

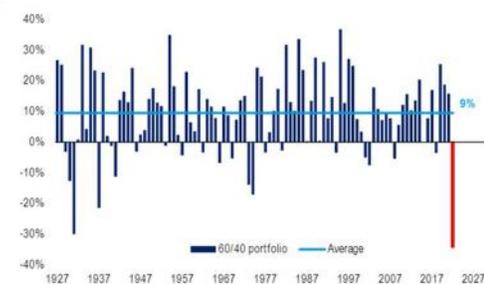
# THE National Investor



FALL-WINTER, 2022/2023 *You can get information anywhere. Here, you get KNOWLEDGE.* SPECIAL ISSUE

## THE ART OF FINDING STORY STOCKS IN A BEAR MARKET

Chart 3: "60/40" portfolio ann. worst YTD return in past 100 years  
Annual 60/40 portfolio performance



Source: BofA Global Investment Strategy, Global Financial Data, 2022 is YTD annualized  
BoFA GLOBAL RESEARCH

For many years now, the traditional hard work, research *and art* of investing—while it has never *completely* gone away—has become overshadowed by other “investing” approaches.

As the stock market particularly has become more of **an over-lubricated casino** over the last generation, traditional investing has given way mostly to “passive strategies.” For the most conservative folks—or ones who simply had no aptitude or interest in investing decision-making—the 60-40 portfolio allocation became the default one; sold by the legions of financial professionals out there who also saw this as the easy way out to build assets under management. With the overall tailwind of the

last four decades for both stocks and bonds, just plunk 60% or your dough in an average stock fund—and 40% in fixed income/bonds—and hit the golf course or garden party.

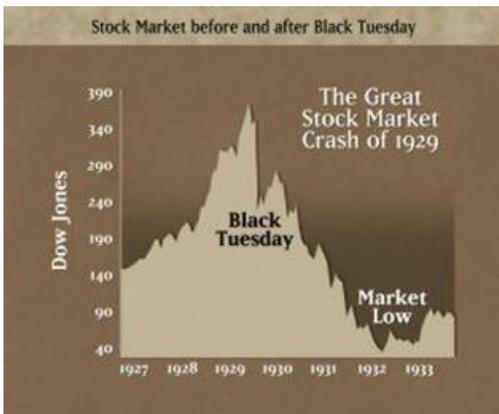
**In 2022, folks have found out the hard way that things have changed; and this “strategy” has vaporized about 30% of an average portfolio. More about that in a minute.**

BUT...at the same time, investors have made money—and will continue to do so for as long as we have a civilization—from right timing where new/renewed ideas are concerned. From the smart phone (as the graphic at right portrays) to ever better medical breakthroughs and more, a general bear market for stocks not only WON’T keep these things from coming into our lives but—from an investment standpoint—provides an even more fertile environment! **Let me explain with a lesson from *The Great Depression*....**

Everything in this picture is now in your pocket.



Over 40 years ago when I was first getting into the financial planning business, one of the mutual funds my firm enjoyed getting people into was the old Pioneer Fund; based in Boston and managed for many decades by the late, great stock picker Philip Carret. Originally called the Fidelity Mutual Trust, Carret came out with his then-novel idea of stock investing for the masses *in 1928*. Yet through the Depression which soon followed and for decades later, Carret was an eminently successful investor.



*One of the facts burned into my own memory from that era and Pioneer’s history was this:*

If you measure from peak to trough, the Dow Jones Industrial Average declined by 89% from the onset of and through the first few years of The Great Depression. Yet—as Carret reminded everyone for years after, and as Pioneer featured in its sales literature—*one out of every three* publicly-traded companies in America went UP during that time.

**Even during such an epic implosion on Wall Street, it was still possible to make money buying the best stocks.** Then—as today and at all times in between—companies were born that made our lives better. Some distinguished themselves as better profit-makers than their peers. Many were on the cutting edge of innovation in pretty much every industry and sector you can imagine.

Not everyone did well, of course. In fact, few did. Joseph P. Kennedy famously made a big part of his fortune in those years by *shorting* the market, as did others sufficiently savvy. And there were the Philip Carrets of the world who rolled up their sleeves and did the bottom-up work to find *the best companies*. Indeed, I have long believed that an average or even primarily bearish market is the best time for stock pickers. ***The passive game no longer works and people actually need to behave as investors again.*** In this special report I will make that case here and there: that this is our situation today *in spades*.

Investors—even the most elite of the professional money managers out there—have been blindsided by 2022’s markets and the implosion of not just 60-40 portfolios, but of a LOT else. ***And I’m here to tell you that a lot of the changes we have seen already are going to be with us for a long time.***

At your leisure, I suggest you watch the video of a presentation I gave to our Chicagoland conference back this past spring; it’s at <https://www.youtube.com/watch?v=YNFWTCgwpY&t=9s>. Among other things, it will take you on a parallel course, in a way, to a lot of what I’ll be covering in here. One of the main points I stressed was the VERY nasty wake-up call that Wall Street overall has had; one that many STILL do not remotely understand the implications of.

Watching a segment on the business network *CNBC* the week before Easter, not long before our gathering, I was struck by what the late baseball great Yogi Berra called “*déjà vu* all over again.” For what that network’s anchor Bob Pisani was describing was a crisis of confidence among those at a gathering he was reporting from.

Pisani was covering the Exchange ETF Conference at the Fontainebleau Miami Beach. The reported 2,000 or so elite



investment advisers and other financial professionals were at what was billed as the largest such conference for the enormous ETF industry in the world. **And in Pisani's words, these advisors were "terrified."** Those 60-40 portfolios were imploding at the fastest rate *in a century*. The world was beginning to change. There was now a war again on Europe's doorstep...and a simmering, looming one with China. We are in the early stages of a New Energy Crisis *globally*.

With the near-certainty of endless wealth-building from conventional investment allocation strategies which worked most of the time over the last generation, we've seen other modern-day gravy trains for investors fizzle out as well, from crypto currencies, to SPAC's, (Special Purpose Acquisition Vehicles), "fad stocks on Reddit that soared no matter their fundamentals—but simply on a herd of investors who all jumped in at once—and more.

So let's discuss how we got to the point where "investing" turned robotic...idiotic...chaotic...and more, and **why those developments of the last generation are going to be surrendering the spotlight once more to true investing and sector- and stock-picking. Indeed, they already are.**

## WHAT LED TO INVESTING GETTING SUCH SHORT SHRIFT?



Even as a boy, I was fascinated with investing, stocks and such. I remember when my Dad would tell the story about a biggie *that got away*; and how he rebuffed a friend's insistence that he get in on the ground floor of a public offering of stock in a fast food joint called McDonald's. And I remember *his* Dad, my first and best fishing buddy, teaching me about thrift, investing and what he had managed to do.

One of my favorite high school memories was in General Business class. Among other things, our teacher went through a multi-week exercise—after giving us some investing basics—of a stock picking contest. Again, I was enthralled with perusing the *Wall Street Journal*, understanding what all of the columns and statistics meant, etc. It was fun and it was *real*. Real businesses. Real earnings. Real dividends.

Pretty much straight out of high school I went to work for a family-owned financial planning company in my native Binghamton, New York. I was happy that these traditional investing principles were at work there also. **While we chiefly sold mutual funds to clients, I also learned what the Pink Sheets were;** and got to use them regularly!



To anyone interested in uncovering out-of-the-way stocks of small companies—let alone an excited young “kid” like me in the business—the **Pink Sheets were a treasure map**. For those of you who *didn't* know this history, they were a sheaf of pink-hued papers that brokers received weekly; they gave the bid and asked prices for pretty much every public company *not* yet traded on one of the notable public exchanges. If you were interested in a trade, you had to call a certain, market-making broker for a fresh quote; and commissions/spreads for such little fledgling companies were typically higher than for exchange-traded stocks. (These days, of course, the volume of trading and technology has pretty much everything tradeable to tenths of a cent; and most OTC stocks cost no more to buy/sell than others.)

We had as friends another brokerage firm in our area that had a large clientele at its full-service firm (more individual stocks, muni bonds and such in this case) who were retirees; mostly from I.B.M. I vividly remember going into their office from time to time and seeing investors who wanted to do some of their own work poring over *Value Line, Standard and Poor's* reports and myriad other documentation as they tried their hand at fundamentals and value investing. *Those memories inspired my idea—passed along to my GREAT artist of many years, Jerry King—in the earlier “Traditional Investors” cartoon.*

### ***How did we get to “Today’s ‘Investor’”?***

Certainly, technology had a lot to do with it; as the volume of money and people rose exponentially in the markets over the last generation or so, that had something to do with it. But there’s ONE pivotal development that changed the relation of the markets to the underlying economy (*upended that relationship, in fact.*) In turn, that development fostered and indeed required liquidity, market activity and the rest *for their own sakes.*

**And that was what the late Fed Chairman Paul Volcker did in the “second act” of his eight-year chairmanship of the central bank.**



I have gone to great lengths to remind folks of this forgotten history; and that’s because without it you CANNOT understand the market dynamics of today as we see elite advisers down to the average investor suddenly wondering what has happened to their world. In a talk more specifically on this referred to in my above video (at <https://www.youtube.com/watch?v=UqmLVme0Ukl>) I explained this in great detail in our 2021 Spring Chicagoland get-together.

A meaty article on this (with a link to an interview I gave on the subject as well) is also archived on my site at <https://www.nationalinvestor.com/2168/the-fed-and-your-money-in-2020-volcker-revisited/>.

By the time the late President Reagan had renominated Volcker for a second term, a transition was underway. As I explain in *all* the above, Volcker for various reasons instituted a regimen where—rather than markets being a reflection of and pricing mechanism for the organic



economy—**economic activity and health increasingly began with the markets.** For the reasons and in the fashion I describe in all the above, *exponential* increases in money and debt since Volcker’s alchemy was unleashed were sufficiently funneled *into asset prices* as a first matter, so as to trickle down to economic activity and provide—via what came to be known as the wealth effect—a sense of prosperity much less real than what comes from labor, invention, etc.



Many have conveniently forgotten that, **under Volcker (and Reagan) the annual deficit exploded several-fold beyond what it was prior under President Carter** (who has the worst bum rap of a president in my lifetime, as he is blamed to this day for the mess first caused by the Nixon/Burns duo, as I have written elsewhere.) But it didn’t seem to matter, since Wall Street had also taken off, and everyone was looking ever richer on paper.

**So with Volcker’s new regimen in place, it certainly did seem to make sense to just shovel everything “into the markets.”** It seldom mattered *what* you chose. Stocks—measured by the major indices—rose well over 30-fold from the time Volcker instituted his/the Fed’s new regimen. Along the way, interest rates ratcheted downward; this **DESPITE** debt levels soaring into the stratosphere. So even with fixed income you could hardly go wrong (thus, of course, the evolving popularity of that “autopilot” 60-40 portfolio allocation.)

And with every new Fed chairman, it seemed, we got “addendums” – enhanced ways in which monetization and financialization of *everything* got ever more gaudy (and risky). **Volcker’s immediate successor, Alan Greenspan, still likely merits the title of the Mad Monetary Scientist of all time.** *He never met an unregulated derivatives contract he didn’t like.* His pushing of ever more complex “products” that investment banks could play with led to the mortgage/housing bubbles and subsequent bust back in 2007-2008. These murky “products” have been replicated the world over; these days, resulting in both Europe’s banks and China’s entire economy teetering. *Those are stories we’re covering elsewhere.*

Next we had “Helicopter Ben” Bernanke who introduced us to Quantitative Easing: the Fed itself buying Treasury securities directly to 1. Monetize the national debt *directly* and 2. Support this Volcker-instituted system *that needs ever more help to keep from imploding.* Most recently—after everything was inflated anew and then some following the 2008 bust—we have the hapless Jerome Powell. In far more desperate straits than even “The Bernank” found himself in, **Powell led a global orgy of inflation during 2020 and 2021 that may well be the last act of this whole Game.** Time will tell.

