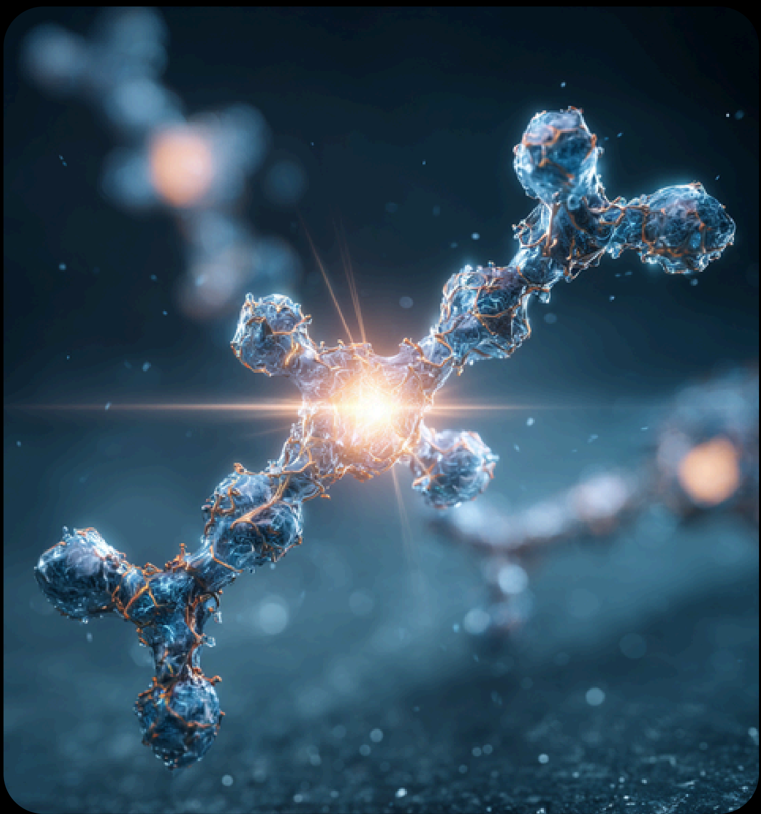
ProGen Search

Radiopharma Disconnect: 2026

The "House of Cards" behind the Alpha Pivot - and why capital cannot cure physics.

Russian isotope dependency, the "6-Hour Rule," the recoil contamination trap, and the talent vacuum threatening the $12B CapEx Supercycle.



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A ProGen Search Intelligence Report

THE MACRO THESIS: PRICED FOR PERFECTION

"The industry has not solved its foundational challenges; it has merely financed them."

It is January 2026. The global Radiopharmaceutical industry has successfully captured the imagination of the capital markets, executing a "CapEx Supercycle" reminiscent of the early days of biologics. Over the last 36 months, we have witnessed a capital deployment frenzy exceeding $12 billion in enterprise value, driven by a singular, seductive narrative: that Radioligand Therapy (RLT) is the "Third Pillar" of oncology.

This narrative was validated by the "Acquisition Trinity" of 2023-2024: BMS acquiring RayzeBio, AstraZeneca acquiring Fusion, and Eli Lilly entering via Point Biopharma. These valuations implied that the sector had solved its foundational challenges.

Our forensic audit suggests the opposite. The market is currently priced for perfection in an operational environment defined by entropy. We are witnessing a structural decoupling between Clinical Promise (what works in a patient) and Industrial Viability (what can be manufactured and delivered at scale).

The industry is sleepwalking into an execution crisis of unprecedented magnitude. We have built capacity for the wrong isotopes, located in logistically untenable hubs, and we are attempting to staff these sophisticated nuclear facilities with a workforce that statistically does not exist.

This report outlines the "House of Cards" framework. It details why the "Just-in-Time" supply chain is mathematically incapable of supporting the pivot to Alpha emitters , and why the shortage of authorized personnel creates a "Validation Void" that will leave billion-dollar facilities dormant.

