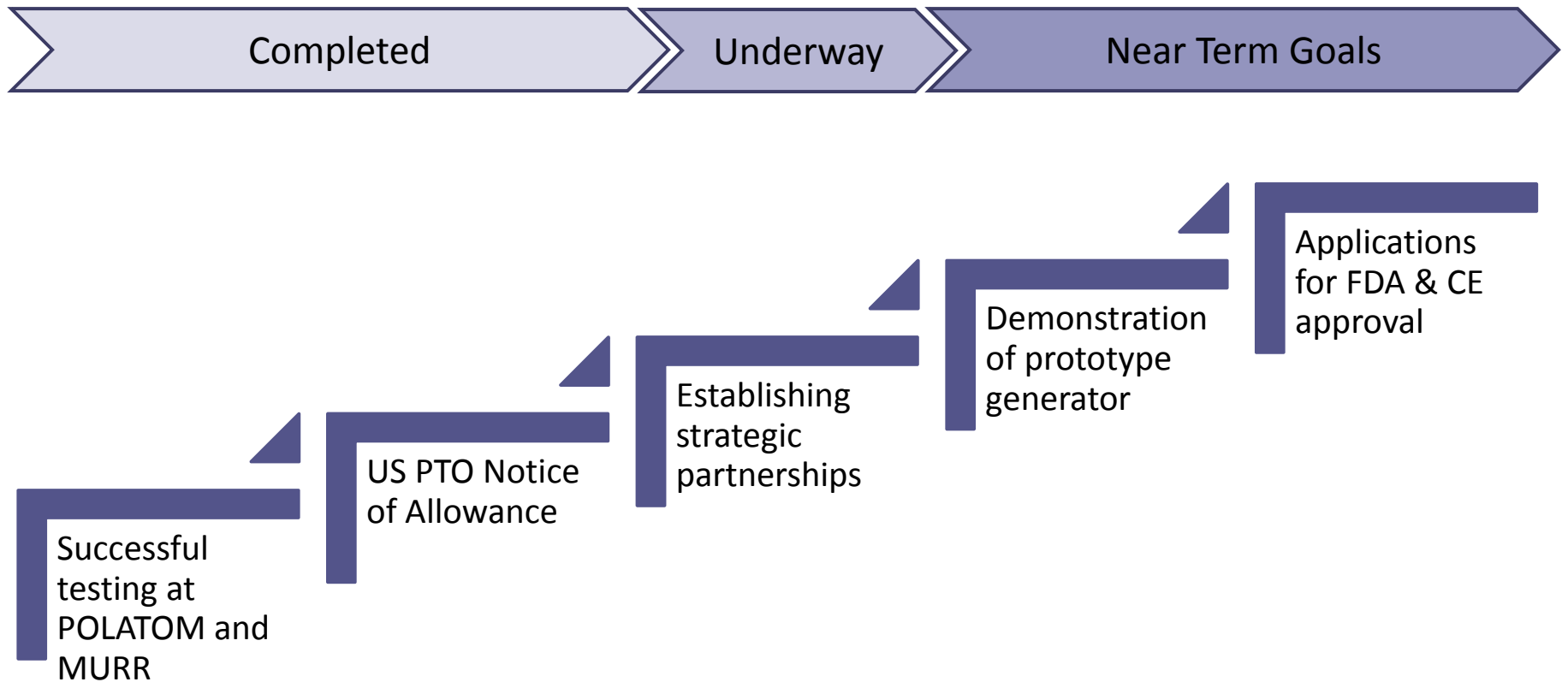
- First set of independent tests conducted at POLATOM, the national center for nuclear research in Warsaw, Poland
  - Reaffirmed previous testing
- Second set of tests conducted at the Missouri University Research Reactor (MURR) in Columbia, Missouri, USA
  - Demonstrated higher elution efficiencies















Independent testing validates strength of the technology



# Key Milestones



# Summary Value Proposition

Winner	Perma-Fix	Uranium
Reliable global supply chain		
Environmentally friendly		
Eliminates proliferation risk		
Flexibility in multiple reactor types		
Non government subsidized		
Cost effective		

# Management & Supervisory Board

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**Dr. Louis Francis Centofanti, CEO and Management Board**, founded Perma-Fix Environmental Services in 1991. Previously founded PPM, Inc., a hazardous waste management company. PPM's revenues grew to \$15 million at which time it was sold to USPCI. Under Dr. Centofanti's leadership (Senior Vice President), USPCI was sold for \$600 million (2 years after purchase of PPM). Served as senior official to the U.S. Department of Energy under the Carter Administration.