It went hand-in-glove with this system launched in 1982, of course, that the media, Wall Street and some other key players gave us *the culture* that herded most of us into the needed new mode of “investing” to help mindlessly support *the system.* This is why we have entertainment/*even clownish* figures the likes of a Jim Cramer on *CNBC.* It helps explain the birth of algorithmic traders and



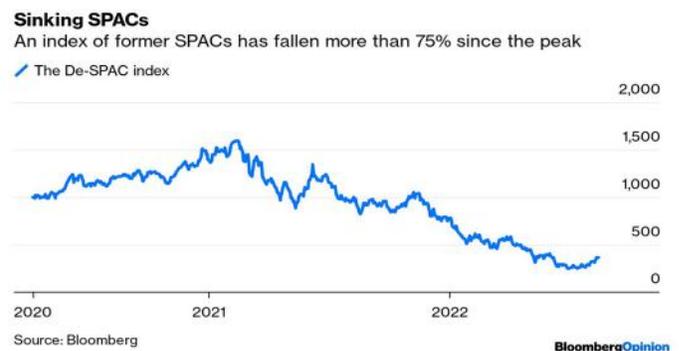
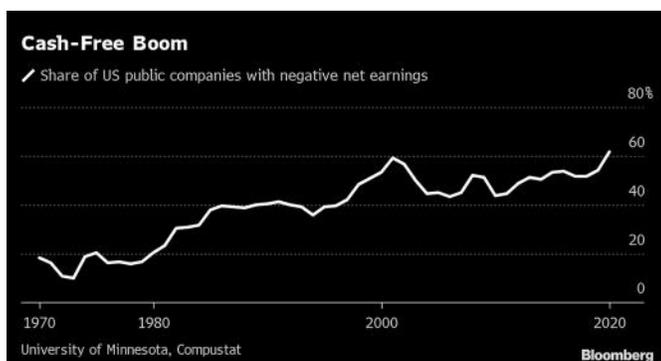
other momentum chasers who—with slicker programs and more daring than their peers, as opposed to better research—became rich.

It explains how many mindless investors have chased everything; successfully for a while, since “the House” (the Fed) made sure that most everyone was a winner. That’s what has been needed to a great extent to motivate people to help create all the churn in the markets and keep all the various wheels greased. And as said earlier, we got the rush of trillions of dollars into crypto currencies...meme stocks...and the rest.

**But now everything is coming back down to earth.** The idiocy of companies with “valuations” based on air is going away; in the market generally, where we recently saw a record percentage of companies in the market with losses, yet most with still sky-high valuations. The SPAC craze has imploded spectacularly. Even the momentum-driven “Old FAANGs” have crumbled. Once individually lauded as being key asset classes all by themselves, these modern-day “Nifty Five” stocks have—as a group—tripled the year-to-date loss of the S&P 500 at last look.

**And just as this is being released, one of the biggest crypto currency repositories is bust.**

All the above and more indicates that we will continue to be forced back into traditional investing for all the reasons I discussed in all the above-referenced items (most notably on The Great Stagflation theme.)



## BACK TO BASICS: AND SOME EXAMPLES

We don’t need to go back all the way to The Great Depression to find examples of out-of-the-ordinary market/economic episodes that gave rise to abrupt, scary (for some) and opportune (for *the wise*) MAJOR shifts in how/what to invest in.

I’ve often used the example of **the bear market from 2000-2002**. That uncharacteristically long slide (measured against most other modern-day busts that have been more typically sharp but shorter) was extended beyond what might have happened otherwise by the terrible events of September 11, 2001 which deepened/lengthened the recession and bear market alike. *But that was also about the point where it was possible to start making money a year before the markets had bottomed.*

Roughly halfway or so to the eventual declines of 49% for the S&P 500 and nearly 80% for the Nasdaq, then-Fed Chairman Alan Greenspan began to more aggressively ease monetary policy. **The**

**result:** *just about anything* that was interest rate-sensitive started rallying many months before tech and the broader market bottomed. Housing stocks. REITs. Utilities. Some commodities. And generally, again, back then: *legitimate* value stocks.

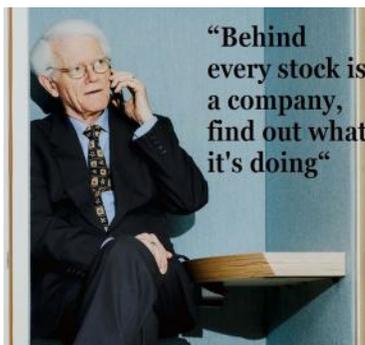
This present bear market has been challenging thus far, to be sure. There have been entire sectors/stories that have bucked the trend and made investors money: **energy** of almost all kinds, **uranium** stocks and certain battery metal themes; all of these, of course, capitalizing on The New Energy Crisis. The downside in some ways has been gruesome to date, though, for some other commodities and commodity stocks...for biotech...*and even for all manner of value stocks*. Those latter should change once investors get over the initial jolt from this bear market which has had them, in some ways, *too* defensive and of a disposition to sell first and ask questions later when they get scared.

**Realize that today there is still a LOT of liquidity.** Combine that with the fact that many good stories/sectors for the long term are out there that have been beaten up in the early stage of this bear market; not an unusual occurrence by any means. Indeed, it should be viewed as one of the best times in many years to “build your own mutual fund,” if you will, among the best stories out there.

I’ll give a number of examples below, before we get to some specific, current recommendations of mine. But as we move farther into the months and years ahead of us—*months and years unlike pretty much anything we have ever dealt with*—some ideas on what to have in mind:

\* **Two Major Themes:** see <https://www.youtube.com/watch?v=IjvIKW87QdE> for “The Great Stagflation” and <https://www.youtube.com/watch?v=VGn-i1vbCes> for “The New FAANGs.” Both of these two thematic presentations will continue to evolve and be modified/updated by me in the days ahead; so *stay tuned!* These two macro trends will shape our future and world for a LONG time.

\* **Others in front of us every day:** There are changes to regulations and laws as time goes on that give rise to new companies *and even industries*. A lot of what is happening today on one of the subjects in The New FAANGs, for example, has opened the door for numerous companies within the U.S., as we belatedly seek to recapture our nation’s own control of our own destiny. From **drones/drone technology**...to **rare earth processing**...and more, the move toward a multi-polar world will be opening up a LOT of investment opportunities for those who embrace what’s unfolding!



\* **What’s new, trendy, and relevant to our friends and neighbors?**

Many years ago I got to listen to a talk by Peter Lynch (left), the legendary former manager of Fidelity’s flagship Magellan Fund. As did Carret, Lynch had a gift for demystifying investing. Let me paraphrase one of his more interesting “object lessons” to a group of us once upon a time...

“Here’s how simple finding investment ideas can be. One day, my daughter came home from school excited as can be. A friend of hers at school—indeed, a few of them—already had some new gizmo that kids of that age just *had* to have. My daughter insisted that she not be left out. I could have approached this from a few angles; and a couple I did later on. Should I have a values and priorities discussion with my girl? Should I discuss whether she would be paying at least part of the cost of this thing out of her own allowance and savings? Does she really *need* this?”

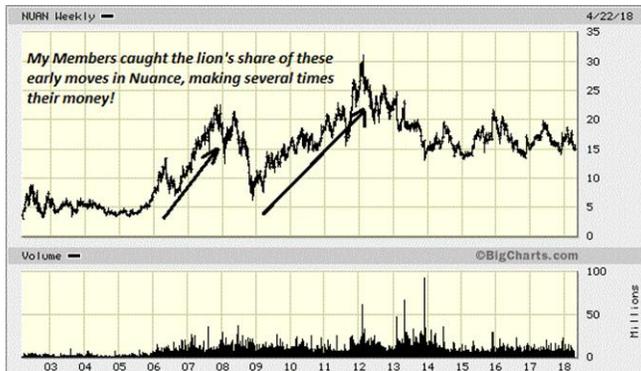
“But before I got to any of that, I have to admit that I had two questions: *Who makes this crap and are they publicly traded?* Because if my daughter was so insistent and excited over this new wonder product, millions of other kids were coming home that day wanting the same thing...” **So—as I am sure you can identify with, especially taking some time to look back over your own acceptance of new products and services over the years—tomorrow’s great, household name investments are possibly under our nose *right now*.**

I enjoyed and was *monumentally privileged* getting to listen to Carret, Lynch and a few other above-average portfolio managers of similar funds in my early career. All were elite “bottom-up” tire-kickers of *companies*. And among the lessons I learned and have profited from over the years—along with our Members at *The National Investor*—was much like Lynch’s story taught.

Soon after transitioning to my present publication in 1996 (from the former *Your Money Today*, published from 1986-1996) I was of a mind that a usual sector/cyclical downturn at the time that had made airlines cheap required me to recommend at least one. **I chose Alaska Airlines (NYSE-ALK).**



*Why this as opposed to the others?* Because I was a very satisfied customer. Living in Montana in those days, I had occasion in my very regular flying routine to use Alaska and its regional hub Horizon. The service, perks, quality of equipment, etc. of this new airline were simply superior to all the big names. And with the Pacific Northwest in those days growing at a much faster clip than the national economy, this was an easy pick.



*We got in around \$12...and out around \$60 within a couple years.* ALK performed investment-wise better than any of its peers during the stretch we were invested.

Being a satisfied customer also led me years ago to recommend **Nuance Communications**. Here again, I knew and liked the company: a leader in voice recognition software whose shares we *twice* made strong triple-digit gains on. *Microsoft liked Nuance too*; and bought the company in a deal that closed earlier this year.

More recently, my satisfaction at being a customer of online retailer Vitacost led me several years back to recommend that company’s shares. Vitacost was an early mover in shopping online: and for all manner of vitamins, supplements, food and other goods. **The overall trend, of course, is that of Americans wanting to take better care of themselves; and do so *inexpensively*.** And by and large, pretty much nobody was able to beat their pricing.



Our gains on Vitacost were respectable, though not

nearly those of the above two examples. And the chief reason was that—a mere few months after I recommended it—the **grocery giant Kroger bought Vitacost**. Not surprisingly, this allowed Kroger, in turn, to be an early mover in online shopping and home delivery of groceries *generally*.

I could go on with more examples; but you get the point. Ask yourself today what social trends...lifestyle choices...new services...and more are going to be deemed by today's/tomorrow's consumers as superior. (Maybe *you* have some present experiences with this!) As we go more into The Great Stagflation and consumers increasingly shun “wants” to focus on “needs,” what are the things they won't be able to do without? (**Here's but one hint:** In much the same way that it's been said a NASCAR fan—if faced with the choice—would let his children starve in order to buy a ticket to the next race, I suspect you may already know, maybe even first-hand that, come hell or high water, millions of **pet owners** will under no circumstances skimp on Fluffy or Fido!)

For better or (at times) worse, **our popular culture and entertainment industries** occasionally serve up an investment idea of merit (and NO, I do not refer to the sports and entertainment types that shilled for the just-imploded FTX Exchange and related crypto currency scams!) Sometimes, though, something simply resonates as *good*; and potentially leading to a good investment opportunity to boot.



We all remember the annual Jerry Lewis Labor Day telethons on behalf of the Muscular Dystrophy Association. For several decades, the late entertainer raised many tens of millions of dollars annually at his peak. And along the way, some of us thought to ask ourselves, Where is this dough going? What universities? What *companies*? And does anyone have a shot at being the first to come up with a cure for this dreaded disease?

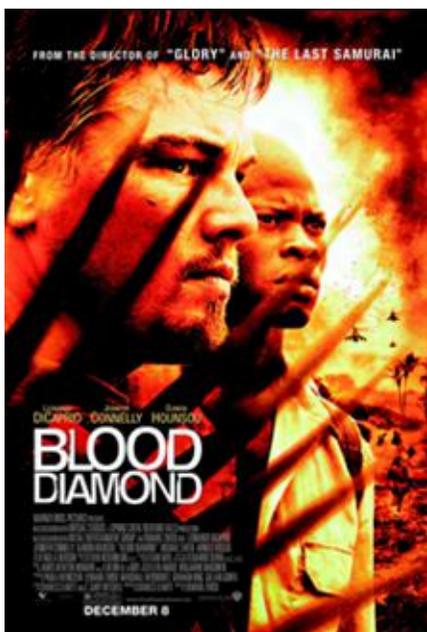
Back in the late 1990's, I was turned on to a tiny little biotech start-up from Oregon then known as AVI Biopharma. *Generally* speaking, I love biotechs as much as small resource explorers: both sectors—if you bet on the right horse—can and have produced the biggest winners you'll ever have as an investor. And—in part due to some of my own family experiences—I have taken a keen interest at times in several different stories in a sector that is as exciting as ever. After all, we have slowly but surely been moving from better treatments for various maladies...to better and earlier diagnoses...to potential cures. **Indeed, one of my favorite companies right now is approaching a functional cure for Type One diabetes**; we've already locked in SEVEN-FOLD gains on this one and are *keeping* a position in it to boot presently.