1. EXECUTIVE SUMMARY: THE VALUATION-REALITY DISCONNECT

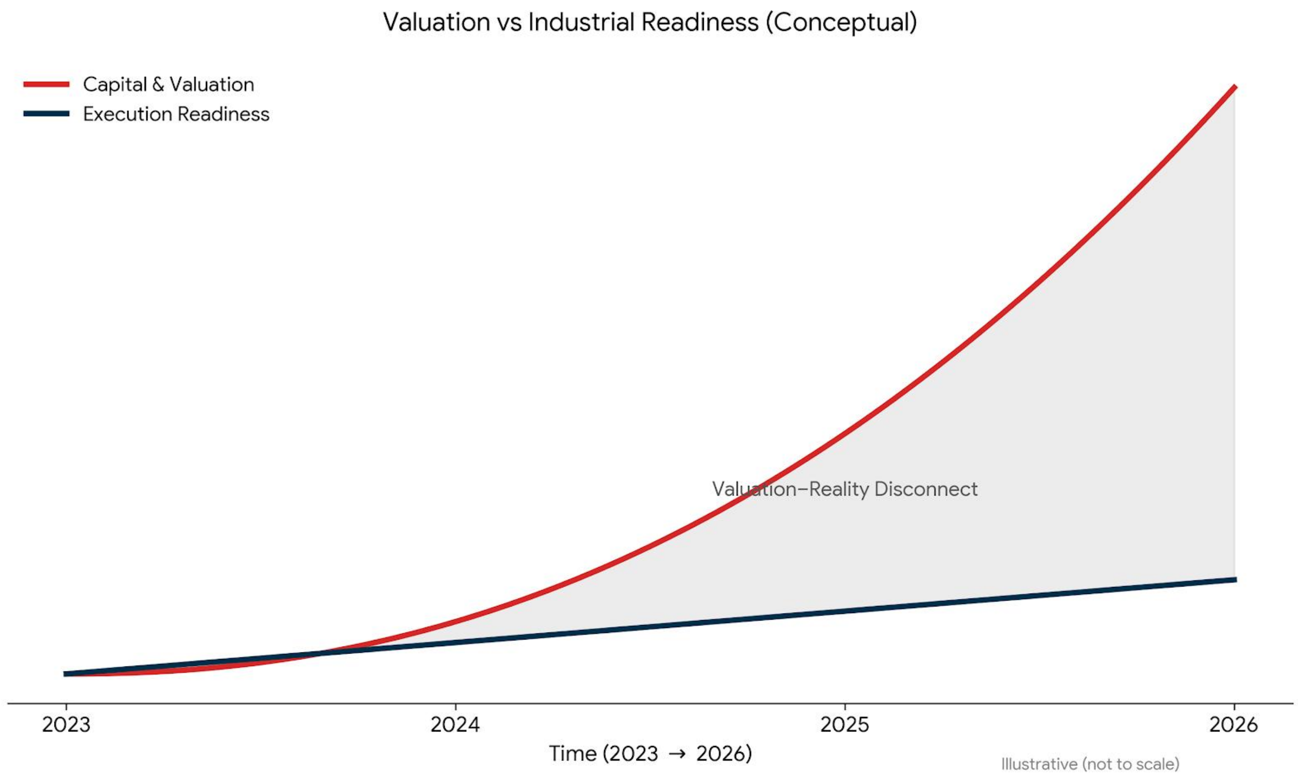
1.1 The Macro Thesis: A Market Priced for Perfection

It is January 2026. The global Radiopharmaceutical industry has successfully captured the imagination of the capital markets, executing a "CapEx Supercycle" reminiscent of the early days of biologics. Over the last 36 months, we have witnessed a capital deployment frenzy exceeding **$12 billion** in enterprise value, driven by a singular, seductive narrative: *Radioligand Therapy (RLT) is the "Third Pillar" of oncology, a modular platform poised to replicate the commercial trajectory of Antibody-Drug Conjugates (ADCs).*

This narrative was validated by the "Acquisition Trinity" of 2023-2024:

- **Bristol Myers Squibb** acquiring **RayzeBio** ($4.1B, ~100% premium).
- **AstraZeneca** acquiring **Fusion Pharmaceuticals** ($2.4B, ~97% premium).
- **Eli Lilly** entering via **Point Biopharma** ($1.4B, ~87% premium).

These valuations implied that the sector had solved its foundational challenges. **Our forensic audit suggests the opposite.** The industry has not solved these challenges; it has merely financed them. The market is currently priced for perfection in an operational environment defined by entropy. We are witnessing a structural decoupling between **Clinical Promise** (what works in a patient) and **Industrial Viability** (what can be manufactured and delivered at scale).



1.2 The "House of Cards" Framework

The industry is sleepwalking into an execution crisis of unprecedented magnitude. We have built capacity for the wrong isotopes, located in logistically untenable hubs, and we are attempting to staff these sophisticated nuclear facilities with a workforce that statistically does not exist.

The "Just-in-Time" supply chain, which barely survived the launch of *Pluvicto*, is mathematically incapable of supporting the "Alpha Pivot" (the shift from Lutetium-177 to Actinium-225 and Lead-212). The sector is precariously balanced on four structural fractures:

1. **The Isotope Cliff:** Western decoupling from Russian supply chains is a myth. We have merely obscured the origin of our precursors. The industry is laundering Russian isotopes through intermediaries to satisfy ESG mandates, leaving it exposed to a single geopolitical shock.
2. **The Physics of Failure:** The industry has underestimated the transition from Beta to Alpha emitters. Alpha recoil contamination renders standard "Beta-ready" CDMO capacity obsolete, creating a hidden CapEx chasm of **$500M+** across the sector to retrofit facilities that were supposedly "ready."
3. **The Logistics Death Spiral:** The centralized "Hub-and-Spoke" model is incompatible with the physics of Lead-212 (Pb-212). The "6-Hour Rule" and Class 7 cargo bottlenecks at the Indianapolis FedEx hub are creating a logistical singularity.
4. **The Talent Vacuum (Critical Failure Point):** This is the hard ceiling. There is a structural deficit of Radiation Safety Officers (RSOs) and Authorized Nuclear Pharmacists (ANPs). We project a "Validation Void" in 2026/27 where completed facilities sit dormant due to licensure staffing failures.

1.3 The Reckoning

By Q4 2026, we forecast a violent bifurcation in the market. The **"Vertical Integrators"** (Novartis, Lilly, BMS) who own their dirt, their isotope, and their logistics will consolidate power. The **"Generalist CDMOs"** and **"Virtual Biotechs"** relying on the spot market will face insolvency or distressed asset sales.

