

A large, abstract, colorful ink splash or smoke-like formation in shades of purple, pink, and blue, set against a light blue background. The splash is dynamic and organic, with various swirling and billowing shapes.

Scientific innovations for more sustainable growth

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Scientific innovations for more sustainable growth

The pace of innovation in life sciences is at an all-time high—and never before have we experienced so much scientific development in different areas at once. In just the past two years, highly innovative companies were able to deliver effective Covid-19 vaccines at record speed, with anti-virals and other new therapies rocketing into existence during one of the most difficult periods in recent history.

With **biopharmas continuing to develop capabilities through artificial intelligence (AI), analytics, and other emerging technologies**, we're experiencing an exciting and accelerated pace of innovation—but one that isn't without challenges. The biggest challenge for biopharma is sustaining growth. With rising M&A costs, biotechs bringing products to market themselves, and increasing pressures on profitability, the entire landscape for biopharma has shifted to an environment that requires innovative and strategic approaches to maintain pace.

To better understand this challenge—and determine pathways for success—we conducted an extensive analysis of over 300 M&A deals by the top 30 biopharma companies between 2010–2021. The key takeaway is that **the traditional approach to fostering growth is no longer sustainable**.

The good news is that there are clear pathways that biopharma companies can take to remain competitive.



Understanding the shift

Traditionally, the top 30 biopharma companies have relied heavily on M&A for growth, with more than 60% of their marketed assets coming through acquisitions over the past 15 years.¹ However, when we explored those patterns, multiple factors were revealed to be eroding the sustainability of an inorganic growth strategy:

1. Rising Costs of Inorganic Growth:

With biotech transaction premiums reaching record highs in 2021, inorganic growth has become increasingly expensive. For M&A deals valued at more than \$500M, the average takeout premium in biopharma has grown from 51% in 2018 to roughly 71% in 2021.² This is in part due to the increasing amount of venture capital flowing to Biotech companies with total investments in biotech nearly doubling in 2021 compared to 2019.³ At the same time, while 2021 saw record biotech IPOs, their post-IPO performance has been worse compared to the 2020 cohort.⁴ In Q1 2022, public markets slowed with biotech performance dropping almost 20%⁵ and capital raised decreasing by approximately 85% compared to the same quarter in 2021.⁶ Nevertheless, private markets remain healthy with total VC investment in Q1 2022 being the second-largest quarter of all time (after Q1 2021) for biotech-venture capital funding.⁷

2021 total M&A deal value is the lowest it has been in the past 5 years.¹⁰

2. Biotech going to market alone:

Smaller biotech companies are increasingly able to bring their products to market themselves. These players were responsible for approximately 55% of all drugs to be brought to market between 2017 and 2021—a significant increase from the preceding five-year period (2012-2016) in which they accounted for only 30%.⁸ Continued venture capital flow to biotechs noted above further fuels the escalating deal premiums.

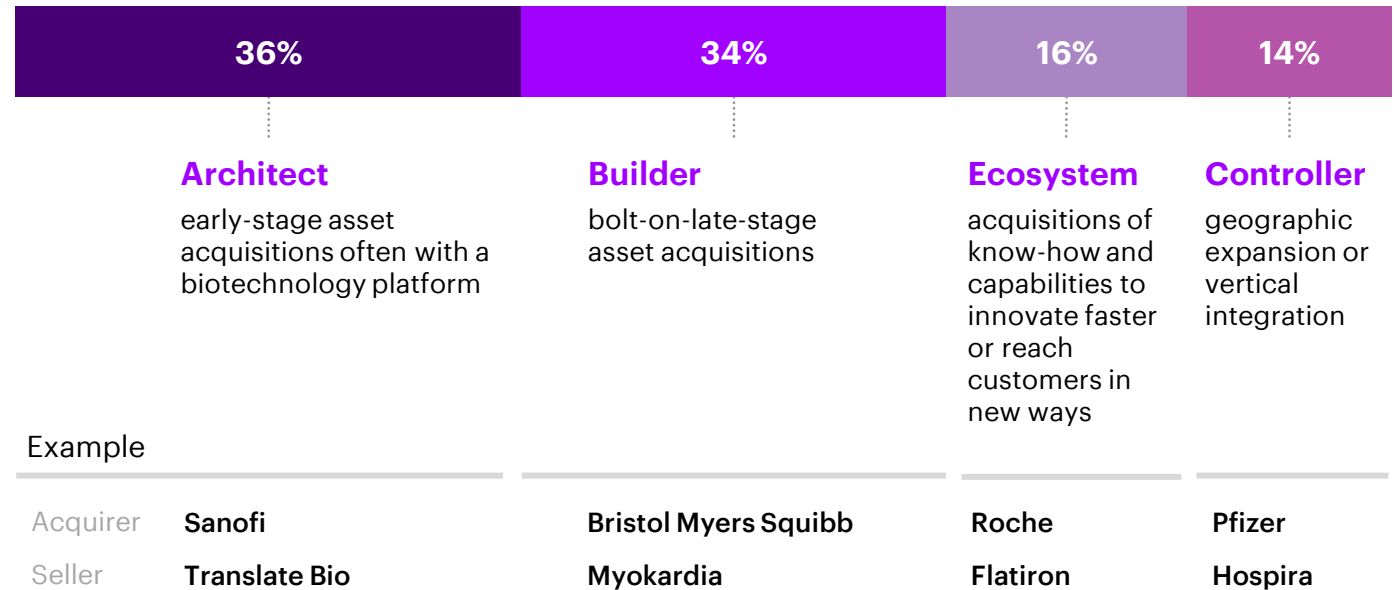
3. Increasing profitability pressures:

Biopharma's ability to pay for these acquisitions is at risk due to expected margin declines in almost every therapeutic area. This decline is expected to be over 6% on average, with anti-infectives expected to experience the largest decline at 11.6%.⁹ A further decline in future revenues is also expected due to policy reforms in the U.S.

Through our analysis, we identified **four growth pathways** for biopharma companies. By understanding these pathways, we can better anticipate trends toward innovation and success:

- 1. Builder:** Biopharma’s traditional way of bolstering pipeline assets by bolting-on late-stage acquisitions.
- 2. Architect:** Early-stage asset acquisitions—often with a biotechnology platform (bio-platform)—that enable companies to expand their pipeline across therapeutic areas.
- 3. Ecosystem:** Deals that focus on acquisitions of know-how and capabilities to innovate faster or reach customers in a new way; for example, through analytics, AI, data, new devices, or companions.
- 4. Controller:** Deals that support geographic expansion or vertical integration, such as growth markets, control supply, raw material, distribution, or point-of-sale.

Inorganic growth pathways: 2010-2021, number of transactions



Source: Accenture Research Growth Pathways Model 2022

About our analysis:

All merger and acquisition deals of the top 30 biopharma companies based on 2020 revenue were analyzed and mapped over an eleven-year period between 2010-2021. All M&A deals with buyers designated as one of the top 30 biopharma companies by S&P’s Capital IQ database considered. This analysis represents more than 300 M&A deals and \$900B of capital. With the use of an artificial intelligence algorithm, each deal was mapped to a growth pathway. These pathways were then verified based on deal description and secondary research on the acquired company.

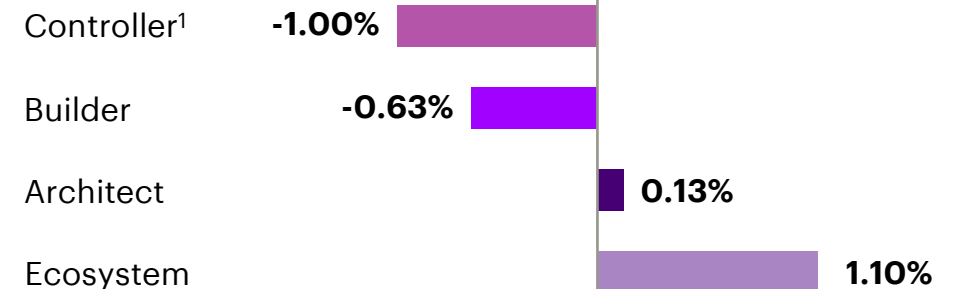


We found that 70% of all deals in the last 10 years focused on asset-based M&A—the Builder pathway—which is trending toward unsustainable over the long term—and Architect pathway, which grew 30% in the past five years compared to the previous five years. Ecosystem pathways are rare, with only 16% of the volume of M&A deals and 1% of the deal value. Instead, biopharma companies have been pursuing partnerships with small companies such as Recursion, Exscientia and Insitro to access AI-drug discovery capabilities. Finally, only 14% of deals focus on geographic expansion or vertical integration (Controller).

Although Ecosystem deals are rare, short-term stock performance (within two days of an announcement) led to a stronger and more positive market reaction, compared to announcements executed from other growth pathways.