But back to AVI: as you see in the nearby chart, this has been a volatile equity over the years, affording us multiple big opportunities—most of which we have seized on—to trade in and then back out. Though it doesn't look as dramatic on the chart, the BIG event happened in late 2012: **and that was when the company's drug trial was**



shown to have essentially *fooled* the body of sufferers of Duchenne Muscular Dystrophy into *producing dystrophin*. We had but months before got back into the company—recently renamed Sarepta Therapeutics (NASD-SRPT)—at around \$2.00/share. It didn't take long after the breakthrough for shares to soar to \$60.00 each.

Today Sarepta is an elite biotech with a market cap of nearly \$10 billion. And—accounting for our several well-timed trades into these shares over the years—it has two distinctions for our Members at *The National Investor*. First, it's my Number One all-time winner. And secondly, the gains here over time have been so large—cumulatively, into the quintuple digits—that one who has followed my advice on Sarepta over time has enjoyed gains there larger than the total of ALL my speculative *losers* over that same time *combined*!



Hollywood comes up with good investment themes now and then with its movie output. Perhaps you remember *Blood Diamond*. This 2006 movie starring Leonardo DiCaprio and others dramatized a real-world crisis in developing Africa that had been on some of our minds already for several years: the illicit trade in diamonds which exploited children, funded murders *and genocide* and more.

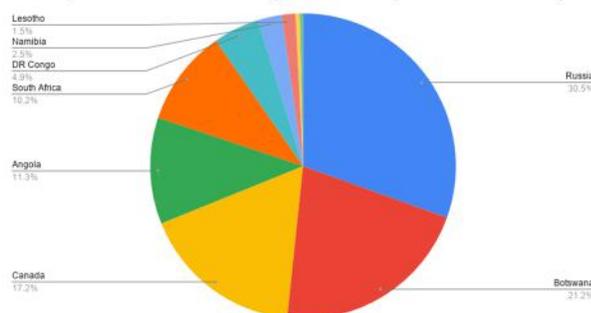
**Not many years before, it became evident that Canada might have a bright future in the diamond mining business.** Through to the end of the 20<sup>th</sup> century, the country was not a player on the global diamond stage: Russia and Africa were the two most significant leaders. But the issue of “conflict diamonds” combined with several discoveries in the Canadian Arctic and “mainland” areas alike vaulted the country into the

modern diamond business; taking the country's production from basically nothing to—in 20 years—making it the third biggest producer of mined diamonds globally.

I was fortunate to get our Members in on the ground floor of one major exploration story early in this move: one which eventually saw two companies—the former Shore Gold, Inc. and Kensington Resources, respectively—combined. The area they discovered the world's largest diamond-bearing kimberlites in is in central Saskatchewan. As time revealed larger and better-quality stones than had been thought to exist there, our roughly 8 cents/share investment in these two companies grew over a few years to around \$5.00, where we sold the majority of our stake. *That put this story in our Top Ten of all time, augmented by a couple later trades in and then back out of the shares of the company now known as Star Diamond.*

I could go on...but feel it appropriate to stress here before getting to several of my present story stock recommendations that a **HUGE theme unfolding right now is this same “sourcing” issue: not just for diamonds, but for all manner of metals and minerals.** Though today's “wokeness” and the push to make everything “green” remains VERY ill-informed, poorly thought out and the rest, there is no denying that as a part of what's coming there **MUST** be addressed the past/present exploitation of

Top Diamond Producing Countries (in million carats)



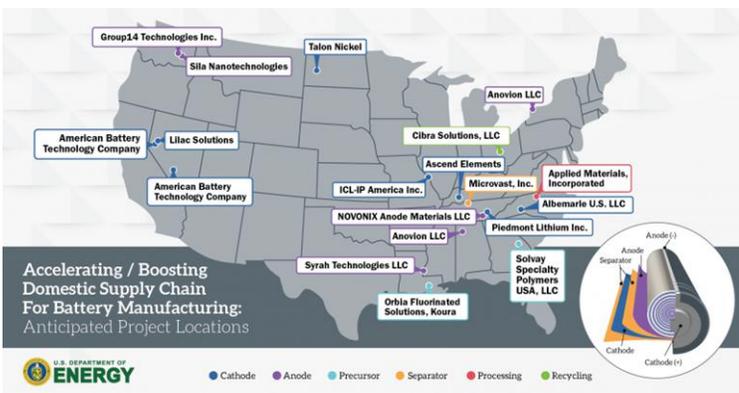


developing nations/developing world labor, lax environmental standards and more in places where many items continue to be mined so YOU can have a smart phone, E.V. or what-have-you.

The pushback especially against a LOT of lingering hypocrisy on the part of Western nations that STILL exploit the Third World is getting increasingly called out. *Just* as I am editing this issue for release, for example, Italy's new Prime Minister Giorgia Meloni has *deliciously* called out France on this subject; see <https://twitter.com/DylanLeClair/status/1593793325659815936>. What I in this context have long called "The New Imperialism" (my second most-notable signature essay going back MANY years, after the monetary-themed "Understanding the Game") is on its way out.

So going forward, realize that moves away from this kind of exploitation will have HUGE ramifications: on the much higher resulting cost for all manner of raw materials, **as well as for investors who follow the trail of policies/events and get into the right places ahead of things.**

Elsewhere in *The National Investor*, I recently added back one company (profiled in my newest Precious metals-related Special Issue) whose nearly entire production of copper, nickel and more is purchased by Samsung. That key electronic device maker was one of the first several years ago that moved on this "sourcing" issue: they want to be able to tell shareholders and others that the metals in *their* phones and devices come from modern mines, whose companies employ people at good wages, and with modern environmental safeguards, etc.



Beyond the human element, there are also entire swaths of global production of some metals that are going to be shut off or shunned, especially in the European Union thanks to their especially stringent sourcing standards when it comes to the carbon footprint of metals production. This and *many* aspects of the attempts to "green" the world, locally source supplies, etc., are *actionable*. Here, too, we have our Members out in front on this, in part via a few especially compelling exploration stories in the U.S. and Canada. ***Have I whetted your appetite with ALL this enough yet? Good. Then let's move on...***

# THE NEXT GENERATION OF BREAST CANCER DETECTION - IZOTROPIC CORP. (CSE-IZO; OTCQB-IZOZF)



**IZOTROPIC OVERVIEW**  
The only publicly traded company commercializing a dedicated breast CT imaging platform, IzoView, for the more accurate detection and diagnosis of breast cancers.

<b>BREAST CT EVOLUTION</b> <ul style="list-style-type: none"><li>\$20M spent on R&amp;D to date via government grants</li><li>Performing prototypes and ongoing clinical trials</li><li>Published journal articles</li><li>Proprietary AI software</li></ul>	<b>GROWING MARKET</b> <ul style="list-style-type: none"><li>Breast imaging market growing from \$3.7B to \$5.4B by 2025</li><li>Imaging and diagnostic procedure costs after screening mammography in the US is over \$8B/year</li></ul>	<b>REGULATORY</b> <ul style="list-style-type: none"><li>Patient and payor demand for new technology</li><li>US FDA pre-submission meeting completed in Q4 2020</li><li>Engaging additional jurisdictions</li></ul>
<b>PLATFORM SYSTEM</b> <ul style="list-style-type: none"><li>Multiple indications for use underway and planned</li><li>Accessory products</li><li>Screening, diagnostic, treatment capabilities</li></ul>	<b>MARKET ADOPTION</b> <ul style="list-style-type: none"><li>Insurance payor discussions initiated and ongoing</li><li>Targeted advocacy groups</li><li>Engaging US hospitals for clinical study</li></ul>	<b>CORPORATE</b> <ul style="list-style-type: none"><li>43M shares issued</li><li>\$43M market capitalization</li><li>\$5.7M CAD raised Q4 2020</li><li>IzoView fabrication has begun and initial device build begins in Q4 2021</li></ul>

CSE: IZO OTCQB: IZOZF BREAST CT IMAGING - 2

Breast cancer is a scourge that has claimed too many lives—including my mother’s at too early an age—over the years. Among the reasons for this cancer claiming so many is that the regimen of recent years to detect breast cancer has 1. Been far from perfect in detecting cancer early and 2. Been quite off-putting to millions of women.

**But Izotropic’s disruptive, state-of-the-art technology could make the hated mammogram obsolete.** Its CT imaging

technology for the earlier detection and diagnosis of breast cancers has shown in early studies that it may be able to routinely detect small breast tumors in just the 3-5 mm size range. *The median size of breast cancer found using current mammography is approximately 11 mm.* Routine detection of 3 mm lesions would result in 1.5 year earlier detection over mammography; and that extra 18 months or so could spell the difference between saving a woman’s life in the end...or losing it.

Best of all, as you can glean more information on (with other things) at the company’s web site at <https://izocorp.com/>, **Izotropic’s IzoView Breast CT system would do away with the uncomfortable and somewhat archaic mammography regimen many women loathe.** Indeed, one reason why some women do not discover until cancer is well advanced that they have it is due to procrastination as a first matter: it’s not a pleasant experience to have equipment and a practitioner’s hands alike compressing breasts and more in a lengthy, off-putting process. Further, the IzoView Breast CT system would be far more efficient in detecting breast cancer earlier *and* in eliminating “false positives” (and the needless, immune system-destroying treatments that can follow.)

As I have come to know and get closer to Izotropic and its cutting-edge technology for a while now, one of the key attributes of the company that gives me confidence is *the people*. And I don’t say this to give C.E.O. Dr. John McGraw short shrift; you’ll see at <https://izocorp.com/investors/management/> that he has a couple BIG wins under his belt already, in shepherding other companies to big eventual buyouts. But as you will *also* see at that page and at <https://izocorp.com/investors/advisors/>, Izotropic sports a Who’s Who of the biggest names in breast cancer research, treatment and more.

The research and team is anchored by Dr, John Boone, a Director of Izotropic and Principal Founder of Breast CT research at the University of California-Davis Medical Center. Four successive prototypes of this system have been



**5TH GENERATION DEVICE**  
First device for commercialization

Proof of Concept Units by Dr. John M. Boone at UC Davis

- Four successive laboratory prototypes
- Over 600 patients imaged in a clinical study validating the technology
- Second ongoing clinical study with 400 patients underway

IzoView for Commercialization by Izotropic

- 5th unit under development with latest hardware and software



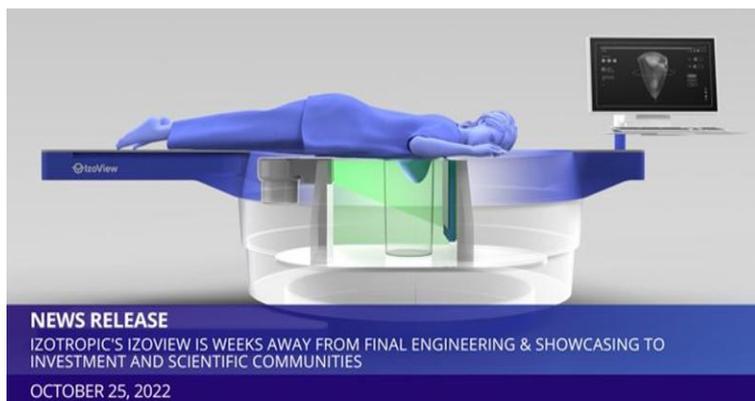
CSE: IZO OTCQB: IZOZF BREAST CT IMAGING - 3

overseen by Dr. Boone; the fifth—intended for commercialization—improves further still on the clinical utility and image performance than its predecessor. *Izotropic holds the rights to this breast CT technology under its exclusive global License Agreement with The Regents of the University of California.*

To date, according to the company, more than \$25 million has been invested across all aspects of the breast CT system, with the majority of this capital on R&D and clinical studies at U.C.-Davis, funded primarily by the National Institutes of Health. Izotropic has additionally made specific investments to further the process to bring IzoView eventually to market; but along the way over the last two years has had to grapple with COVID delays (a very common thing especially for medical research companies; much activity not deemed “essential” was delayed for some time.)

