



How to Right-Size Your Biopharmaceutical Operations Through Asset Valuation

TIGER
ASSET INTELLIGENT


LIQUIDITY
20 YEARS! SERVICES

BIOPHARMA PARTNERS

Key Takeaways

- I. Biopharmaceutical companies need new products to stay ahead of potential regulation, competition, expiring patents, and research & development failures – all of which eat into revenue and ultimately profits. Companies that don't find or develop new products will eventually no longer exist.
- II. To bring new products to market, biopharma companies acquire new businesses – particularly biotechnology firms – with innovative products, but also acquire unneeded assets while becoming dangerously burdened with debt. This results in the need to either down-size operations – and occasionally leads to bankruptcy.
- III. Investors in and lenders to biopharma companies need partners specializing in asset valuation and liquidation to ensure companies' ability to maintain sustainable operations through down-sizing, or otherwise extract maximum recovery during bankruptcy scenarios.

Table of Contents

Introduction.....	3
Flush with Capital: Yet, on the Brink of Bankruptcy.....	4
Research Despite the Odds.....	5
Potential Policy and Patent Pitfalls.....	6
Massive Mergers Gain New Products: and Extra Baggage.....	8
Excessive Assets and Bloated Operations.....	9
From Mergers to Bankruptcies: Right-Sizing Biopharma Operations.....	10
Case Study: - \$5.7 million recovered in less than 6 months for bankrupted biopharma company.....	11
Case Study: Two-week asset liquidation bolstered Theranos's cash flow.....	12
Finding New Answers to Old Questions.....	13

Introduction

The beginning of the 21st century is the biopharmaceutical industry's renaissance. Record numbers of drugs are being approved – not only across traditional therapy classes like small molecules and biologics, but also for cutting-edge gene and cell therapies.

Despite this golden age of biopharmaceutical innovation, however, it's normal for drug candidates and biopharma companies to struggle and sometimes fail. Fierce competition and expiring patents drive the price of older products to their knees, while R&D and policy headwinds stiffen – especially around the hot-button issue of drug pricing.

As a result, pharmaceutical buyers frequently merge with budding biotechs for new products and technologies, while increasingly seeking alternative funding sources through strategic downsizing and operation consolidation.

At the end of their business life cycle, biopharma companies can leverage their currently owned assets and collateral through accurate third-party valuation and sales services to return maximum value to internal and external stakeholders alike.



Flush with Capital – Yet, on the Brink of Bankruptcy

From a financing perspective, it's hard to imagine there's ever been a better time to start a biotech company. The biopharmaceutical and biotechnology industries remain in the thick of a historically generous financing window. Biotechs in 2018 raised an astonishing \$17 billion in venture capital spread over more than 700 individual financing deals, according to the National Venture Capital Association.

Biotechs have had no trouble raising capital on the public markets, either. In 2018, nearly 80 biotech companies went public, raising more than \$9.5 billion in total IPO proceeds. The follow-on market has been similarly buoyant, with more than \$27 billion raised across 270 financings during the year.

The industry has put that capital to work in miraculous ways. In 2018, the U.S. Food and Drug Administration approved a record 59 new molecular entities. These additions to the growing pharmaceutical arsenal treat a wide swath of maladies, from cancers to migraines to a host of rare diseases.

The regulatory success enjoyed by the biopharmaceutical industry over the past several years are due in part to a forward-thinking FDA and increasing investment in finding treatments – and even cures – for a broader set of diseases than ever before.

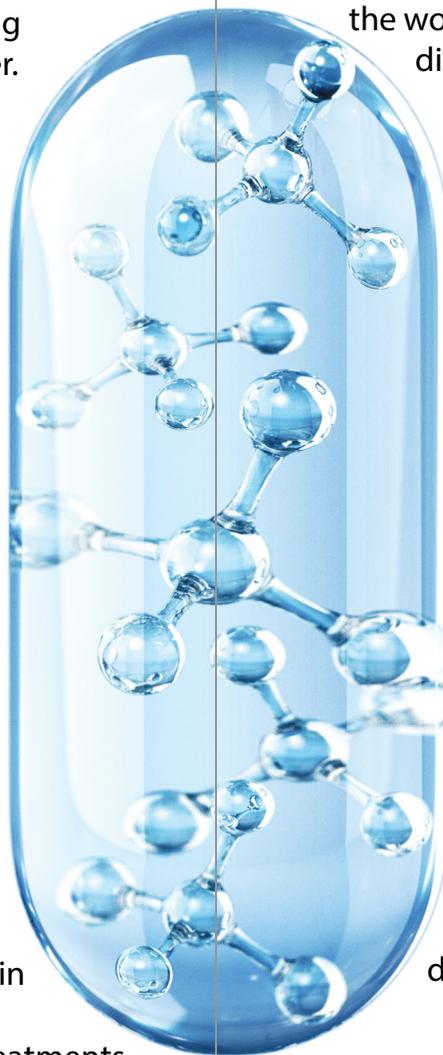
But despite record levels of capital flowing into the biopharmaceutical sector, the truth remains that even when the biopharmaceutical industry