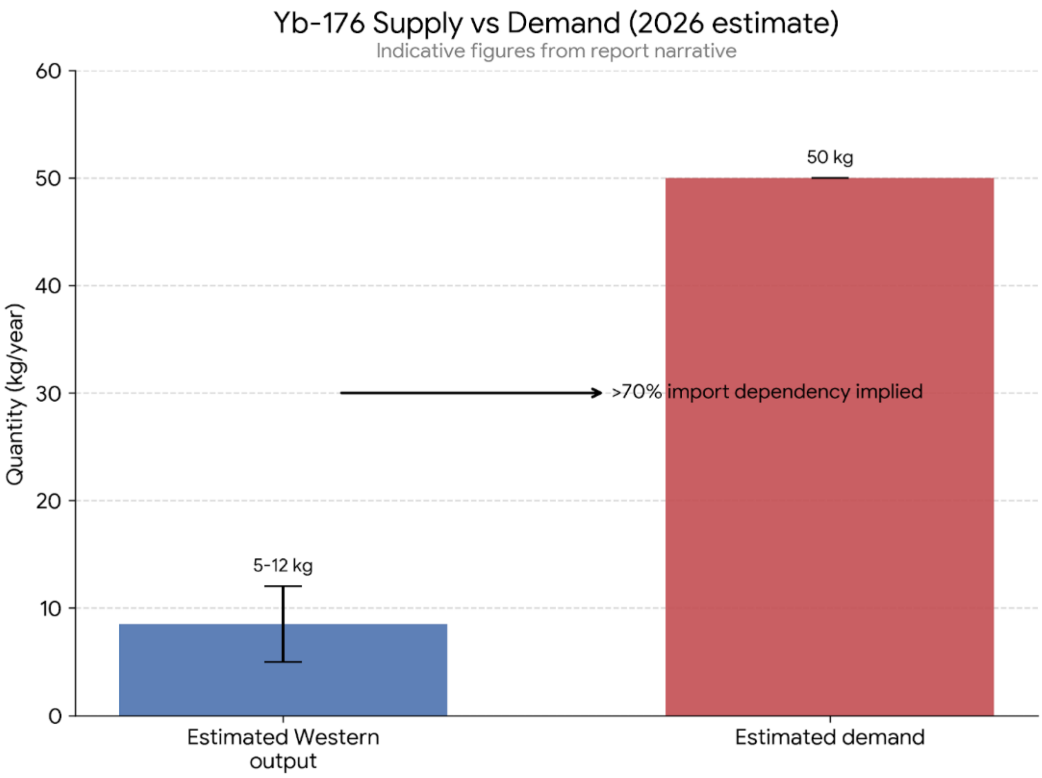
2. THE ISOTOPE CLIFF: THE MYTH OF DECOUPLING

The strategic consensus in the Boardroom is that the "Isotope Crisis" of the early 2020s has been resolved by Western innovation. This is a dangerous delusion. The downstream product (the drug) has been financialized, but the upstream input (the isotope) remains fragile and geopolitically compromised.

2.1 The Ytterbium-176 Chokepoint: Laundering the Russian Bear

The Lutetium-177 (177-Lu) market is projected to exceed $1.8 billion in 2026. This entire market rests on a single precursor: Ytterbium-176 (176-Yb). To produce non-carrier-added (n.c.a.) 177-Lu - the clinical standard for *Pluvicto* and *Lutathera* - one must irradiate highly enriched 176-Yb..

- **The Historical Reality:** As of 2022, **>95%** of global commercial-grade 176-Yb was produced by Russia's Rosatom via electromagnetic separation calutrons in closed cities.
- **The Western Response:** Startups like **Kinectrics** (Canada) and **ASP Isotopes** (South Africa/USA) and industrial incumbents like **Orano** (France) have announced commercial production. However, our due diligence indicates their combined output in 2026 is estimated at **5-12 kg/year**.
- **The Deficit:** The global demand to support expanded prostate indications and new neuroendocrine approvals exceeds **50 kg/year**.