Additionally—and as another consequence of COVID restrictions on both travel and the procurement of some parts and supplies—the company realized its disparate locations were hindering things, especially as it looked some months ago as if things would loosen up more. So Izotropic made the decision (see <https://izocorp.com/news-releases/izotropic-finalizes-engineering-and-development-transition-to-the-united-states-establishes-operations-in-primary-target-market/>) to **move substantially all of its operations to California**. As I see it, this was the last major (and needed) operational decision on Izotropic’s part necessary to lead to a functional IzoView unit for clinical trial; as Dr. McGraw said, “The decision to transition IzoView R&D and supply chain efforts to California now creates an environment for frequent, in-person access to key medical, technical, and manufacturing partners while better managing supply chain dynamics and operational oversight. Additional benefits include mitigation of cross-border travel and critical component delivery risks and the opportunity for greater interaction with our industry peers at US-based hospitals and clinics.”

In late October (see <https://izocorp.com/news-releases/izotropics-izoview-is-weeks-away-from-final-engineering-showcasing-to-investment-and-scientific-communities/>) the company announced it



was **on the threshold of unveiling a fully functional IzoView system**. Augmenting the system’s likely utility, as you’ll read, is that Izotropic has also enlisted the help of Johns Hopkins University’s School of Medicine to provide the best imaging software/protocols.

As with other of my “story stocks” under recommendation (and some past ones I shared with you earlier), **Izotropic is pretty much first at-bat in its field where the old adage “Find a Need and Fill It” is concerned**. A short

time back, the World Health Organization announced that, globally, breast cancer has overtaken lung cancer as *the* most commonly-occurring form of cancer in the world, ending a two-decade run for lung cancer. **This ignominious statistic has added to the impetus favoring Izotropic**, as prospective patients, their advocacy groups, cancer centers and more *all* realize the game-and *life*-changing potential here with IzoView. After all, when the prospect of replacing current mammography, et al might be replaced by a procedure *a mere 10 seconds long* which generates approximately 500 images *without* painful breast compression or continual technician breast handling, what’s not to like: for patients, their care givers, insurers and everyone else?

Though investment markets have largely yawned at this and so many good stories amid the doldrums of recent months, Izotropic's bona fides have been making the rounds where it counts business- and research-wise. From my latest discussions with Dr. McGraw, I suspect they will have NO trouble come late winter/early spring 2023, once they are ready, to come up with hosts for their clinical, patient trials.



In addition to U.C.-Davis and Johns Hopkins, Izotropic is also in the sights of the likes of Harvard Medical School. This, by virtue of, a year and a half ago, that school's Dr. Tao Wu being added to IZO's Advisory Board. It's notable that Dr. Wu was one of the pioneers in Digital Breast Tomosynthesis (DBT) there and was later involved in the development and commercialization of DBT and Full Field Digital Mammography (FFDM) products. ***That Dr. Wu is now on board actively with a company whose better technology is likely to supersede that which he worked on and brought to market previously himself says a lot!***

With COVID delays, equipment and supply chain woes and other hindrances seemingly in the rear view mirror, Izotropic is looking at the great chance of a breakthrough year ahead in 2023. In addition to the coming patient trials, Dr. McGraw tells me that myriad discussions are being had with all manner of potential business, medical facility and financial partners/enablers. It all sounds like an incredible risk/reward proposition for a company with a miniscule market cap recently of about C\$40 million (US\$30 million) recently.

This past Spring, at our Chicagoland investment conference, Dr. McGraw gave an overview—and aspirations—of the company at <https://www.youtube.com/watch?v=ickt6h2hS8I&t=15s>. *Check it out!*

## ***REPURPOSING DRUGS FOR NEW NEEDS--ALGERNON PHARMACEUTICALS, INC. (CSE-AGN; OTCQB-AGNPF)***

I first was introduced to Algernon roughly a year ago. When I was, the lead “theme” seemed to be that the company was a relevant up-and-comer in the psychedelics space which—I must confess—conjured up images of the 1960's for me! But as I came to learn more, I likened my new “homework task” on this subject to when I first took a deeper dive into the cannabis space several years back when the latter became a big deal in both science and for investors.

At the Money Show in Orlando once when the cannabis space exploded onto the scene and that event sought to showcase stories to help augment folks' knowledge, I was enthralled in listening to one particular medical doctor speak on the potential for certain compounds of the marijuana plant to be next-generation *and better* treatments for a host of things. **The gist of the story was that our bodies are loaded with cannabinoid receptors.** And I'm here to tell you that I have *personally* benefitted immensely from cannabis-related therapeutics that did a better and safer job in dealing with some ailments that NOTHING else did as well.

Natasha Loder, Health-policy editor for *The Economist*, just wrote (in an item dated November 18; see <https://www.economist.com/the-world-ahead/2022/11/18/psychedelic-medicines-are-expanding-into-the-public-consciousness>), of how psychedelic medicines/substances are now also catching on more. As such things by their nature create fairly profound and quick changes in brain activity and the like, they—in a controlled dosage, application, etc.—are being looked at for post-traumatic stress (as one psychedelic Loder wrote of going through trials) and more. The excitement over the potential of more, newer and better substances than such psychedelics and prodrug derivatives already in use (think codeine, morphine, and the like) is increasing

**Algernon is Advancing 3 Drugs**

- NP-120 (Ifenprodil): Idiopathic Pulmonary Fibrosis /w Cough  
*Repurposed*
- AP-188 (DMT): Psychedelic Drug – Stroke  
*Naturally Occurring*
- NP-251 (Repirinast): – Chronic Kidney Disease  
*Repurposed*

ALGERNON PHARMACEUTICALS

**One of Algernon’s three main drugs it is advancing is N,N-Dimethyltryptamine, or simply DMT.** While neither DMT or any derivative has ever been in official use, its psychedelic properties have been in use for centuries: reportedly, among others, as traditional spiritual “medicines” in some cultures in the Amazon basin (DMT occurs naturally in some plants there.)

Able to be synthesized in a lab setting as is the case with other natural substances, DMT is being looked at by

Algernon **for its potential to treat stroke at a non-psychedelic dose.** Lab testing has shown that neurons exposed to DMT grow *and make new connections* — a phenomenon known as neuroplasticity — and all of the growth that occurs in the neurons creates new opportunities for synapses, where brain cells can communicate with each other. Says C.E.O. and Director Christopher Moreau, “We’re trying to see if it will help heal the brain after stroke and we’re doing it without giving people the psychedelic experience.”

As I’ve come to understand this better, I am excited at this potential breakthrough. Nothing to date does what DMT has thus far done in animal experiments: “aiding and abetting” the body’s own process of post-stroke repair and leaving the subject far closer to “normal.” If DMT can do in human trials what it’s done so far in preclinical studies and with animals, this would be a game changer for a global stroke treatment market forecast to reach \$15 billion by 2027.

In mid-September, Algernon announced (see <https://ir.algernonpharmaceuticals.com/news-events/press-releases/detail/163/algernon-pharmaceuticals-receives-approval-for>) that it has received approval in the Netherlands for a Phase 1 study of an intravenously-delivered formulation of their AP-188 version of DMT. **Just as this report is being released, AGN reported that the first potential patients/subjects are now being screened;** see <https://ir.algernonpharmaceuticals.com/news-events/press-releases/detail/168/algernon-pharmaceuticals-screens-first-subject-in-phase-1>.

To learn a LOT more (and in layman’s terms, as host Cyndi Edwards asked) I encourage you to watch <https://www.youtube.com/watch?v=G48IvRkHNLE>. This is a recording from a *Streetwise Live!* segment earlier this year where Dr. David Nutt, Dr. Rick Strassman and C.E.O. Moreau were interviewed on the science behind DMT’s planned use for stroke recovery.

**DMT STROKE PROGRAM EXPERTS**

Dr. David Nutt DM, FRCP, FRCPsych, FSB, FMedSci  
Imperial College London

Dr. Rick Strassman MD  
Author of the book: DMT: The Spirit Molecule (2001)  
NYU SCHOOL OF MEDICINE

Recently sweetening things for the company’s DMT plans—and lending considerable clinical and public relations heft—was a deal announced in late October with Yale University for a different use of DMT (see <https://ir.algernonpharmaceuticals.com/news-events/press-releases/detail/167/algernon-pharmaceuticals-enters-into-a-clinical-trial>.) **This will further a Phase Two study for DMT’s efficacy for depression.** As Moreau explained to me following the news, Yale was unable to get any DMT (a very tightly-controlled Schedule 1 substance) for its studies; so it reached out to Algernon, which had a DMT supply and already has a patent application in process for a depression application for a new form of DMT which would cover multiple uses in addition to stroke, and will get all the data from Yale for its own uses.

BUSINESS MODEL

**DRUG REPURPOSING: CASE STUDIES**



COMPANY	DRUG	OLD INDICATION	NEW INDICATION	NOTES
BIOGEN	Tecfidera	Psoriasis	Multiple sclerosis	<ul style="list-style-type: none"> <li>1 Drug Only Approved in Germany (50 yrs)</li> <li>2 Blockbuster (&gt;US\$1B in Sales)</li> </ul>
CELGENE	Thalidomide	Morning sickness	Cancer	<ul style="list-style-type: none"> <li>1 Drug was Withdrawn from the Market</li> <li>2 Blockbuster (&gt;US\$1B in Sales)</li> <li>3 Purchased EntereMed’s Thalidomide Analogues</li> </ul>

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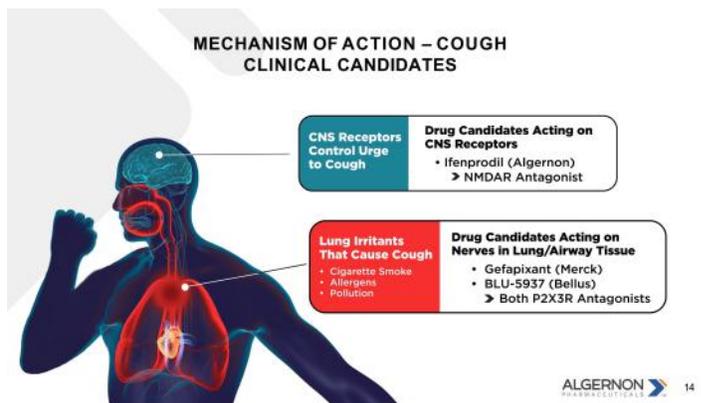
ALGERNON PHARMACEUTICALS 11

Elsewhere, Algernon hopes to further distinguish itself as a **drug “repurposing” company.** Often, biotechs and other established pharma companies are able to find drugs previously designed and marketed for one malady *that work also at something else.* A couple higher-profile examples are at left.

As Moreau has pointed out, “Leveraging the history of a drug and leveraging its safety data is what drug repurposing is about. The

complexity on the other end comes from having to file *new* patent applications for the drug and protecting your *new* intellectual property.” (*Emphasis added.*) Ideally, researchers who know what they’re doing find a drug that is off its original patent, do the necessary work to indicate a new, unmet need the same drug could fill and then file to protect that new use. *The advantages here is that the typical trial time and expense are cut WAY down, as the safety has already been established (what Phase One studies are generally for.)*

**Here, Algernon’s premiere story is *Ifenprodil*, for the potential treatment of idiopathic pulmonary fibrosis (“IPF”) and chronic cough.** IPF, an orphan disease, is a type of chronic lung condition characterized by a progressive and irreversible decline in lung function and scarring (fibrosis) of the lungs. There is no cure for IPF; and there are currently no procedures or medications that can remove the scarring from the lungs.



Phase 2a trial results released on September 1 (see <https://ir.algernonpharmaceuticals.com/news-events/press-releases/detail/161/algernon-pharmaceuticals-reports-positive-results-from-full>) were encouraging, suggesting *Ifenprodil*—*formerly a Sanofi drug to treat vertigo*—could treat IPF meaningfully. Also, *Ifenprodil* showed positive data for the treatment of chronic cough, a subset of IPF patients. **Here again, in my layman’s terms, *Ifenprodil* shows that it can essentially interrupt the signals back and forth from lungs to brain, preventing coughing.** Chronic cough is generally what is known as non-productive and so stopping it can

be a game changer for patients. Algenron, less than three weeks after this news, filed with the U.S. F.D.A. for Orphan drug designation for its Ifenprodil; said Moreau, “The outlook for patients with IPF remains dismal, with 50% mortality expected within 3-4 years, and so new treatments are desperately needed...”