is humming along, it's the few successes that lift the sector amid a sea of relentless research and development setbacks. Indeed, the drug industry is less about a rising tide raising all ships than it is about launching ten boats and jumping aboard the one that turns out to be seaworthy.

This portfolio approach usually works well for the industry's larger R&D engines housed within the big biotechs and pharmaceutical companies of the world. For example, Biogen's size and diversification allowed it to weather the recent failure of a new aducanumab Alzheimer's disease drug candidate in late-stage clinical trials.

At the level of individual smaller companies, however, an enterprise's entire future can hinge on a single potential product's success or failure. The reality is that a single clinical trial failure can mean the entire enterprise gets wound down to protect shareholder value.

Or paradoxically, a single success can lift a biotech onto the radars of pharmaceutical buyers eager to add potential gems to their research and development pipelines, and the difficult work of merger integration lies ahead.



"Opportunities come infrequently. When it rains gold, put out the bucket, not the thimble."

– Warren Buffet



Research Despite the Odds

The high level of risk in the pharmaceutical and biotech sectors is worth reiterating in specific detail.

In 2018, a team from the Massachusetts Institute of Technology conducted the largest investigation of clinical trial success rates to date into probabilities of clinical success. They found only a miniscule 13.8% of all drug development programs lead to an eventual drug approval. This result should surprise no one – other comprehensive analyses have reported even lower probabilities of success.

In fact, for the industry's most crowded therapeutic area of cancer drug development, the overall probability of success was a dispiriting 3.4%. This result included both lead indications as well as attempts at widening out the use of a drug from one tumor type to others.

The investigation illustrates that the biopharmaceutical industry is one where successful companies, investors, drug developers, and scientists are the most adept at managing – even celebrating – the inevitable failures. In a field

where rare successes more than make up for the ubiquitous disappointment, failure is typically not a stigma.

Even well-run, large and profitable companies like Big Pharma bellwether Novartis hit scientific hurdles and the occasional R&D wall. When the FDA rejected its anti-inflammatory drug Ilaris for cardiovascular use in 2018, Novartis redirected its focus – and investments – to other research priorities beyond antibiotics and antivirals.

This adjustment happens at every successful biopharmaceutical enterprise: Priorities shift, resources are reallocated, and companies reposition themselves for another run at success. To buy time – and increase revenue – many biopharma companies turn to their currently popular products, but that may no longer be possible.

"Failure is simply the opportunity to begin again – this time, more intelligently."

– Henry Ford

Potential Policy and Patent Pitfalls

Traditionally, biopharma companies that have been unable to successfully develop new products can fall back on price increases for exclusively owned products. Recent public outcry and the dissolution of patents in the face of lower-cost generic drugs are shifting that status quo, making future price shifts and revenue projections uncertain.

Drug pricing policy may be the biggest minefield for the biopharmaceutical industry. Notably, at a February 2019 U.S. Senate Finance Committee hearing, seven prominent biopharma industry CEOs faced bipartisan condemnation for high drug prices. Under specific scrutiny were so-called “patent thickets” that surround lucrative drug franchises long after their original composition-of-matter patents have expired.