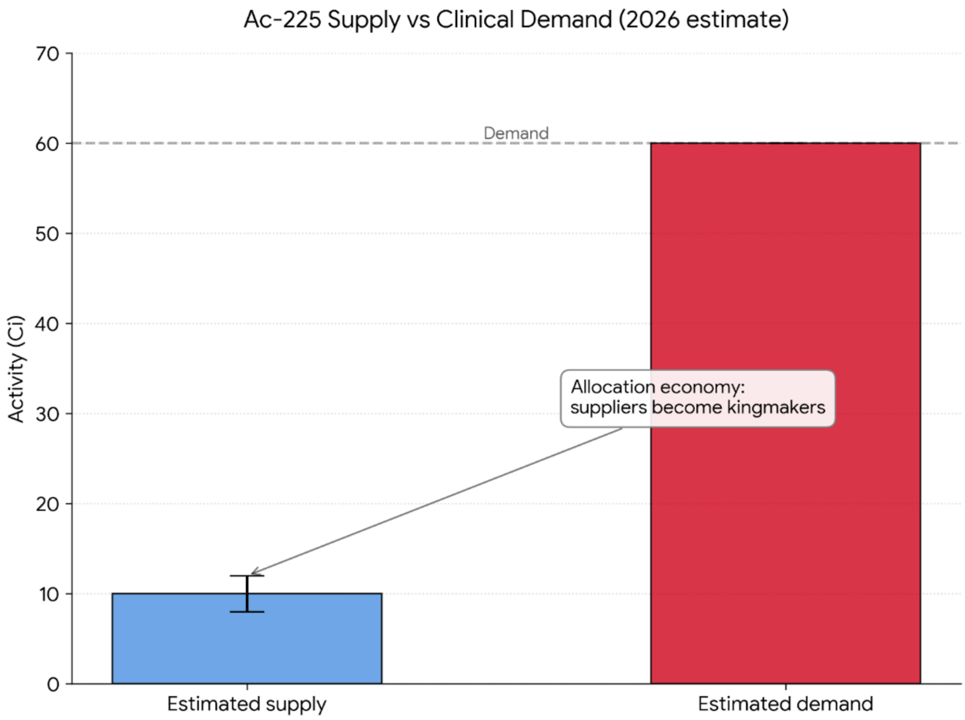


Analysis: The math implies that the Western market is still importing **>70%** of its precursor requirements from Russian sources, likely laundered through intermediaries in China or Turkey. The industry is one sanctions package or one geopolitical retaliation away from a supply blackout. If the U.S. Office of Foreign Assets Control (OFAC) targets Rosatom's isotope division, Western 177-Lu production capacity contracts by **80% within 90 days.** This is an unhedged existential risk sitting on the balance sheet of every mid-cap biotech.

2.2 The Actinium-225 "Paper Capacity"

The enthusiasm for the "Alpha Pivot" (e.g., BMS's RYZ101, AstraZeneca's Fusion pipeline) predicates its valuations on the availability of Actinium-225 (Ac-225)

- **The Gap:** In 2024, global supply was ~2-3 Curies (Ci), derived mostly from "milking" legacy Thorium-229 cow systems (waste from the Manhattan Project).
- **The Promise:** Accelerator-based production (TerraPower, NorthStar, PanTera) promised to flood the market.
- **The 2026 Reality:** Operational ramp-up has been slower than projected due to target cooling issues and purification complexity. We estimate 2026 availability at **8–12 Ci**.
- **The Demand:** Clinical demand for Phase III trials and early commercial use exceeds **60 Ci**.



Case Study: The RayzeBio Pause (June 2024)

The temporary halt of RayzeBio's ACTION-1 trial was not an operational hiccup; it was a mathematical inevitability. Even a company with BMS's backing hit the "Isotope Wall." In 2026, we are entering an **"Allocation Economy."** Isotope suppliers act as kingmakers. They will honor contracts with strategic partners (Fusion/AstraZeneca, RayzeBio/BMS) and *force majeure* the mid-cap biotechs.

Strategic Implication: Any Board approving an Alpha-program without a secured, take-or-pay, long-term isotope supply agreement is gambling on a spot market that statistically does not exist.

3. THE PHYSICS OF FAILURE: THE CAPEX TRAP

A fatal strategic error currently permeating the CDMO sector is the belief that capacity is fungible. The assumption is that a hot cell built for Lutetium-177 can simply be repurposed for Actinium-225. This ignores the violent physics of alpha decay.

3.1 The Recoil Contamination Nightmare

Lutetium-177 (Beta decay) is "clean." When it decays, the daughter isotope stays chemically bound in the vial. Actinium-225 (Alpha decay) is "dirty."

The Mechanics of Recoil:

When an Ac-225 nucleus decays, it ejects an alpha particle with massive kinetic energy (5–8 MeV). Conservation of momentum dictates that the daughter atom (Francium-221) recoils with an energy of ~100 keV.

- **Bond Rupture:** This energy is **10,000 times stronger** than the chemical bond holding the atom to the drug chelate. The daughter atom is physically ejected from the molecule.
- **The Migration:** In a standard Beta hot cell, a spill remains static. In an Alpha line, the recoil effect causes radioactive daughter atoms to become airborne "migrants." They "creep" out of open vials, move against airflow gradients, and can penetrate standard HEPA filtration media.

The Facility Implication:

You cannot run commercial Alpha production in a Beta facility. The contamination will trigger area alarms, risking facility shutdown.

- **The Requirement:** Alpha production mandates **Hermetically Sealed Isolators** (hard-shell gloveboxes) operating under strict negative pressure cascades with Alpha-specific double-HEPA filtration and "Bag-In/Bag-Out" waste ports.
- **The Cost:** Retrofitting a standard GMP Beta suite for Alpha compliance is a gut-rehab. It costs **~$2,500–$3,000 per square foot** and requires a 12-18 month shutdown.
- **The "Paper Capacity" Fraud:** The current CDMO landscape map highlights a surge in "Announced CDMO Capacity." Our audit suggests **>70%** of this is Beta-standard. There is a **35% deficit** in *validated, shielded, Alpha-ready sterile fill-finish slots* for 2026.

3.2 The Waste Management "Tax"

The shift to accelerator-produced Ac-225 introduces a pernicious impurity: **Actinium-227** (227-Ac).