By contrast, Builder deals have seen negative short-term reactions. Our event-study analysis examined the impact of a catalyst event (e.g. deal announcement) with the value of a company stock. This data-driven approach compares stock changes relative to market conditions and it reveals important information on how market expectations – reflected in the stock price – respond to specific events.¹¹

Impact of Deal Announcements on Stock Price, Subtracting Market Trend (2018 - 2021)

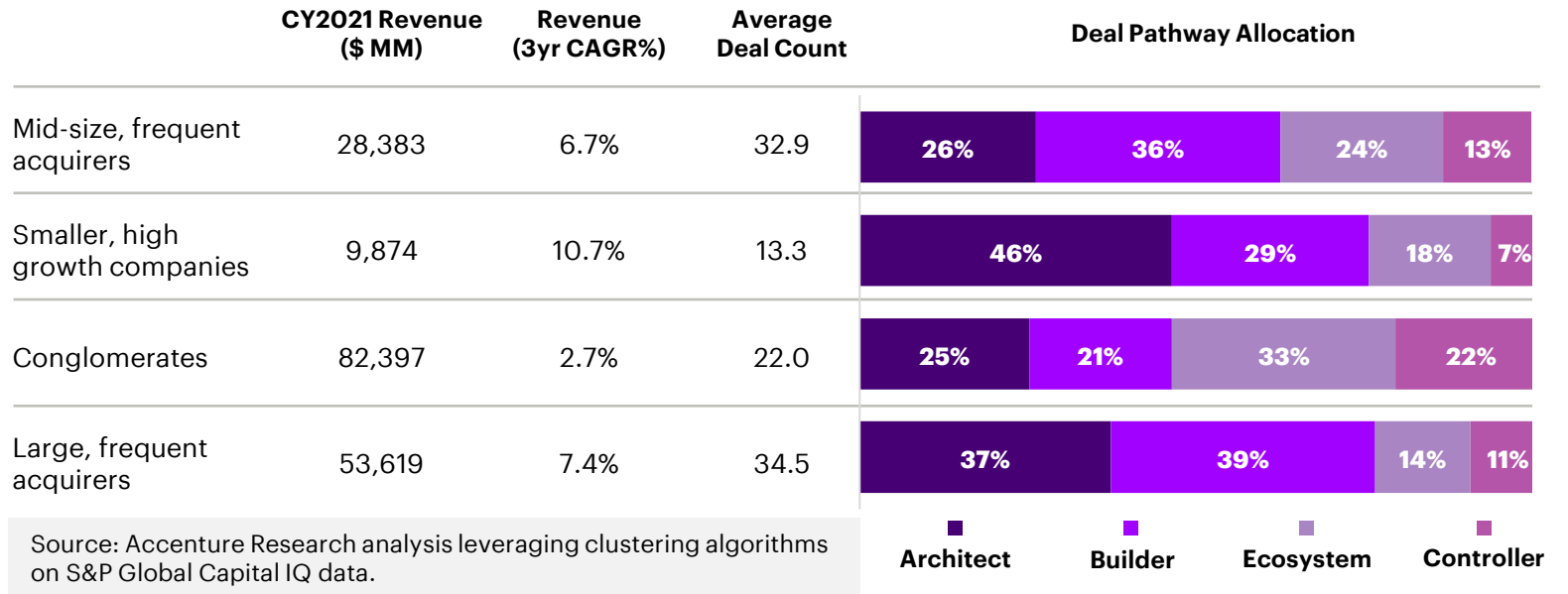


¹There is low volume and high variance with Controller-type deals
Source: CapIQ; Accenture Research analysis

It's also important to understand where your company is in its maturity when deciding which growth pathway(s) to use.

The top 30 biopharma companies use a mix of growth pathways to achieve their goals. Selecting the right pathway depended on company size, agility, and time horizon to achieve growth. We used a clustering algorithm to identify four types of companies based on their M&A behavior and business performance¹²:

- 1 Mid-size, frequent acquirers
- 2 Smaller, high-growth companies
- 3 Conglomerates; and,
- 4 Large, frequent acquirers.



These four groups are pursuing growth pathways aligned to where they are in their growth journey. Smaller, high-growth companies are likely already efficient, focusing on pipeline growth, and therefore the few deals they do pursue are shaped around building their pipeline (Builder and Architect). Conversely, conglomerates with slower growth tend to focus on building various capabilities through Ecosystem pathways and pursuing geographic extension and/or vertical integration (Controller).