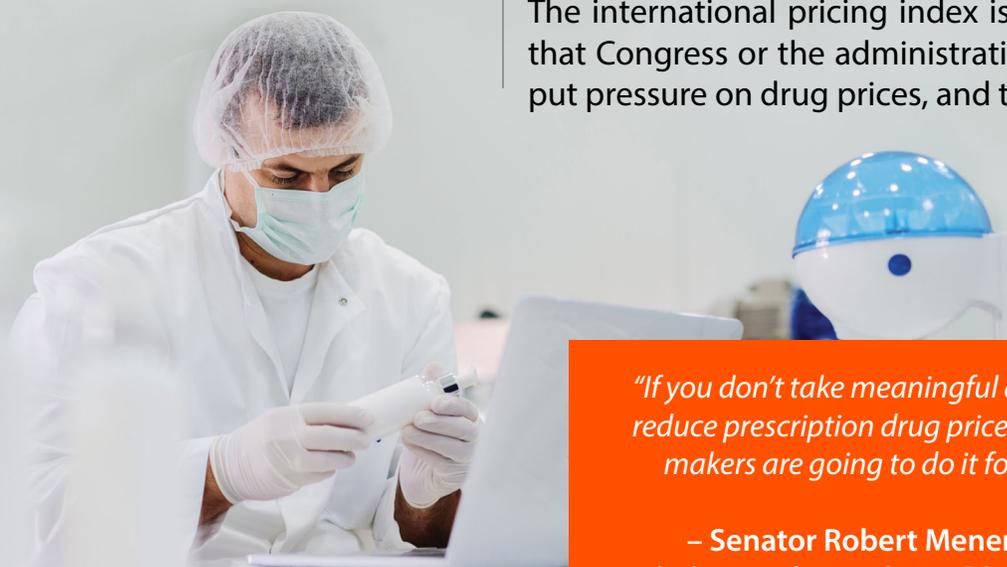
If Congress passes legislation that curtails industry incentives or the ability to patent improvements on existing drugs, many long-standing franchises would lose much of their current value. This development may place previously stable pharmaceutical companies in peril. In fact, Democratic House Speaker Nancy Pelosi.

The Trump administration has so far refrained from backing up the president’s early-term pronouncement that the industry “getting away with murder” with its pricing practices with any draconian action. However, the administration’s blueprint to lower drug prices and reduce out-of-pocket costs includes several mechanisms that – should they be implemented – will further constrain drug companies with respect to pricing in the U.S.

For example, the administration’s proposed international pricing index takes aim at the dichotomy between what Americans pay for drugs and what patients pay in similarly developed markets – mostly European markets, but also Canada and Japan. Anchoring US prices for certain medicines to a reference price paid in other countries could erode the industry’s profitability.

In fact, this pricing evaluation is embedded within a Senate-proposed Prescription Drug Price Relief Act of 2019, proposed in January 2019. According to the bill’s summary, “a price is considered excessive if the domestic average manufacturing price exceeds the median price for the drug in Canada, the United Kingdom, Germany, France, and Japan.”

The international pricing index is just one lever that Congress or the administration may pull to put pressure on drug prices, and there are many.



“If you don’t take meaningful action to reduce prescription drug prices, policy-makers are going to do it for you.”

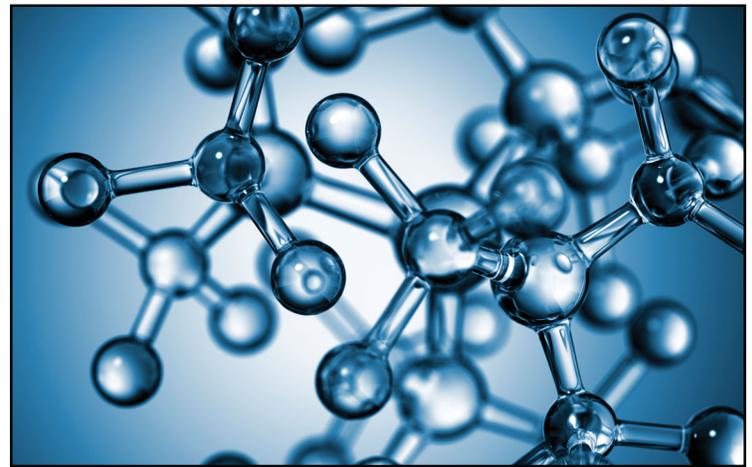
– Senator Robert Menendez
*(to drug manufacturers during a February 2019
Senate Finance Committee session)*

For example, another bill – this time proposed by House Speaker Nancy Pelosi in September 2019 – also would establish a price index, but would go even further to pursue lower prices. Under this legislation, Medicare could negotiate prices on the most expensive prescription drugs, and then have those discounts apply to the broader private market. This law would fine companies that refuse to negotiate, with penalties starting at 65% of gross sales of the offending medication.