- **The Problem:** 227-Ac has a half-life of **21.7 years**.
- **The Regulatory Wall:** NRC regulations generally permit "Decay-in-Storage" (DIS) only for isotopes with half-lives under 120 days. Waste contaminated with 227-Ac cannot be stored to decay. It is classified as **Long-Lived Low-Level Radioactive Waste (LLRW)**.
- **The Financial Impact:** This waste must be shipped to one of the few licensed geological repositories (e.g., Waste Control Specialists in Texas). Disposal costs are **15x higher** than for 177-Lu waste.
- **The Decommissioning Bond:** Facilities handling 227-Ac trigger strict NRC requirements for **Decommissioning Funding Plans (DFP)**. A commercial facility may be required to post a **$1.125 million surety bond** upfront. This "Dead Capital" requirement eviscerates the margins of smaller CDMO operators.

4. THE LOGISTICS DEATH SPIRAL: THE 6-HOUR RULE

The industry is attempting to scale a logistics model - "Hub-and-Spoke" - that was designed for diagnostic isotopes, not short-lived therapeutics. This model is mathematically unsustainable for the next generation of isotopes, specifically Lead-212 (212-Pb), **unless the manufacturing footprint is restructured.**

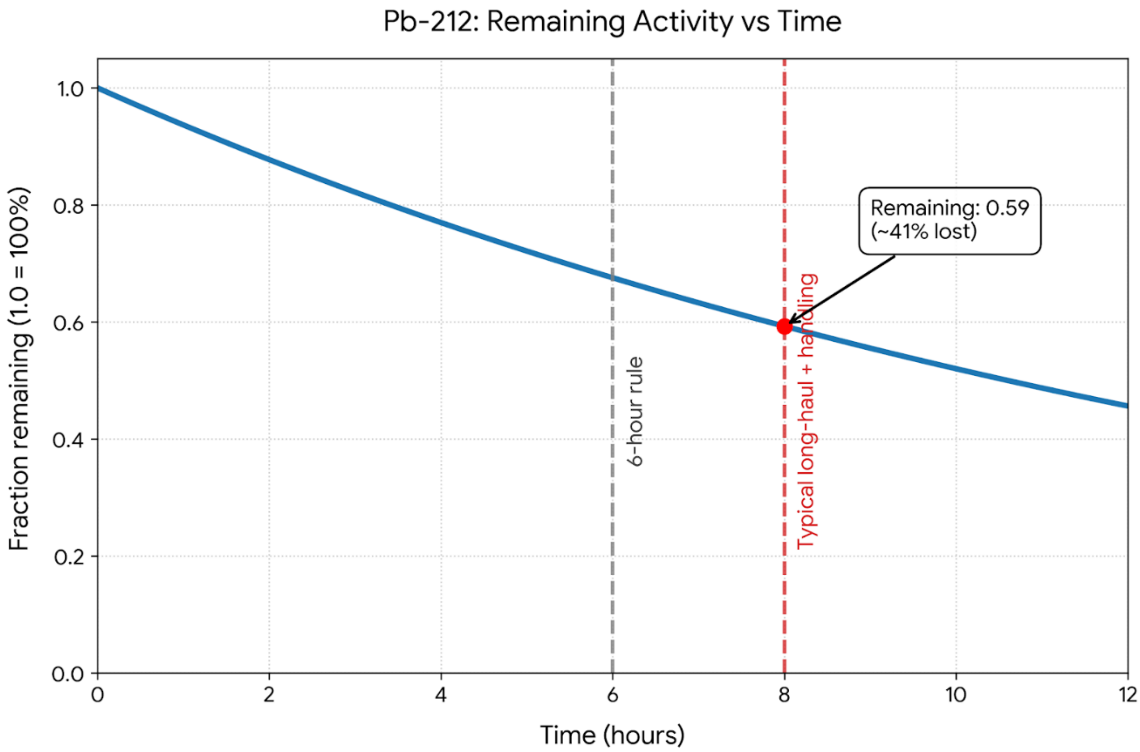
4.1 The "Melting Ice Cube" Economics

- **Pluvicto (177-Lu):** 120-hour (5-day) shelf life.
- **Lead-212 (212-Pb):** 10.6-hour half-life.

The Physics of Decay:

For 212-Pb, the **legacy 'single-site' national distribution model** is obsolete as a long-term play. This is not viable, particularly for commercial stage production.

- **Scenario:** A dose manufactured in Indianapolis at 8:00 AM for a patient in Los Angeles.
- **Flight Time + Logistics:** ~8 hours.
- **Decay Loss:** In 8 hours, **~41%** of the drug has decayed. To deliver 1 dose, you must manufacture nearly 2 doses.
- **The 6-Hour Rule:** If a logistics delay exceeds 6 hours (missed connection, tarmac hold), the batch is effectively destroyed. The drug falls below specification before it reaches the patient.



4.2 The Air-Cargo Singularity

The industry has historically concentrated its manufacturing in Indianapolis to leverage the FedEx World Hub for national distribution. While Indianapolis remains a vital "Regional Node" for the Midwest, relying on it as a singular national hub (long-term) for air-cargo creates a single point of failure.

- **The Bottleneck:** Only a fraction of cargo aircraft are certified to carry Class 7 (Radioactive) materials.
- **The Single Point of Failure:** In Q1 2025, a severe weather event grounded flights at the Indy hub for 48 hours. **60%** of the US commercial radiopharma supply chain collapsed for three days.
- **Pilot Discretion:** Pilots retain the right to refuse Dangerous Goods. We are seeing increasing rates of "Tarmac Expiration" - batches dying on the runway because a pilot exercised refusal rights.