Among a few other drug candidates “in the bull pen,” *Repirinast* is another intriguing repurposing story. **An ex-Mitsubishi drug for asthma/allergies, Algenron’s lead scientist in this area sees a potential application for chronic kidney disease with this same drug.** Early work suggests that swelling, fibrosis and high blood pressure for those with CKD could be materially lessened. *The company is targeting the*

*back half of next year to begin Phase One trials.*

Here again with Algenron, we have a potentially HUGELY disruptive company selling for peanuts in this market; a market cap of but C\$6 million or so (or around US\$4.4 million) recently. Notably, there are only about 2.4 million shares outstanding; almost 3.7 million on a fully-diluted basis if all the outstanding options and warrants were exercised. *Especially* in such a dour market for micro-caps as we’ve seen most of 2022, trading volume is thin and has at times moved the stock big-time one way or another. *So if you determine to buy some, be sure to use a limit order.*

Before small cap stocks—and especially most biotechs—were sold wholesale in recent months, Algenron had been preparing to get listed on the Nasdaq (and I’m told has already been “provisionally” accepted, once the company is able to get its share price and finances bolstered a bit more again.) And as with Izotropic, all the foregoing—if positive results come especially from DMT and *Ifenprodil* or both—could make 2023 a “career year” thus far for Algenron.

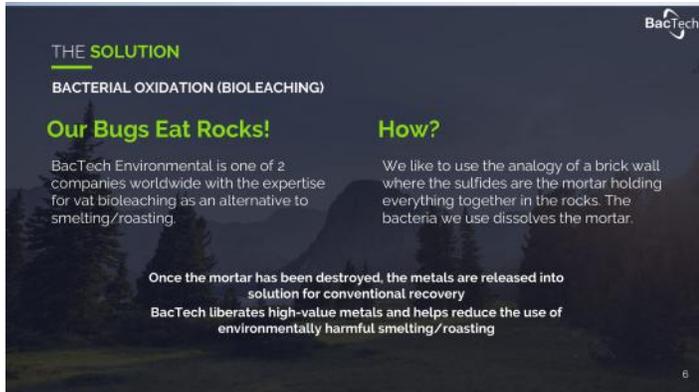
For a recent GREAT overview of Algenron, check out <https://www.bnnbloomberg.ca/in-a-sector-ripe-for-revival-algenron-s-development-pipeline-positions-it-well-1.1837631>.

## ***“GREEN MINING” COMPANY REACHING CRITICAL MASS BACTECH ENVIRONMENTAL (CSE-BAC; OTCQB-BCCEF)***

BacTech checks a number of boxes that I described earlier as to themes you want to look for in the years ahead; among them:

- \* **Gold** recovery
- \* Future *additional* **New FAANGs**-related materials recovery (rare earths, nickel, etc.)
- \* **Environmental remediation** and improvement
- \* Treating **developing nations** and their citizens/workers properly

BacTech is a company and technology that Yours truly has covered for *a lot* of years. Over the recent few years (in part, getting some of our Members into a Reg-A offering the company did a while back at a fraction of the current *still-tiny* price) I'm proud to say I have had the opportunity to help move the company along. *That also includes BacTech settling on Ecuador as their "breakout" jurisdiction; with—I am confident—others to come in the future.*



**The company's claim to fame is as an originator of a proprietary process that uses naturally-occurring bacteria to remove valuable gold and other metals from troublesome, arsenic-laden ores.** First attempted in modern times in South Africa back in the mid-1980's, there have been sporadic times and locations since where this *bioleaching* was tried out. For all those years, though, it has never "taken" in a big way: there was relatively little concern yet for the environment and—not

compelled by either public opinion or economics to do so—mining companies were going to stick with their typical routines and not *add* to expenses, in some cases, by being more fastidious in the ways in which they disposed of tailings, etc.

But times have changed in numerous ways which is bringing this kind of technology some belated respect. And especially in areas of the developing world such as Ecuador—where there have been *current* mining methods that have been troublesome, harmful to the environment *and endangering lives*—BacTech's time has come.

As with many other small developing countries, Ecuador has an industry with small-scale and even subsistence mining. Oftentimes families and their children (as well as small, relatively more sophisticated companies) mine the richest, most accessible ore; chiefly, in Ecuador's case, **gold-bearing**. Recovery is a different matter: lax controls, the modern-day use of mercury and other overall primitive methods have harmed health and the environment alike in many cases.

**BacTech's bioleaching process is able to eat away and—THIS IS KEY—render inert and essentially harmless arsenic that holds the gold in ore in the typical case.** As C.E.O. Ross Orr has liked to describe it, as "their bugs eat rocks" they chew through and oxidize arsenic and other sulfides, akin to dissolving mortar holding bricks together. The "mortar" dissolved in this case, gold is now liberated.

While such troublesome ores are in many countries—and past mining waste in much of the developed world, including the U.S. and Canada—a perfect storm of factors has come together to make Ecuador the launching pad for the company's process and, as things now appear, for its first bioleaching/gold recovery plant to be built *within months*.



Together with the environmental and human interest/health issues, **miners had previously been relegated to selling their arsenic-laden ores to Chinese importers at a very low-ball price.** By dealing with BacTech—which has forged alliances as necessary in the country and especially in the active area in the southern part of the country that contains small miners and is *very* mining-friendly—*everyone* is going to be better off.

**And that includes the Ecuadorian government,** which has gone to great lengths anew under President Guillermo Lasso to make the country (whose poverty rate in the wake of being especially hard-hit by the Wuhan Virus pandemic is back to about *a third* of the population) on both the environmental cleanup and pro-business fronts!

**TENGUEL PROJECT**

BacTech is working to construct an owner operated **50 TPD** toll processing bioleach facility in Tenguel, Ecuador

This project is at an advanced stage an expected to begin construction as soon as **Q1 2023**

**PROJECT MILESTONES**

- ✓ Bioleach Test Work
- ✓ Bankable Feasibility Study
- ✓ Land Acquisition
- ✓ Construction Permit Granted

Detailed Engineering Ongoing-85%  
 Financing Discussions Ongoing  
 Environmental Permitting Ongoing with EIS granted Oct 3, 2022-1 permit left

**Assumptions**  
 Gold \$1,798  
 Silver \$18

ANNUAL GOLD PRODUCTION	30,981 Ounces
CAPITAL COST	US\$17M
OPERATING COST	US\$232 per ton
PURCHASE PRICE OF FEEDSTOCK	65% of Contained Gold Value
AFTER-TAX NPV 5%	US\$75.4M
AFTER-TAX PAYBACK	2.95 Years
ANNUAL REVENUE	US\$56,462,598

Primary Ore: Arsenopyrite  
 Metals Recovered: Gold | Silver

Further vindicating its technology, business model and prior discussions with local miners and government officials alike, BacTech announced back in February an update to an *already-robust Bankable Feasibility Study (BFS)* released a short time prior. The details are at <https://bactechgreen.com/press-release/bactech-announces-significant-economic-updates-to-bankable-feasibility-study-results-for-ecuador-project/>; **read and digest them, and understand—as do**

**some of the rest of us already—what mind-blowingly strong economics are to be had here.** And as I have been pointing out with other company examples in this issue, when you look at the expected numbers from the first plant planned for the Ponce Enriquez, Ecuador area and measure them against a company with a market cap recently of about C\$10.5 million (US\$7.8 million or so) this is a no-brainer.

**An Ecuadorian government wanting solid, long-term business that both employs its citizens (and at some of the highest wages in the country in this case, including the publicly-mandated profit sharing) and cleans up the environment sees this as a no-brainer itself.** Back in May, BacTech and the national government signed an Investment Protection Agreement (IPA); at right, BAC's Bernie Brito (at right) is with Ecuador's Minister of Production, Foreign Trade and Investment Julio Jose Prado inking this deal. The details are at



<https://bactechgreen.com/press-release/bactech-environmental-agreement-signing-with-government-of-ecuador/>; but in short, it gives BacTech a 12-year income tax holiday, international arbitration rights for any future disputes, and coverage for both BacTech's prior and forthcoming investment commitments in Ecuador of up to US\$95.5 million in plant construction and gold production activity *through 2024*.

Orr and BacTech were thus rock stars of sorts at Ecuador’s big mining industry gathering late this past summer (similar, for those of you who follow it, to Canada’s annual P.D.A.C. confab.) Among others there were Orr (third from left) Brito (farthest right) and Ecuador’s then-Minister of Mining Xavier Vera (on Orr’s left.) Soon after (see <https://bactechgreen.com/press-release/bactech-receives-environmental-impact-study-approval-from-ecuadors-ministry-of-environment-water-and-ecological-transition/>) BAC was able to announce that the government had given them one more of the final pieces to the puzzle, so to speak: **the government’s approval of its E.I.S.** (Environmental Impact Study.) That sets up the final “community consultation stage” of the permitting process before actual construction (for which the permits are already in hand) can commence. The company will give presentations, hold town halls, and reply to questions from residents. But as both Orr and I expressed in a recent article (at <https://www.streetwisereports.com/article/2022/09/08/green-tech-co-s-permit-would-benefit-farmers-investors.html>) that should go quite well.

**The company has other irons in the fire that could one day see its process used in myriad other locales.** Among other things, it has opened a pilot facility to recover nickel, cobalt, iron, and a geopolymers product from pyrrhotite concentrates produced *over the last century* in Ontario. Rare earth element recoveries are also being experimented with. Those are stories for another day (but—among lots of other goodies—covered at <https://bactechgreen.com/>.)

**WHY INVEST NOW?**

MARKET POSITION	ECONOMICS	MILESTONES
<ul style="list-style-type: none"> <li>One of 2 companies worldwide with the expertise for vat leach bio-oxidation</li> <li>Focused on high-arsenic gold concentrates produced by artisanal &amp; small miners</li> <li>Environmentally friendly process</li> </ul>	<ul style="list-style-type: none"> <li>EBITDA margin over -30%</li> <li>Low capex to EBITDA ratio</li> <li>-US\$60M annual revenue generated from US\$17M plant cost</li> <li>Internal Rate of Return of 57.9%</li> </ul>	<ul style="list-style-type: none"> <li>Bioreach test work complete</li> <li>Bankable Feasibility Study complete</li> <li>Construction permit granted</li> <li>EIS approval granted</li> </ul>

Here again, 2023 appears to be a breakout year potentially for BacTech. Among other things, as Orr *just* mentioned in an update (for more, see <https://bactechgreen.com/press-release/bactech-environmental-provides-project-update-on-tenguel-ponce-enriquez-plant-development/>) discussions/negotiations are ongoing with *several* potential project financing partners. If something comes to fruition sooner rather than later, we could see construction commence within not many months’ time. *And then it should be off to the races.*

This multifaceted thematic story—and one with *killer* economics undergirding it—should be on your radar. Watch <https://drive.google.com/file/d/1br-eKIDLL4KdprxZxj2kFCWuG6xXBodz/view> for a presentation Orr just gave to the Money Show’s Accredited Investor Expo.

## ***ELECTRIC BOAT MAKER GARNERING MORE ATTENTION; AND BUSINESS -- VISION MARINE CORP. (NASD-VMAR)***

Though it has some of the same challenges as electric cars/trucks do (supply chains, resources, trained people to repair, etc.) the nascent industry for **electric boats** has already left the starting gate. For several years now, recreational boat rental operations in many parts of the U.S. have offered battery-powered boats; most of these of the smaller/slower variety which are powered by little more than a glorified trolling motor for the most part. It’s been a start: and the demand for this way of enjoying the water in a more climate-conscious fashion



But more recently, larger, performance-oriented boats and motors have started making some headway. Fairly quickly, the key players of the future are jockeying for position: *and an early leader is Quebec, Canada-domiciled Vision Marine.*

Having heard of the company a while prior, I was invited to meet with them early this year and "kick the propeller" and such at the HUGE Miami International Boat Show (where, at left, you see the company's Bruce Nurse explaining the workings of Vision's E-Motion™ 180E big electric outboard motor.) Later, I was able to get a taste of this unit's performance and watch the sophisticated software, etc., in action also on a pontoon boat outfitted with VMAR's motor and drive system. *I was floored.* And I was further heartened after I had arrived home and picked up my own conventional bass boat from my mechanic who had serviced it. *It turns out he had some intimate familiarity with VMAR and was himself already a shareholder.*

Seeing first hand the interest in Vision's offerings in Miami (and following similar events elsewhere) undergirds the thesis that this industry is going to experience rapid growth. Indeed, at <https://investors.visionmarinetechologies.com/electric-boat-market-to-reach-16-6-billion-globally-by-2031-at-12-9-cagr-allied-market-research/>, the company on its own web site highlights research suggesting about 13% annual compounded growth in its industry, to \$16 billion-plus by 2031. And as with electric vehicles, this will come as technology improves, costs that are currently higher (than for a boat powered by conventional gas-burning engines) come down, etc. And as was very evident in Miami, there are a LOT of consumers/vacationers who want to be able to report once back home that on *their* vacation *they* were "green" in renting an electric boat. Indeed, VMAR has one revenue source here: its rental businesses which have of late been augmented in Florida; see <https://visionmarinetechologies.com/electric-boat-rental-operation-flourishing/>.