If policy doesn't kill current biopharma strategies, competition will be. Indeed, pricing constraints are just as likely to be the result of self-policing by a wary pharmaceutical industry as they are to be handed down by fiat. Several industry heavyweights have recently introduced lower-cost "authorized generic" forms of their branded medicines as a response to public outcry for lower prices. (See Eli Lilly's recently introduced generic version of its own blockbuster insulin product Humalog, which will sell at a 50% discount to its branded version.)

Not only do authorized generics provide a positive public relations story to stem the tide of "greedy corporation" rhetoric, authorized generics serve as an end-around the byzantine system of rebates and contracts they have with various insurers and supply chain middlemen like pharmacy benefit managers.

However, these generics cut into previously dependable revenue streams. This pressure – through both new regulatory and competitive market dynamics – will likely lead to increasingly more instability within the market, for both companies and shareholders alike.





Massive Mergers Gain New Products - and Extra Baggage

If R&D fails to produce new products in a timely fashion, and raising the prices on former strategic drug lines is no longer an option, then the next step would be to “purchase” new products in the form of mergers & acquisitions.

In the past year, the biopharma sector has seen a resurgence of large-scale M&A transactions, with nearly \$120 billion in announced deals in the first three months of the year. These transactions precipitate an increased need to consolidate resources, or else risk closure of the very businesses they sought to supplement.

In January 2019, the Japanese pharma giant Takeda Pharmaceutical completed its \$62 billion acquisition of Ireland-based Shire Pharmaceuticals, a leading player in rare disease therapeutics. The debt taken on by Takeda to help finance that transaction will likely beget additional deal-making – the company has earmarked roughly \$10 billion worth of divestitures to pay down its borrowing.

That same month, Bristol-Myers Squibb Co. said it would acquire fellow New Jersey-based cancer drug specialist Celgene for \$74 billion. Should that deal be finalized, the combined company has said it would look to cut about \$2.5 billion in costs.

Others have recently pursued substantial acquisitions to bolt on new capabilities. Swiss pharma giant Roche acquired Philadelphia’s Spark Therapeutics, the marketer of a gene therapy for certain inherited forms of blindness, for nearly \$5 billion in February 2019, though the merger has been beset by delays due to possible anti-trust investigations. Only a week later, Biogen said it would spend nearly \$1 billion to buy Nightstar Therapeutics, another ophthalmology-focused gene therapy specialist.

Both Roche’s and Biogen’s acquisitions gained new product lines within high-demand spaces, but inadvertently gained excessive and redundant assets. These extra lines can result in instability for the very companies they sought to bolster – just as Bristol-Myers Squibb Co. and Takeda discovered.

“In the case of Spark, the strength was in the potential pipeline of gene therapy. [...] In developing the platform for these new therapies to be delivered, you’re showing the company that you have assets that truly create value.”

– Steven Altschuler

(discussing the pending Roche-Spark merger)

Excessive Assets and Bloated Operations

Occasionally, additional spending on new assets and drug candidates – whether through increased R&D overhead or M&As – leads to a certain amount of indigestion.

In the specialty pharmaceutical space, market valuations drove several acquisition-hungry companies to pursue large-scale M&A over the past several years – both to diversify their product portfolios and to pursue lower tax rates by acquiring competitors based in tax havens.

As that subsector's market valuations fell back to earth, these biopharmaceutical companies remained highly leveraged, needing to sell assets to repay debt.

Take Teva Pharmaceutical, the Israel-based generic drug giant and one of the largest pharmaceutical companies in the world of any kind. In 2018, Teva closed seven manufacturing facilities as part of a restructuring effort to reduce its end of 2018 debt burden of \$27.1 billion, with plans to shutter or divest eleven additional manufacturing sites.

Strategically restructuring these sites hit Teva's bottom line. Indeed, the company's debt has fallen, but it's still highly leveraged, with \$27.1 billion in debt at the end of 2018.

Other specialty pharma companies have followed Teva's lead to restructure and reorganize following M&A. As such, there's been a reversal of sorts of the M&A spree that characterized the specialty pharma sector just a few years ago.

For example, after years of acquiring businesses across various healthcare industries, Valeant Pharmaceuticals – now Bausch Health – divested several billion dollars' worth of assets in 2017, including:

- A portfolio of skincare brands to **L'Oreal** for \$1.3 billion;
- **Dendreon**, a cancer vaccines technology, for \$820 million;
- **iNova Pharmaceuticals**, an Asian-Pacific OTC, for \$930 million; and
- **Obagi Medical Products** in dermatology for \$190 million.



"Keep moving forward."