Strategic Pivot: The "Middle Mile" Mandate - The only viable model for Lead-212 is **Regionalization** (The "Middle Mile"). While the centralized "Hub-and-Spoke" model fails due to decay, the "Generator-at-Bedside" model fails due to the hospital labor and shielding constraints.

The winning model will be **Regional GMP Hubs** - industrial facilities located 2- 4 hours from the patient clusters - that receive the generator, perform the labeling in a verified GMP environment, and ship a ready-to-inject syringe to the hospital.

Market Validation: This is precisely the "ATLab" (Alpha Therapy Laboratory) strategy currently being executed by **Orano Med**. By constructing dedicated industrial manufacturing sites in Brownsburg, Indiana and Valenciennes, France, Orano has acknowledged that Lead-212 requires industrial-scale handling, not a hospital basement. They are effectively building the "Middle Mile" infrastructure that the rest of the market is ignoring.

Companies attempting to bypass this infrastructure investment by shipping generators directly to hospitals are offloading a commercial suicide note onto their customers.

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5. THE TALENT VACUUM: THE HARDEST CEILING

This is the single greatest risk factor to the 2026 execution plan. While capital can solve the isotope shortage (eventually) and build facilities (with time), it cannot compress the 4,000 hours required to train a Nuclear Pharmacist. We are hitting a "Grey Ceiling" - the workforce is retiring, and the pipeline is empty.

5.1 The Demographic Collapse: A Structural Deficit

The US nuclear workforce is aging out. The "Health Physics" and "Nuclear Engineering" pipeline collapsed in the post-Fukushima era. The generation of experts trained during the nuclear power boom of the 1970s is retiring en masse.

- **Pipeline Data:** There are fewer than 20 universities in the US producing Health Physics graduates annually.
- **The Deficit:** Current projections indicate a shortage of **30-40%** for qualified radiation safety professionals by 2027 to meet the demand of announced facility capacity.
- **The Competition:** The Radiopharma sector is not just competing with itself; it is competing with the burgeoning SMR (Small Modular Reactor) industry, the National Labs (DOE), and the Nuclear Navy for the same finite pool of talent.

5.2 The "Unicorn" Roles: The Golden Keys to Licensure

A manufacturing facility cannot legally operate without specific, named individuals on its license. Without them, a billion-dollar facility is just a warehouse.

A. The Radiation Safety Officer (RSO)

The RSO is the legal linchpin. They bear personal criminal liability for radiation safety.

- **The Crisis:** RSOs are not interchangeable. A hospital RSO cannot run a GMP manufacturing plant dealing with high-activity Alpha emitters and complex EPA effluent modeling (COMPLY/CAP88). The pool of *manufacturing-experienced* RSOs in the US is estimated at fewer than **250 individuals**.
- **Salary Inflation (The Wage Spiral):**
  - *2022 Base:* \$140,000 - \$160,000
  - *2026 Base:* \$250,000 - \$320,000 + Significant Equity.
  - **Trend:** 100% inflation in 4 years. RSOs are now commanding "Tech-level" compensation packages.
- **The "Poaching War":** We have documented cases of Big Pharma entities paying **\$100k signing bonuses** to poach RSOs from CDMOs. When an RSO leaves, the facility's license is often suspended or put under review until a replacement is named, causing a 3-6 month operational freeze.

B. The Authorized Nuclear Pharmacist (ANP)

Commercial distribution requires the supervision of an ANP (10 CFR 32.72).

- **The Training Bottleneck:** Becoming an ANP requires 4,000 hours of specialized training and board certification. Pharmacy schools have largely abandoned nuclear curriculums.
- **The Pipeline Failure:** In the Spring 2025 testing window, there were fewer than **20** new Board Certified Nuclear Pharmacists added to the US registry.
- **The Impact:** A 24/7 commercial manufacturing facility requires **5-6 ANPs** to cover shifts. A single facility launch absorbs **25%** of the nation's entire annual output of new ANPs.