MISSION STATEMENT

**Electrifying Waterways worldwide**

Vision Marine's mission is to provide a sustainable and cost-effective alternative to internal combustion engine ("ICE") powertrains, in an industry that has seen little technological innovation in 100 years.

We offer our fully electric, purpose built, high performance 180 hp proprietary E-Motion™ outboard powertrain system.

VISION MARINE TECHNOLOGIES INC. (NASDAQ LISTED)

As you'll learn from some past news and other content from Vision Marine's web site (at <https://visionmarinetechologies.com/>) the company has enlisted numerous research and engineering partners to—piece by piece—perfect the company's E-Motion™ E180 outboard and system. I was fortunate to have a couple different, in-depth conversations with VMAR personnel in Miami and (bolstered somewhat by my own experiences as a boat owner over the years) understand—much as with the challenges *and opportunities* that the E.V. makers have dealt with—what improvements are necessary *and coming*.

***But again—as alluded to above—I was floored by the boat I took a test drive on!***

VISION MARINE AT A GLANCE

### Disrupting the Traditional Boating Market

THE ONLY SCALED PRODUCTION READY, HIGH PERFORMANCE ELECTRIC OUTBOARD FOR WATERCRAFT

- Product Performance**  
The efficiency of our powertrain system enables our outboards to demonstrate significantly greater horsepower, torque as well as continuous power.
- OEM Production**  
OEM's can now become fully electric by incorporating our ground-breaking powertrain technology.
- Groupe Beneteau Partnership**  
Provides a defined path to revenue, commencing spring 2023. Our business model is repeatable and scalable.
- Superior Total Cost of Ownership and Carbon Footprint**  
Steep cost curve driven by technology improvements.
- Asset Light and Scalable Manufacturing**  
McLaren Engineering (Linamar) will fast forward commercial sales of our technology and eliminate the cost and time of building a factory, thus preserving our capital structure.

SELECT CUSTOMERS & PARTNERS

- GRUPE BENETEAU
- LINAMAR  
Power to Perform
- McLAREN  
Engineering
- octillion  
Electric Vehicle Solutions
- NOZGY  
POWER YOUR NEED

VISION MARINE TECHNOLOGIES INC. | VMAR NASDAQ LISTED

deliveries start by next spring; and a “back of the envelope” calculation as to what this means for an exponential increase in revenue to VMAR and, likely, its first meaningful net earnings ever has me licking my chops. (See <https://investors.visionmarinetechologies.com/2022/07/18/groupe-beneteau/> for more details.)

“We have always held Groupe Beneteau in high esteem and acknowledge the company’s long-standing mandate for leadership and excellence within the boating industry,” stated VMAR’s C.E.O. Alex Mongeon—who I caught up with again several weeks back—in announcing this *game-changing* news for his company. “We are honored to have the opportunity to power the Four Winns boat with our E-Motion™ 180E technology and look forward to a long-standing partnership with them. We continue to showcase our technology and rig the E-Motion™ powertrain on numerous third-party boats in order to formally move towards scaled production of our E-Motion™ technology for commercial usage.”

### COMPETITIVE ADVANTAGES



- Clean Technology and Massive Fuel Savings**  
First fully electric 180 hp integrated outboard system which offers unparalleled performance:
  - No expensive gasoline or dirty fossil fuels and no annual engine overhaul.
- Increased Efficiency and Power**  
Transmission and electric motor design greatly increase efficiency and power:
  - Offers exceptional speed and torque otherwise not available within the boating industry.
- Low Maintenance Cost**  
Electric outboard motor has few moving parts and requires marginal maintenance:
  - No oil to check.
  - No spark plugs to replace.
- Superior Range**  
Assuming normal usage, most consumers will be able to enjoy a full day of boating on a single full charge.
- Low Total Cost of Ownership**  
Strong and compelling comparison versus a traditional ICE outboard motor.
- Technological Advantage**  
Ongoing R&D efficiency will produce, in the near future, our next generation of ground-breaking powertrains.

VISION MARINE TECHNOLOGIES INC. | VMAR NASDAQ LISTED



A fitting exclamation point to VMAR’s ascendance *and ongoing aggressiveness* came in late August, when a specially-equipped catamaran *shattered* the previous speed record for an electric-powered boat. This effective, dramatic *and fun* endeavor was at the Lake of the Ozarks Shootout in Missouri where its craft on one run hit 104 mph, and the next day bested that

by hitting 109 mph (see [https://www.lakeexpo.com/boating/shootout/watch-vision-marines-electric-boat-charges-faster-to-record-crushing-109-mph-at-shootout/article\\_8fe55e88-26f7-11ed-bb42-17d49711bebc.html](https://www.lakeexpo.com/boating/shootout/watch-vision-marines-electric-boat-charges-faster-to-record-crushing-109-mph-at-shootout/article_8fe55e88-26f7-11ed-bb42-17d49711bebc.html) for some *really* neat local press coverage.) *And as you’ll read, this performance also highlights the company’s progress: more than doubling the speed mark of the prior year.*

KEY INVESTMENT HIGHLIGHTS



- ◆ **First Mover Advantage in the Rapidly Growing Global Electric Boat Propulsion Market**  
Estimated \$19+ billion TAM by 2032, growing at a CAGR of 12.9%, driven by tightening emissions standards requiring a zero emissions solution over the near term.
- ◆ **Clear Path to Revenue**  
Relationships with leading boat OEMs and partnership with Groupe Beneteau.
- ◆ **Asset-Light Manufacturing**  
Strategic partnerships with leading component and contract manufacturers include McLaren Engineering (a wholly owned subsidiary of Linamar Corp.), Groupe Beneteau, and Octillion Power Supply.
- ◆ **Proprietary Technology Platform**  
Strong Proprietary Intellectual Property Moat.
- ◆ **Superior Total Cost of Ownership (TCO) and Carbon Footprint**  
Vision Marine's E-Motion™ outboard delivers significant savings and zero carbon output throughout the life of the motor, as compared to an ICE.

VISION MARINE TECHNOLOGIES INC. VMAR NASDAQ LISTED

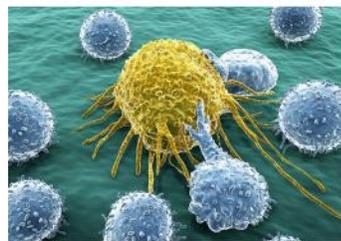
In just the last several weeks (see <https://investors.visionmarinetechologies.com/news/>) Vision has made other moves to expand its brand and businesses: from augmenting its rental footprint in both California and Florida, to a collaboration to manufacture marine batteries to—here’s a “green” one for you!—**manufacturing and selling boats made 100% from recycled materials.** Mongeon and his crew aren’t letting any grass grow under their feet!

Yet again, we have here an example of a unique, very disruptive company in its industry that represents an incredible opportunity. At a recent market cap of about \$40 million, VMAR is likely *within one-two years* to sport sufficient earnings on its present trajectory to give it a Price-earnings ration in the low single digits. Clearly, it would not remain a \$5/share or so stock in that event.

## **NEXT GENERATION OF CANCER FIGHTERS GT BIOPHARMA (NASDAQ-GTBP)**

Over the years I have recommended a fair number of health- and biotech research-related companies; second in sector representation only to natural resources. In the case of both, patience is often required: and as with the recent past when the COVID pandemic first-off and then broader bear market eroded the share prices of otherwise good companies, that’s been especially true.

### Natural Killer Cell Engagers to Fight Cancer



#### Natural Killer Cells

- Cytotoxic lymphocytes in the innate immune system
- Recognize and kill cancer cells
- Mediate antibody-dependent cellular cytotoxicity (ADCC) via the highly potent CD16 activating receptor

#### NK Cell Engagers

- TriKE® nanobody platform designed to activate endogenous NK cells to target specific cancer cells
- Potential for less toxicity than other cellular therapies such as CAR-T therapy
  - Less cytokine release syndrome (CRS)
  - Fewer neurological complications

© 2021 GT Biopharma. TriKE® nanobody platform designed to activate endogenous NK cells to target specific cancer cells. Approved 2 September 2021. www.gtbiopharma.com/clinical-trials/clinical-trials-at-a-glance

When I first recommended GT Biopharma last spring (March, 2021) it was due to **the company’s unique and potentially HUGELY disruptive science in fighting cancer.** At that same time, the company was garnering fresh analyst coverage...had just completed an up-listing to Nasdaq...and had been in the context of all this strongly recommended to me by a couple long-time colleagues, *one of whom is one of GTBP’s largest investors.* But after an initial big surge, GTBP’s share price went into a long erosion due to the above factors and a somewhat messy management upheaval late last year. Since then, Executive Chairman and present Interim C.E.O. Mike Breen has stepped in to right this ship; and is doing so successfully. *More on him and what’s ahead shortly.*



Along the way, of course, the science has not changed. **And that science for GT Biopharma is anchored by the work of the company’s Consulting Chief Scientific Officer Dr. Jeffrey S. Miller (left).** Dr. Miller

serves as well—among many other prestigious roles as you can read at <https://www.gtbiopharma.com/about/management-team>, where all the bios of GTBP’s main management team are located—on the faculty of the University of Minnesota as a Professor of Medicine. As you’ll see at <https://wherediscoverycreateshope.umn.edu/nkcells/> via a very encouraging, heart-warming story, this university truly has a heart for this work, **in the quest to turn the body’s NK cells (which stands for “natural killer”) into “serial killers” of cancer.**

### Advantage – Simultaneous Co-Stimulation of CD16 and IL-15

**TriKE® Competitive Differentiation**

- The anti-CD16 component of the TriKE binds FcγRIII with high affinity compared to ADCC mediated strategies that bind with low affinity.
- CD16 +/- other receptor engagement does not result in proliferation of T-cells contributing to CRS.
- IL-15 provides NK cell specific proliferation with less bystander activity and has a greater safety profile than cytokine therapy.
- TriKE can be targeted to heme malignancies, solid tumors and infectious diseases.

Partners: Innate Pharma, Affimed, Dragonfly Therapeutics, Fate Therapeutics, Sanofi, Nkarta Therapeutics.

A great overview and “lap” around GT Biopharma can be seen at GTBP’s page at <https://ir.gtbiopharma.com/presentations>. Among the wealth of information and infographics there on the company’s science and the like, especially scroll down and watch the 20-minute overview that Breen and GTBP’s Chief Clinical Development Officer Gavin Choy gave in mid-September to H.C. Wainwright’s 24<sup>th</sup> Annual Global Investment Conference. *If you have a background in this field, you’ll “get” all this.*

For novices like me—and using some of the copy on GT’s web site as well—let me try and simplify what, at its core, is the company’s scientific thesis as to why it believes its TriKEs/regimen could prove to be far more successful in fighting numerous forms of solid and hematological cancers alike. Simply put, most past efforts to stimulate the body’s own cancer-response system have in a way been overly productive. ***Specifically, too much stimulation of T-cells causes a toxic response in some cancer patients.*** This is why some regimens lead to follow-on medical problems for patients who become sick from things such as cytokine release syndrome (CRS).

But as GT Biopharma writes, “We believe our product candidates have the potential to overcome some of the limitations of CAR-T therapy and other antibody therapies. Unlike full-length tri-specific antibodies, TriKEs are small single-chain fusion proteins that bind the CD16 receptor of NK cells using nanobody technology, which has been shown in preclinical studies to produce a more potent and lasting response...”