**Ben Naccarato, Acting CFO and Management Board**, joined Perma-Fix in 2004. He brings 24 years experience in senior financial positions in the waste management and used oil industries. Previous positions include Chief Financial Officer for Culp Petroleum Company Inc, a fuel distribution and used waste oil company and Director of Financial Planning and Analysis with Safety-Kleen Corp.



**Stephen Belcher, Advisory Board, Acting CSO**, founder, principal, and Vice President of Triad Isotopes, which was formed in 2007 and has grown to 60 pharmacies and \$270 million in sales. Previously, Mr. Belcher served as an officer and principle architect of multiple successful new ventures, including establishing the first unit dose radiopharmaceutical sales in Puerto Rico. Mr. Belcher served as Chairman of the Board for the Association for Independent Nuclear Pharmacies and has extensive recognition throughout the nuclear medicine community.



**Robert Louis Ferguson, Supervisory Board**, has over 45 years of management and technical experience in the government and private sectors. He previously served as Director of the Department of Energy Isotope Program, and as Deputy Assistant Secretary for Nuclear Programs within the U.S. Department of Energy, and former CEO of the Washington Public Power Supply System (now Energy Northwest). His government experience includes various roles for the Atomic Energy Commission, the Energy Research and Development Administration, and the U.S. Department of Energy.

# Management & Supervisory Board

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**Larry Shelton, Supervisory Board**, is currently is the Chief Financial Officer of S K Hart Management, LC, an investment holding company. Mr. Shelton has over 18 years of experience as financial executive officer for several waste management companies. Mr. Shelton has a B.A. in accounting from the University of Oklahoma.



**James A. Blankenhorn, Supervisory Board**, brings 24 years of experience in the nuclear industry supporting the DOE's Environmental Management and National Nuclear Security Administration programs, and DOD programs. Prior to Perma-Fix, Mr. Blankenhorn served in a variety of senior management positions at URS Corporation (NYSE:URS).



**Robert Schreiber, Supervisory Board**, is the president of Schreiber, Yonley & Associates. He is an internationally recognized environmental engineer with over 25 years of experience. Prior to founding SYA, Mr. Schreiber was Vice President of Lafser and Schreiber Inc. Between 1974 and 1985 he held a variety of positions with the State of Missouri Department of Natural Resources including Director for Environmental Qualities and Director of Air Pollution Control.



**David Waldman, Supervisory Board**, founded Crescendo Communications, LLC in 2006, a leading international investor relations and strategic advisory firm with offices in the U.S., Poland, Russia, and China. He has a long and successful track record working with private and publicly traded companies of all sizes and across a wide range of industries. He has built a reputation as a leading expert on financing and communications best practices .

# Warsaw listing

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- In 2014, Perma-Fix Medical listed and commenced trading on the NewConnect Market of the Warsaw Stock Exchange
- Raised \$2.75M led by one of the largest mutual funds in Central Europe
- Plans to uplist to Main Market of the Warsaw Stock Exchange and list on Nasdaq in the United States



WARSAW  
STOCK  
EXCHANGE



# Stock Performance (12 months)





# Appendix: An End User Perspective

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- All North American providers of nuclear imaging are headed “over the falls” in 2016
- Perma-Fix Medical presents a reliable alternative to a fragile supply chain
  - Decentralized production
  - Ease of production in existing reactors worldwide
- A low cost solution to the 2nd biggest COG after labor
- Benefit to service providers, patients and payors



## Perma-Fix Medical – Investor Presentation

Thank you.

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