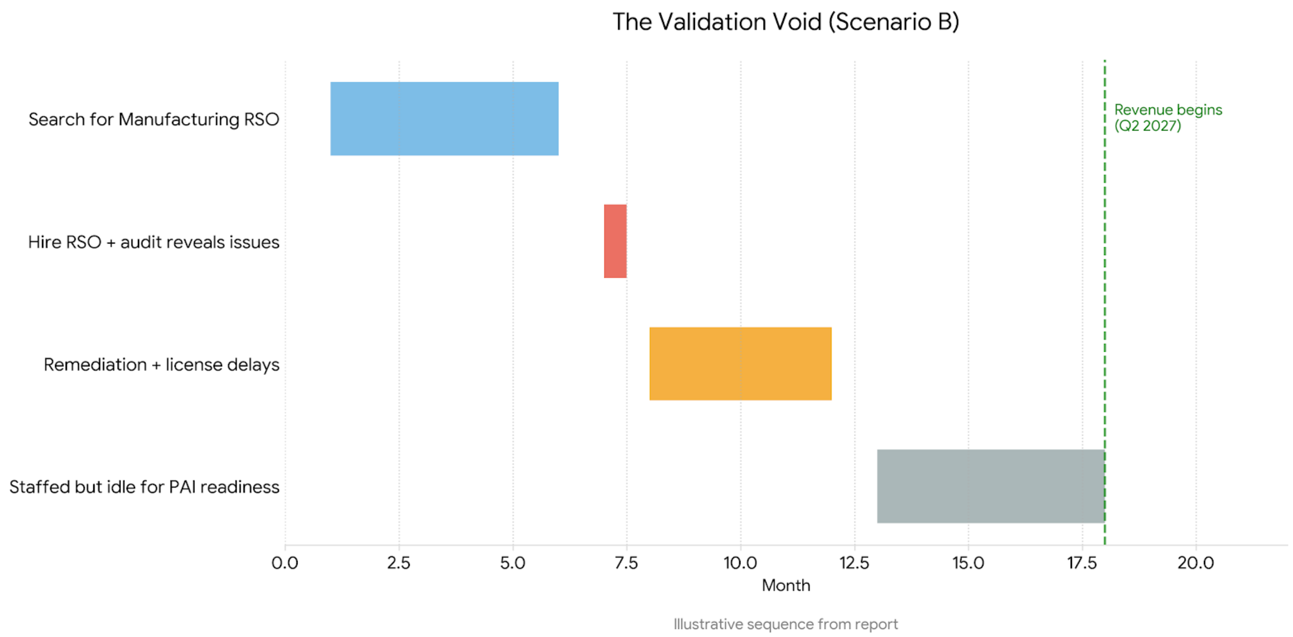
5.3 The "Validation Void": A Scenario Analysis

The talent shortage creates a new operational failure mode we term the **"Validation Void."**

Consider a mid-cap CDMO that completes mechanical construction of a new Alpha-ready facility in Q1 2026.

- **Scenario A (Optimistic):** They hire a qualified team immediately. Licensing takes 9 months. Production starts Q4 2026.
- **Scenario B (The Current Reality):**
    1. **Month 1-6:** The CDMO struggles to find a qualified Manufacturing RSO. They rely on a consultant, which the NRC flags as a risk.
    2. **Month 7:** They hire an RSO for $300k. The RSO audits the facility and finds shielding defects (common in retrofits).
    3. **Month 8-12:** Remediation works delay the license application.
    4. **Month 13:** The FDA Pre-Approval Inspection (PAI) requires the facility to be fully staffed ("hot") but idle. The CDMO must pay a full staff of 50+ people while generating zero revenue.
    5. **Result:** The facility does not generate revenue until Q2 2027. The company burns **$25M** in OpEx during the delay. Without deep pockets, this CDMO faces insolvency.

Strategic Insight: The "Talent Vacuum" acts as a **"Time Tax"** on new entrants. Vertical Integrators with internal training academies (Novartis) can generate their own workforce. Mid-tier players cannot.



6. THE "RECKONING": MARKET BIFURCATION & M&A LANDSCAPE

The market valuations of 2023-2024 - where **RayzeBio traded at a ~100% premium** and **Point Biopharma at an 87% premium** - were not paying for the drug pipeline alone. They were paying for the **"Time Machine."**

The Thesis: BMS bought RayzeBio to skip the 4-year cycle of building, licensing, and staffing a factory. They paid $2 billion for the molecule and $2 billion for the certainty of execution.

6.1 The Winners: Vertical Integrators & Alpha Primes

Eli Lilly, BMS, Novartis, Orano Med.

These players have internalized the complexity.

- **Why they win:** By owning the isotope supply (Lilly/Point), the manufacturing (BMS/RayzeBio), and the logistics, they have insulated themselves from the CDMO capacity crunch. They control the atoms.
- **The "Alpha Prime" Advantage (Orano Med):** Unlike Big Pharma entities retrofitting for Alpha, Orano Med is an "Alpha Native." By controlling the world's largest stock of Thorium-232, they have secured the upstream "mother" isotope. Furthermore, their deployment of "ATLabs" (Alpha Therapy Laboratories) in Brownsburg, IN, and Valenciennes, France, solves the manufacturing bottleneck by establishing the **"Middle Mile" industrial capacity** previously discussed. They are not reliant on the spot market for isotopes or CDMO slots.
- **The Moat:** They can weather a supply shock or a CDMO bottleneck. More importantly, they will weaponize their supply chains. In an isotope shortage, they will prioritize their internal needs, starving the spot market and killing smaller competitors.

6.2 The Losers: Generalist CDMOs & "Asset-Light" Biotechs

- **The Generalist CDMO Trap:** Many mid-tier CDMOs have issued press releases about "Alpha Readiness" based on "Announced Capacity" (floor plans). These facilities are often Beta-standard. They will fail the recoil contamination audits. They lack the capital for the specific HVAC/Waste retrofits, and they cannot compete for "Unicorn" talent. We expect a wave of **distressed asset sales** in 2026 as PE firms exit underperforming portfolios.
- **The "Virtual" Death:** Biotechs that rely 100% on outsourced manufacturing and spot-market isotopes are "stranded assets." They will face the Isotope Cliff (no supply) and the CDMO Gap (no slots). They will burn cash waiting for manufacturing slots that never materialize. Their IP is worthless if they cannot make the drug.

6.3 The Dark Horse: Specialist CDMOs

Firms like **SpectronRx** and **Nucleus RadioPharma** (backed by Eclipse/Mayo) are the exception.