What Dr. Miller especially drove home to some fellow analysts/advisers and I early last year at a meeting was **the way in which GTBP’s proprietary NK cell engager (TriKE™) protein biologic technology platform was able to turn those NK cells into “serial killers” of cancer.** Normally, NK cells are much more “one and done” cancer killers: joining themselves to a cancer cell and then self-destructing, killing both. With the TriKE™ platform, though, NK cells have killed many

### Investment Opportunity – Next Generation of NK Cell Engagers

<b>Proprietary TriKE® Platform – Camelid Nanobodies</b>	<ul style="list-style-type: none"> <li>• TriKE® platform creates tri-specific NK cells engagers targeting multiple tumor types</li> <li>• Camelid “nanobodies” – now known as “third generation antibodies”</li> <li>• Smallest known functional antibody fragment particularly well suited for cancer therapeutics</li> </ul>
<b>NK Cell Engagers – Safer than T Cells<sup>1</sup></b>	<ul style="list-style-type: none"> <li>• Harness the natural killing power of NK cells with protein therapeutics – NOT NK cell therapy</li> <li>• Induce activation of NK cells via CD16A and IL-15 while targeting well-known tumor antigens</li> <li>• Offers a potentially safer alternative to T-cell related immunotherapy without CRS &amp; neurotoxicity</li> </ul>
<b>POC Established and Broad Applicability</b>	<ul style="list-style-type: none"> <li>• GTB-3550 (targeting CD33) has shown POC data in Phase 1 with AML patients</li> <li>• GTB-3650 will supplant 3550 as 2<sup>nd</sup> generation TriKE with several advantages</li> <li>• TriKE’s targeting multiple tumor antigens including B7H3, HER2, CD33, PDL1</li> </ul>
<b>Multiple Catalysts</b>	<ul style="list-style-type: none"> <li>• 6+ pipeline assets in active preclinical development targeting both solid tumors and hematological malignancies</li> <li>• Multiple INDs expected in 2023</li> </ul>
<b>Well-funded Experienced Leadership</b>	<ul style="list-style-type: none"> <li>• Management team with deep expertise in all stages of oncology drug development</li> <li>• \$20.8 MM in cash provides runway into 2023</li> </ul>

of their enemies. And just as important—in Phase One trials of GTB 3550 over a year ago—this regimen generally avoided stimulating T-cells into an excess of action (*their* work/death in fighting cancer, if it gets too far along, is what leads to CRS.) *So in the end, as Choy details in the above-linked Wainwright presentation, (in part in recapping those Phase One results) patients in the trial showed measurable improvements/reductions in cancer present pretty much without those toxic CRS and related, typical side effects.*

I caught up with and spent quite a bit of time several weeks ago with Executive Chairman and Interim C.E.O. Breen; chiefly in order for our Members and I to get a road map into the next year. It was a productive *and needed* conversation, reaffirming in my mind that—though as many a biotech, we were presently hanging in there with a broken *stock*—GT Biopharma was by no means a broken *company*. My own confidence as a shareholder was bolstered anew, given Breen’s game plan as we discussed it for well over an hour.

### TriKE® Nanobody Pipeline

TriKE® Product Candidates	Approach	Target	Indication	Pre-Clinical	IND-Enabling/ GMP Manufacturing	Phase 1	Phase 2
GTB-3550*	Monotherapy	CD33	Leukemia – AML, MDS	██████████	██████████	██████████	
GTB-3650 2 <sup>nd</sup> Generation Camelid	Monotherapy	CD33	Leukemia – AML, MDS	██████████	██████████		
	Combination with Chemotherapy	CD33	Leukemia – AML, MDS	██████████			
GTB-5550	Monotherapy & Combination	B7H3	Solid Tumors	██████████			
GTB-6550	Monotherapy & Combination	HER2	Solid Tumors	██████████			
GTB-7550	Monotherapy & Combination	CD19	B-Cell Malignancies	██████████			
GTB-1050	Monotherapy & Combination		HIV	██████████			
Undisclosed Candidates	Monotherapy & Combination		Solid & Hematological Malignancies	██████████			

\* GTB-3550 supplanted by second generation nanobody GTB-3650



The company back on August 30 reaffirmed the timeline for taking its *second generation* “lead investigational asset” GTB-3650 to an IND app; see <https://www.gtbiopharma.com/news-media/press-releases/detail/256/gt-biopharma-affirms-manufacturing-timeline-for-lead>. As Breen explained to me, the science of this newest generation cancer fighter is superior to GTB-3550.

For GTB-3650, as you see in that news release, manufacturer Cytovance Biologics could earn up to a 4.9% stake in GT Biopharma. Likewise, the royalty that will be owed to the University of Minnesota will be in the range of 4-7%. **And there are other products in the pipeline as well, as you see above, for a variety of cancer-oriented indications.** Conceivably, several different IND’s could be filed in the coming months, giving the company numerous earlier in-human trial-stage candidates.

At the end of Q3, GTBP had a reported \$20.8 million in cash on hand; more than sufficient to carry the company through next year, at the least. With a market cap of only around \$50 million recently, that means **the market is valuing potentially game-changing science in fighting cancer more effectively than current practices/drugs can at just \$30 million; an intriguing (if still speculative) risk-reward proposition!**

### Experienced Management Team With Deep Immuno-Oncology Experience

Proven record in biotech, pharma, product development, financing



# A UNIQUE AND DIVERSE BUSINESS INCUBATOR “HITTING THE BIG TIME”: BIOLARGO, INC. (OTCQB-BLGO)



Sometimes it doesn't take a huge drug or resource discovery breakthrough to “make” a little, unknown company. There are LOTS of “find a need and fill it” ideas out there among more mundane subjects; *one of which you'll appreciate if you are also a pet owner.*

By now if you are an even occasional watcher of main cable networks such as *Fox News* and *CNBC*, you've probably seen a catchy new commercial recently for “Pooph” (see <https://www.pooph.com/> where the clever, two-full-minute commercial is.)

Pooph has a unique formula that allows it to basically dismantle odors and their causes on the molecular level, leaving no odor behind after all manner of applications but with a substance that the actor on the commercial *actually ingests*, it's so safe.

Beyond personal applications after Fluffy or Spot have an accident in the house, let's say (and with Pooph do *not* have the scent remaining to remind them to do their business in the same spot again!) you'll see on Pooph's site that **some of the biggest recycling centers and landfills in the country use this product, too, to keep odors in check.** All this proprietary, odor-eliminating technology is the product of and manufactured by BLGO's CupriDyne subsidiary; *and the companies have a revenue-sharing/royalty and potential equity buy-out where Pooph is concerned.* Marketing partner Ikigai Marketing Works, LLC clearly sees huge potential here; early sales due to the national ad campaign are brisk, and the Pooph brand is now going into over 600 Walmart stores (see <https://biolargo.blogspot.com/2022/11/biolargos-partner-ikigai-begins-sales.html>.) That company's goal (in addition to direct sales, Amazon and the like) is to be in 25,000 retail outlets in the next six-nine months.



Of the literally *dozens* of products, services and technologies being furthered by BioLargo and/or its subsidiaries, though, the *first* one that got my own attention has to do with **the company's bona fides to treat and remove P.F.A.S. chemicals from the environment.** Here is a good example of a story that resonated with me *because of my own life experiences and/or things I have seen myself.*

As I learned about BioLargo's other lead "candidate" for commercialization, its flagship product, the Aqueous Electrostatic Concentrator, I recalled what an environmental issue it's been for *years* in my

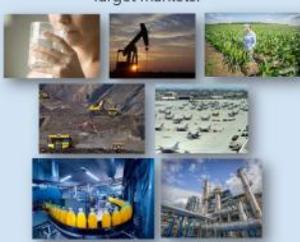
native upstate New York to *have various chemicals discovered in ground water/aquifers*. The two biggies back then which were major environmental news in the 1980's were chemicals that had been leaked by I.B.M. and Smith Corona into aquifers in the Endicott and Cortlandville areas, respectively. *But all over America this same story has been repeated over the years*. Indeed, as BioLargo's President/C.E.O. Dennis Calvert reminded me (among many other things we discussed) in a couple lengthy conversations we had prior to my recommendation of the company, the 2019 film *Dark Waters* has given a higher profile to this long-simmering environmental issue in the popular consciousness.

Found in water all over the world, PFAS are a group of chemicals generated by industrial operations that have been linked to adverse health effects. They are now subject to escalating regulatory action by the Biden Administration and the EPA due to their inability to break down naturally in the environment and their impacts on human health. These "forever chemicals" have been linked to cancer, developmental delays, hormone disorders, and more. According to Washington, D.C.-based Environmental Working Group, PFAS has been found in water in over 2,800 locations in the United States.

### Target Markets and Business Model for PFAS

- Sales reps covering majority of US states now secured
- First large customer landed, small commercial trials being rolled out through reps

Target markets:



2900+ documented contaminated sites in US alone (per EWG)



**With the greatly enhanced moves toward environmental remediation of *all* types the world over, PFAS is getting a LOT of attention; and funding, as I said.** From the Mississippi River (see <https://wisconsinwatch.org/2022/11/midwest-river-towns-seek-answers-after-3m-factory-taints-water-with-pfas/>) to Belgium and in between (see <https://pfasproject.com/2021/11/02/3m-pfas-production-shut-down-in-belgium-by-environmental-regulators/> on the latter) this is a VERY big deal *globally* all of a sudden.

### PFAS Tech - Ready for Market



- **First customer project signed**
- Removes PFAS (Non-Detect)
- Results across a broad range of PFAS chemicals
- Test results open doors for partners and customers



BioLargo has had early success in demonstrating its far cheaper/more efficient PFAS removal technology; most notably in California. Elsewhere, it is demonstrating state-of-the-art abilities as well to deal with other water contaminants. As with the rapid acceleration in Pooph's fortunes as we get into 2023 I believe here, too, we'll see quantum progress for BioLargo next year as commercialization in this area moves on

also. Check out <https://www.bestpfastreatment.com/> along with the company's main web site-- <https://www.biolargo.com/>-- for more.

Pooph and BioLargo's AEC and related water technology are but the two primary of several other advanced products and technologies for this unique "project generator" of projects to improve health, air,

water and MUCH more. **Of the many others you'll learn more about, I think the most notable now is the Clyra Medical Technologies, Inc. unit.** The cause of commercializing *and selling* this suite of unique and FDA-cleared wound care/surgical products is advancing as well.

Clearly—and as Calvert quipped when we started getting acquainted better last year—***BioLargo "is not a fly-by."*** There are LOTS of compelling moving parts, thanks to the stable of top-flight scientific, engineering and technical talent that has helped him put together such a diverse and promising bites at the apple in so many areas, *any ONE of which* could reward the company and its investors HUGELY given the recent scant market cap of about \$55 million.

- BioLargo owns 58%
- Spin-off strategy
- FDA 510(k) cleared
- First customers secured
- Three channel partnerships in negotiation
- National sales director hired
- Last valuation was \$32m

**The BioLargo Family of Companies**

BioLargo, Inc. is a sustainable science, technology & full-service environmental engineering company that **makes life better** by delivering world-class products and services across a broad range of industries, with a drive to deliver clean water, clean air, and advanced antimicrobials for healthcare.

**BioLargo** We Make Life Better

- ENVIRONMENTAL
- BioLargo Water
- BioLargo
- CLYRA

Finally, a few other resources to learn about BioLargo:

\*<https://www.streetwisereports.com/article/2022/02/02/3-products-behind-the-rise-of-this-clean-water-tech-co.html> – a *highly* detailed analyst report on the company.

\*<https://www.youtube.com/watch?v=xxzD5nwCRPg&t=2s> -- C.E.O. Dennis Calvert this past Spring at our SIIC-2022 Conference.

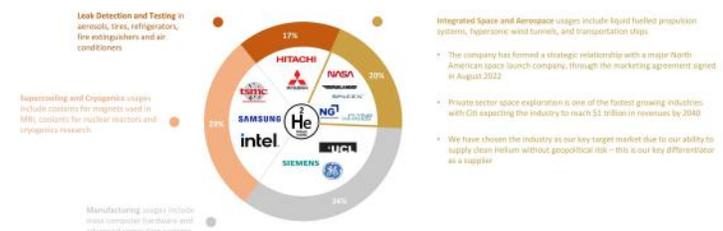
\* [https://www.youtube.com/watch?v=V\\_FcC8BE2\\_U&t=5260s](https://www.youtube.com/watch?v=V_FcC8BE2_U&t=5260s) – a brand-new interview of Calvert via a recent Benzinga.com “All-Access” on line event (starts at the 1:27:40 mark.)