– Walt Disney

From Mergers to Bankruptcies:

Right-Sizing Biopharma Operations

It takes a knowledgeable outside party – one with plenty of pharmaceutical industry experience, connections, and a fresh perspective – to see how to generate revenue from over-extended operations, returning value to stakeholders and shareholders alike.

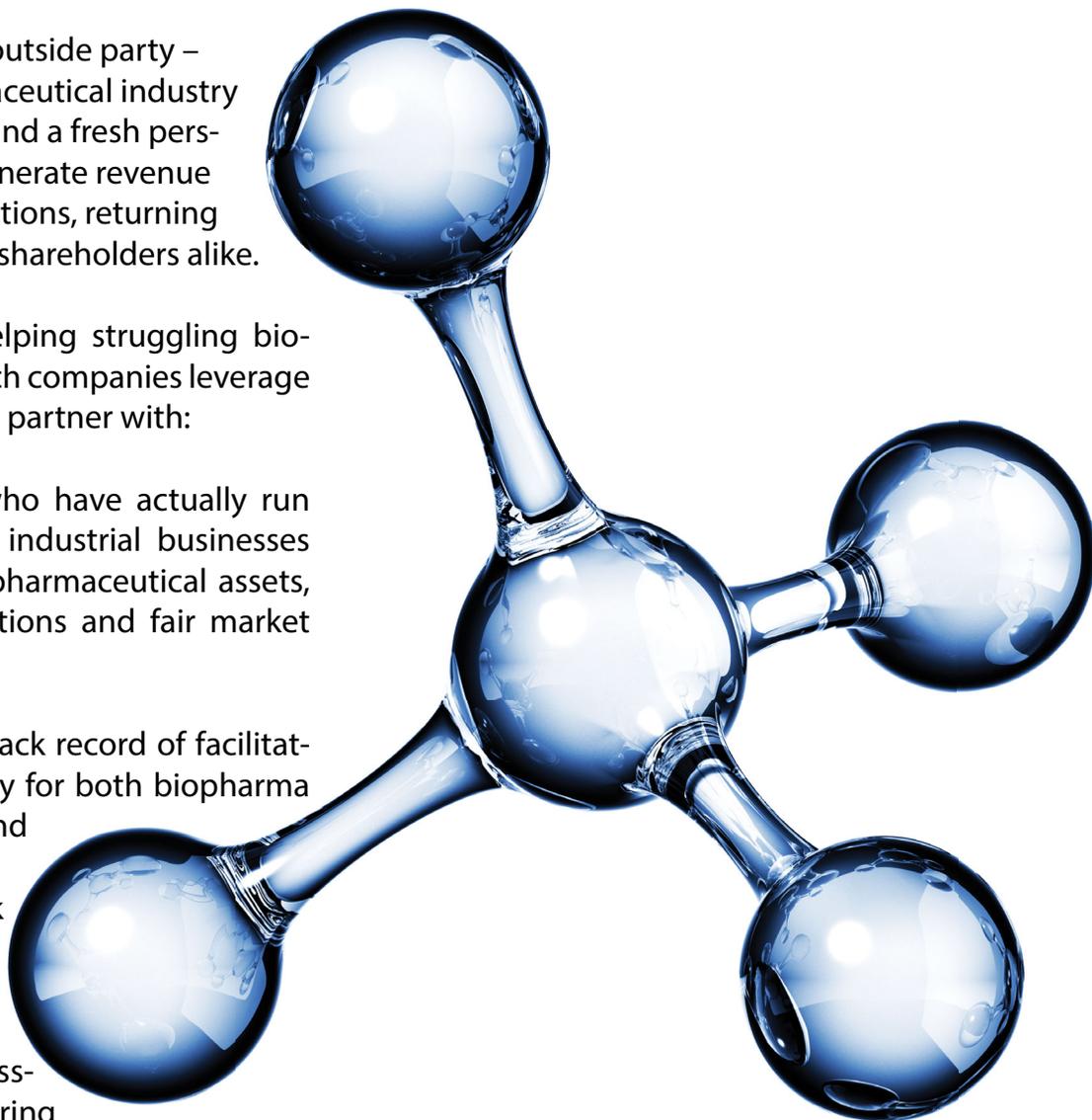
Investors interested in helping struggling biopharmaceutical and biotech companies leverage their current assets should partner with:

Subject matter experts who have actually run day-to-day operations of industrial businesses and who understand biopharmaceutical assets, companies, market conditions and fair market values;

Third-party firms with a track record of facilitating liquidations specifically for both biopharma and biotech companies; and

Access to a global network of asset-class experts – people who can offer insights into the value of biopharma assets in distressed situations, as well as during general operations.