- **The Model:** These firms built Alpha-native facilities from day one. They possess the "Unicorn" staff and the specialized Alpha-isolators.
- **The Leverage:** They will command immense pricing power in 2026. As the only "safe harbors" for mid-cap biotechs, they will likely become acquisition targets themselves for the next wave of Pharma entrants (e.g., Pfizer, Roche).

7. STRATEGIC RECOMMENDATIONS

To the Private Equity Consortium:

1. **Stop Funding "Paper" CDMOs:** Do not invest in CDMOs based on "Announced Square Footage." Perform a forensic audit on their **Alpha-readiness**:
   - Do they have hermetic alpha-isolators?
   - Do they have a named, retained RSO on contract?
   - Do they have a signed waste disposal pathway for 227-Ac?
   - *Action:* If the answer is "no" to any of these, discount their valuation by **40%**.
2. **Target the "Picks and Shovels":** Invest in the bottleneck solvers, not just the drug makers.
   - **Isotope Enrichment:** Fund non-Russian Yb-176 enrichment technology (e.g., ASP Isotopes) to break the Rosatom chokehold.
   - **Logistics Tech:** Invest in "Control Tower" software that integrates real-time flight data with decay algorithms to minimize tarmac spoilage.
   - **Waste Management:** There is a monopoly in long-lived alpha waste storage. Fund a competitor.
3. **The "Roll-Up" Play:** Consolidate the distributed radiopharmacy networks (e.g., RLS, PharmaLogic). The shift to Pb-212 and short-lived alphas requires a decentralized network that Big Pharma does not want to manage internally. Build the "Starbucks of Radiopharma" manufacturing network and sell it to them.

To the Radiopharma Boards:

1. **Vertical Integration is Mandatory:** If you are a therapeutic biotech, you cannot rely on the spot market for Ac-225 or Lu-177. You must secure firm, take-or-pay off-take agreements or build your own facility. The "Asset-Light" model is dead.
2. **Adopt the 'Regional Hub' Model for Lead-212:** If you are betting on Pb-212, reject the 'Hospital Pharmacy' delusion. Hospitals cannot manage the labor, shielding, or waste liabilities of onsite generators. Instead, replicate the **'Alpha Therapy Lab' (ATLab) strategy**: build industrial-grade manufacturing nodes located regionally (within 4 hours of patient clusters) to bypass air-cargo reliance. Do not force the hospital to be the factory; deliver a finished, industrial-quality dose from a specialized regional node.
3. **Secure Talent First:** Before breaking ground on a new facility, secure the RSO and the Authorized Nuclear Pharmacist. Offer equity. These roles are the "Golden Key" to the RAM license. Without them, your factory is just a warehouse.
4. **The "Safety Valve" Acquisition:** If you hold a portfolio company with a strong Alpha asset but no manufacturing, you must acquire a specialized manufacturer *now*. The window to secure capacity for 2027 is closing. Look at the remaining independent "Alpha Specialists" (e.g., SpectronRx) as immediate acquisition targets.

CONCLUSION

The Radiopharma market of 2026 is not a demand problem; it is a **Physics, Logistics, and Human Capital** problem. The "House of Cards" will collapse on those who treat Actinium like Lutetium, and those who treat nuclear manufacturing like standard biologics. The winners of this cycle will be those who respected the physics, secured the talent, and owned the dirt. The time for "Just-in-Time" optimism is over. It is time for heavy infrastructure and defensive execution.

ProGen Search

TALENT INTELLIGENCE FOR THE ALPHA PIVOT

We build the teams that hold the license. Without them, your facility is just a radioactive warehouse.

While capital can solve the isotope shortage (eventually) and build facilities (with time), it cannot compress the 4,000 hours required to train a Nuclear Pharmacist.

In 2026, the Radiopharma market is not a demand problem; it is a Human Capital problem. The "Just-in-Time" era is over. The "rising tide" has receded, and the market is bifurcating between the Vertical Integrators who own their talent, and the "Asset-Light" biotechs facing a "Validation Void".

You don't need another Resume forwarder. You need a partner who understands that a Radiation Safety Officer (RSO) for a hospital cannot run a GMP manufacturing plant dealing with high-activity Alpha emitters.

The ProGen Edge:

- **We Secure the "Golden Keys":** A manufacturing facility cannot legally operate without named individuals on its license. We specialize in the "Unicorn" search for Manufacturing RSOs and Authorized Nuclear Pharmacists (ANPs) - the hardest ceiling in the industry.
- **We Understand the "Physics of Failure":** We know that Alpha recoil contamination renders standard "Beta-ready" experience insufficient. We vet candidates not just for GMP experience, but for specific isotope competency (Ac-225/Pb-212).
- **We Solve the "Validation Void":** We help you avoid the scenario where a completed facility sits idle for 12 months due to licensure staffing failures. We structure "Team Lift-Outs" to secure the technical leadership required for FDA Pre-Approval Inspections (PAI).

Facing the Isotope Cliff? Let's verify your workforce strategy.

Whether you are retrofitting a Beta facility for Alpha compliance, planning a decentralized generator network for Lead-212, or conducting due diligence on a CDMO's readiness, we ensure you have the human capital to execute.

Book a call with us today - click here.