## ***DEVELOPING HELIUM JUGGERNAUT (WITH A LITHIUM KICKER?)--ROYAL HELIUM, LTD. (TSXV-RHC; OTCQB-RHCCF)***

Finally here, if you have been charged with preparing for a birthday party in recent months, you might have unknowingly stumbled across yet another investment theme. It's one that's been discussed for several years, actually (for a piece *from 2016*, see <https://www.wbaa.org/general-news/2016-01-11/helium-shortage-no-laughing-matter-scientists-say>.) But a **growing helium shortage and crisis** has implications FAR beyond your costs to fill

### Helium Uses & Target Market

- Helium has a highly scarce and unreliable supply whilst its demand is accelerating from high growth and high-tech sectors including computer hardware manufacturing and space exploration
- Traditional helium uses (MRI, leak detectors, etc.) have a lower CAGR vs. newer high growth drivers (semiconductors, data storage, aerospace)
- Royal Helium has signed an industry-leading and long-term offtake agreement with a large mainstream user in the integrated space and aerospace industry



Bobby or Susie’s birthday balloons...if you are able to find helium, which has been completely unavailable at times for this everyday use.

The lightest gas in existence, **helium is a key and critical element needed for magnetic resonance imaging**. Without it, we do not have functional MRI machines. As you’ll read in a new warning at <https://www.nbcnews.com/health/health-news/helium-shortage-doctors-are-worried-running-element-threaten-mris-rcna52978>, “Helium has become a big concern,” according to Mahadevappa Mahesh, professor of radiology at the Johns Hopkins School of Medicine Baltimore. *“Especially now with the geopolitical situation.” (Emphasis added.)*

That refers, of course, to the ongoing proxy war between the U.S. and Russia over Ukraine (and more, truth be told.) Though some of the sanctions regimens enacted by both sides are as hypocritically full of holes as is Swiss Cheese, **where helium is concerned Russia has enforced an outright ban on exports of the key gas it has a disproportionate amount of the global supply of**. The implications go beyond balloons and medical equipment and to guidance systems in the space/aerospace and defense industries, the need of helium in cooling new-generation modular reactors in the nuclear power industry and a LOT more.

**Snapshot of Royal Helium**

**Scarce Commodity**

- High value: helium is a strategically important commodity
- Growing demand: increasing uses in high growth industry sectors
- Geopolitics & scarcity of supply: Russian sanctions dramatically impacting supply
- Sustainable: “Primary” helium differentiator – not a by-product of hydrocarbon production

**High Quality Assets & Team**

- Low risk: exciting discoveries with additional prospects well identified in conventional plays
- Attractive economics: low-cost drilling with very shallow decline curves (11 years)
- Proven team: significant operational and value creation track records with 5% ownership from Board and management
- Right geography: Local experience in Saskatchewan, with incentives for helium exploration and development activity

**Entering A Period of Significant Growth**

- First production: planned for Q1 2023 from the Steeveville field
- Drilling portfolio: multiple exploration and development drilling targets, including the Nazare play
- Growth potential: huge runway for growth, geology, a million acres of land and 30+ target areas
- Material upside: associated gases and liquids contained within gas flow stream offer material upside value

*“We are focused on filling the critical supply gap in helium, an essential and irreplaceable element for multiple industries.”*  
- Andrew Davidson, President

Section 1 – Overview

This has rendered helium as a dramatic newcomer to the nascent but growing debate over resource nationalism, securing critical materials supply chains and the rest. ***And it has further distinguished perhaps THE most robust up-and-comer in this space: Saskatchewan’s Royal Helium, Ltd.***

While I have followed Royal for a few years or so, the urgency to finally recommend it to our Members earlier this year came as the tenuousness of supplies became more acute; and as Royal began to distinguish itself as perhaps *the best* story in North America among a handful of players. Notably, the company absorbed the former Imperial Helium this summer; and that brought its overall land holdings to in excess of one million acres, *mostly* in SK (see <https://royalheliumltd.com/news/royal-helium-ltd-and-imperial-helium-corp-announce-closing-of-plan-of-arrangement/>.)

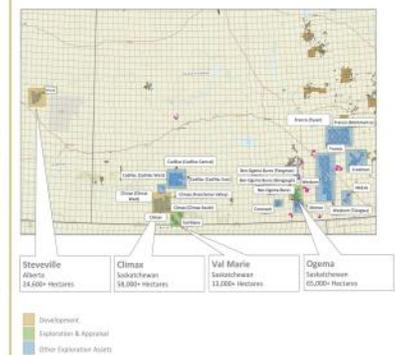
On August 29, Royal announced “...a long-term agreement with a major North American space launch company for the supply of helium..”; see <https://royalheliumltd.com/news/royal-helium-signs-new-supply-agreement-with-major-space-launch-company/>. Since then, the company has been

### Asset Overview

- Summary**
- Royal Helium holds c. 1,000,000 acres of prospective helium rights
  - The assets, where Royal Helium holds a 100% WI, are located in Canada, and span across Saskatchewan and Alberta
  - The leases have expiration dates that range from 2022-2039 with obligations and acreage proactively managed
  - The company commissioned GJL to prepare an independent evaluation of its first two helium assets, Steeveville and Climax

Area	Hectares	Resources	Stage	WI
Steeveville	24,500+	CRP	Development	100%
Climax	14,000+	CRP	Appraisal	100%
Val Marie	11,000+	7BD	Exploration	100%
Ogema	65,000+	7BD	Exploration	100%
Other Exploration Assets	389,226+	7BD	Exploration	100%

Royal Helium Assets Map



getting its financial and development-oriented ducks in a row **to begin delivering into that agreement in 2023**. Most notably, on November 22 (and after a private placement which additionally topped up Royal’s treasury) it was announced that a \$20 million term sheet had been signed to provide the financing for the company’s initial development and production facilities at the Steeveville helium field in Alberta, to begin purchases for the next (shortly) production facilities in Saskatchewan and for general corporate purposes; see <https://royalheliumltd.com/news/royal-helium-signs-term-sheet-for-project-financing/>.

As with pretty much *all* our stories in here, 2023 is set up to be a BIG coming-out year for Royal with the broader investing public. As you’ll learn at <https://royalheliumltd.com/>, **the company’s clean asset base of helium resources/prospects is unique and one of the big reasons why some key players want to buy their product from Royal**. To boot, at one of Royal’s development prospects—Climax—a discovery was made of a new zone named Nazare in the Climax block. Results are early and more seismic and drilling work needs to be done; but *the belief is that Nazare alone could prove to be one*

*of the most massive helium resources on the planet, MANY times the size of a typical trapped helium gas resource.*

### Saskatchewan – A Helium Friendly Jurisdiction



#### Saskatchewan Helium Production and ESG

- Significantly lower carbon emissions than other jurisdictions
- Helium produced from dedicated wells with nitrogen and other inert gases
- RoW helium is produced as a by-product of natural gas production
- Royal has strong community engagement and participation
- Lead drilling contractor is Metis owned
- Local first hiring policies

#### Benefits

- ✓ Not dependent on the natural gas market
- ✓ Low royalty rates – 4.25% for inert gas production
- ✓ Little to no hydrocarbon production thus no oil and gas royalties (+ 6-16%)
- ✓ Low processing cost relative to hydrocarbon processing
- ✓ Low land costs relative to oil & gas exploration
- ✓ Saskatchewan royalty/production tax credits
- ✓ Saskatchewan royalty tax credits for infrastructure Capex



Saskatchewan targeting 10% of the world’s helium supply by 2030



Royal Helium is partnering and investing in building its business in Saskatchewan

**A “green” and public relations kicker for Royal’s expressed and likely future customers is the clean nature of Royal’s helium.** It’s typical to find helium produced as a by-product of deep drilling for hydrocarbons: this is true in Russia and in the Southwest U.S. where a bit of helium production is also ramping

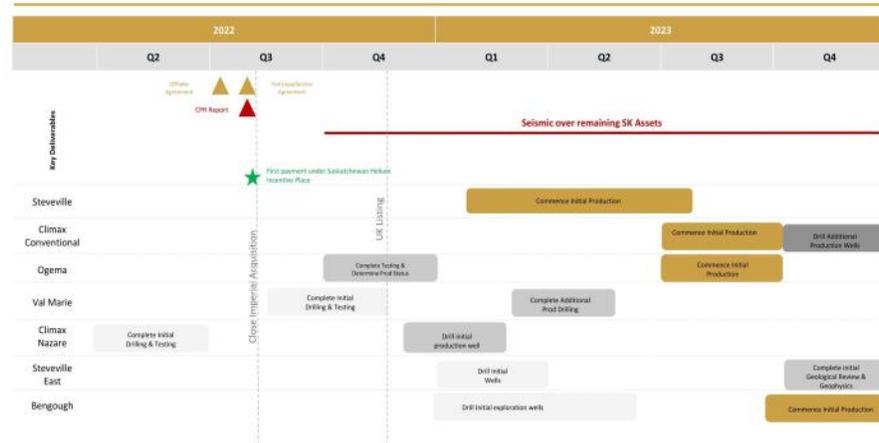
up. But in Royal’s fields, this is not the case; and helium has been encountered—and will be produced—*without* being associated with oil and gas/NGL liquids production.

**And an added kicker is that the company could hardly have a more energetic advocate and enabler than its own provincial government.** Resource-rich Saskatchewan is presently the producer of but 1% of the globe’s helium; but has a goal of reaching a 10% global share (primarily on Royal’s expectations) by 2030. To help enable that, the province has all kinds of financial incentives; and that includes rebating to companies like Royal some of the cost of their exploration work (check out this from late July-- <https://royalheliumltd.com/news/royal-helium-to-receive-first-royalty-credit-from-the-government-of-saskatchewan/> --where the company announced it had been deemed eligible for over C\$4 million in Royalty Tax Credits.)

While it is not necessarily the present-day story, a possible “sweetener” for Royal was hinted at back on September 21; see <https://royalheliumltd.com/news/royal-helium-samples-81.3-mg-l-lithium-in-brine-at-climax-2/>. Following up on a previous report, the company said that **sufficient presence of lithium had been encountered at/near surface in its Climax prospect area** to justify filing for mineral claims covering that with the province (the application is pending; that’s a story for *later*.)

But for now, the coming weeks will be tasked with the first production at Steveville. One after the next, the company will parlay its existing credit facilities/cash and, then, initial production into additional wells and production facilities. A “back of the envelope” goal for the next two-three years is to have 30-40 wells, in multiple separate fields with multiple plants; *as you see at right, many are slated just for 2023.*

### Near-Term Activity & Key Catalysts



Section 4 – Activity & Terms

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For *much* more, watch <https://www.youtube.com/watch?v=3P8YIKVYBbU&t=15s> where the company’s Dean Nawata gave a presentation to our SIIC-2022 Conference. Just before that I did more of a “private chat” ahead of that event with C.E.O. Andy Davidson; check that one out at <https://www.youtube.com/watch?v=pjsCiu-j4MM&t=10s>. **And then fasten your seat belt;** if Royal comes close to meeting its targets, its share price may well increase *several-fold*, as a few recent analysts who have started covering the company predict.

## IN CONCLUSION –



Chris Temple – Publisher

For all the fads, trading strategies, liquidity-fueled stupidity and more, there has *still* never been a more successful strategy to build long-term wealth than to buy good *companies* in their earliest days.

Though our world today is more volatile with all the various moving parts we must navigate, it remains that astute, timely investing in the best sectors/companies today will do what such investing has done over the generations: be the difference between successful and unsuccessful investors. I hope I have furthered that cause *for you*.

With this content *and all these companies*, I have only scratched the surface and given an overview of what, in each case, is a deeper and compelling story. **Check them out more completely; and keep up with me, as I will on occasion pass on fresh news, interviews, etc.**

**Ben Graham:** "The individual investor should act consistently as an investor and not as a speculator." *You are an investor, not someone who can predict the future.* Base your decisions on real facts and analysis rather than risky, speculative forecasts.

**Peter Lynch:** "Know what you own and know why you own it." —Do your homework before making a decision. Once you've made a decision, make sure to re-evaluate your portfolio on a timely basis.

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