Read on for real life case studies of how asset valuation and liquidation helped biopharmaceutical companies manage M&A, consolidations, and bankruptcies.



"People will try to tell you that all the great opportunities have been snapped up. In reality, the world changes every second, blowing new opportunities in all directions – including yours."

– Ken Hakuta

CASE STUDY



\$5.7 million recovered in less than 6 months
for bankrupted biopharma company

Smaller companies can become distressed, and in many cases cannot rely on the “sell what isn’t bolted down” approach that larger more diversified companies can take to maneuver out of trouble.

Take the problems faced by ProductQuest, a biopharma manufacturer with operations in Florida and North Carolina. Faced with the ramifications of a product recall due to contamination, the company was forced to file for bankruptcy in 2018.

To generate as much cash as possible to pay down the company’s debt, ProductQuest worked with the Tiger Liquidity Services Biopharma Partnership (TLSBP), along with the company’s trustee and lenders. All of its assets – including inventory, machinery, equipment, and real estate sprawled across two different states – were sold in less than six months for almost \$6 million.

CASE STUDY



Two-Week Asset Liquidation Bolstered Theranos's Cash Flow

Finally, third-party firms can also assist larger entities raise money through asset valuation and liquidation.

For example, in October 2016, micro-blood-draw company Theranos decided to consolidate five lab operations in Phoenix, Arizona, and Newark, California, to refocus on primary company objectives and raise operations funds.

Ultimately, Theranos engaged an external team of liquidation and biopharmaceutical asset sales experts – Tiger Group and Liquidity Services – to facilitate the complete sale of surplus non-earning assets.

At the start, we acted as Theranos' sales agent to sell hundreds of biopharma laboratory assets directly to end-user laboratories and university departments. However, with Theranos' mounting challenges presenting a strain on their operations, it quickly became clear that the company needed more

immediate funding. Therefore, we directly acquired all remaining assets as an immediate transaction to further fuel ongoing operations.

Time is money, particularly in the cash-burning world of biopharmaceutical R&D and manufacturing. Within two weeks of purchasing approximately 1,400 biopharma-related assets, our team moved 20 tractor trailers full of equipment from the company's research facility to one of their own warehouses. This speedy removal allowed Theranos to sublease the facility for even more cash flow.

Thanks to our combined efforts, some 2,000 of Theranos' surplus assets were quickly sold to interested buyers in the United States and around the world.

Not only did this operation generate sorely needed operating funds – some \$2 million in liquid cash recovered from sunk assets – but it also saved Theranos the time and expense of having to relocate the equipment themselves.

Finding New Answers to Old Questions

Clearly, today's pharmaceutical and biotech firms are increasingly in need of solutions to a variety of complex situations, from integrations to insolvencies.

One effective approach hinges on collaborating with third-party firms focused specifically on providing valuation and resale services for the biopharma sector.

By maintaining strong databases and networks of buyers of laboratory and manufacturing equipment, these third-party entities can be of tremendous assistance to companies facing insolvency. Their valuation capabilities can also help asset-based lenders and other financial institutions build a comprehensive understanding of biopharma companies' existing assets and intellectual property.

Consider the biopharmaceutical companies currently in your investment portfolio – or those in the news for recent mergers or product failures – then ask yourself:

- Can these biopharmaceutical companies profit within a changing political and competitive arena?
- Would the company be able to handle redundant resources after it acquires new assets during an M&A?
- Has the company catalogued its current assets and equipment to serve as potential collateral?

Carefully consider the answers to these questions, because they could mean the difference between a thriving, expanding business – or a rapid downfall after a single product failure.

This white paper was commissioned by the Tiger Liquidity Services Biopharma Partnership (TLSBP). To learn more about Tiger's asset appraisal, insolvency and disposition services for the biopharma industry, visit <https://www.tigergroup.com/services/industrial-remarketing>.

TIGER
ASSET INTELLIGENT

LIQUIDITY
20 YEARS! SERVICES

BIOPHARMA PARTNERS

Chad Farrell, (832) 721-3937
cfarrell@tigergroup.com

Nick Jimenez, (203) 733-7191
nick.jimenez@liquidityservices.com