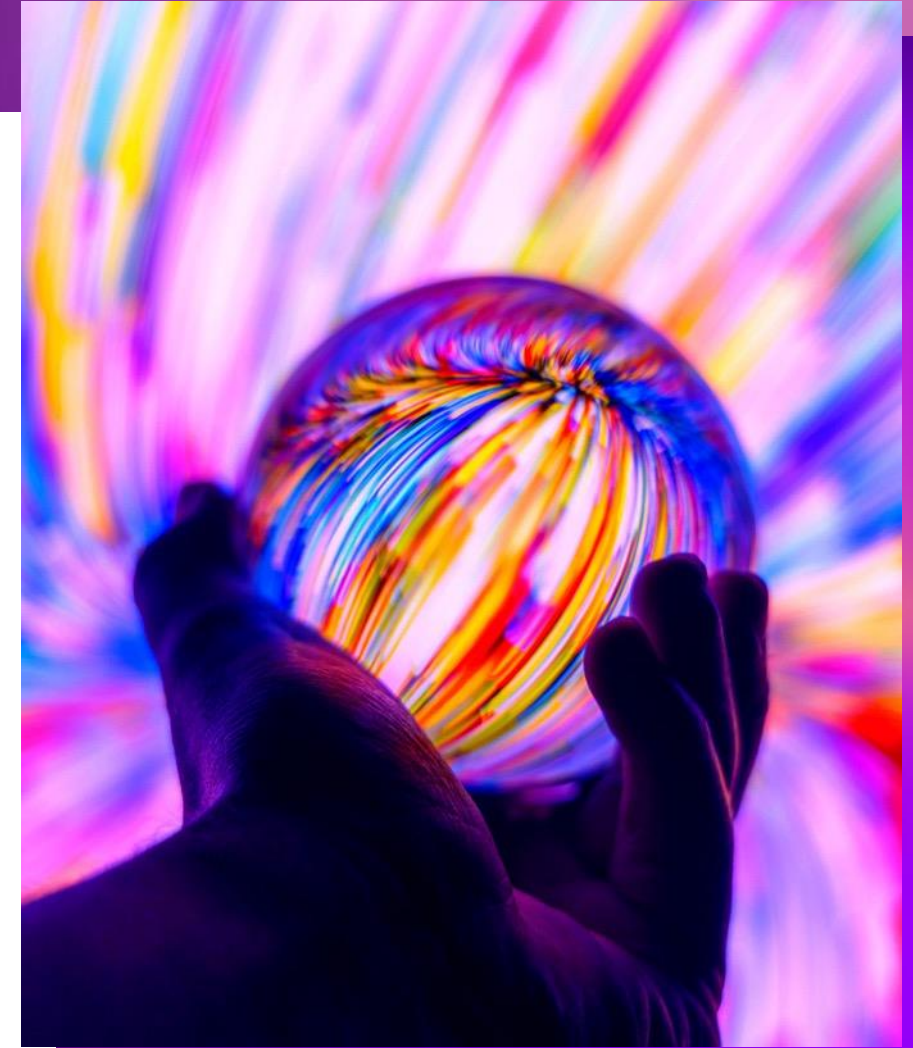
The interesting groups are the two in between: the mid-size and the large companies. They have similar growth and average deal volume, but the large group seems to focus more on early-stage platforms to keep building their pipeline whereas mid-size companies pursue a more balanced mix of pathways.



What does the future hold?

The unprecedented pace of innovation we saw in 2020 and 2021 is just the beginning of what we view as a significant and lasting shift for the life sciences industry. Advancements in various emerging biotechnology platforms such as mRNA, gene editing, and protein degradation—coupled with the application of increased computing power such as AI and machine learning (ML)—are driving the industry into an era of incredible speed and making it possible to discover treatments for previously undruggable targets.

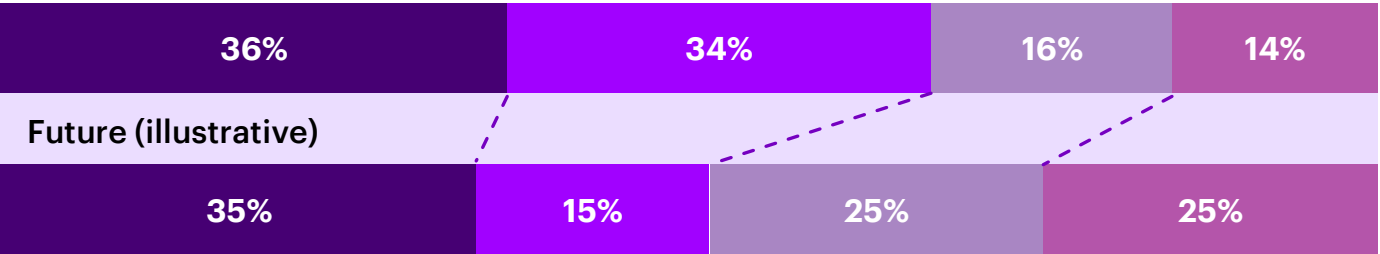
Leading companies are already beginning to translate complex biological problems into computational ones, fundamentally shifting the traditional probabilistic approach to innovation (“multiple shots on goal”) into a deterministic approach that uses technology and data to support the entire pipeline.¹³ The companies that master this approach will be able to thrive within the unprecedented pace of innovation—but it will require increasing investments in bio-platforms and capabilities such as AI to innovate faster.



Given the flexibility and various options that platforms can generate, we expect that the Architect growth pathway will continue to be used, but the primary motivation will shift from getting access to early-stage assets toward access to platforms. We also expect Ecosystem growth pathways to be utilized more often—either in the form of partnerships or M&A—to access capabilities such as AI that accelerate time-to-market. Additionally, based on the increasing opportunities in China, combined with pricing pressures in the U.S., we expect Controller pathways to be pursued more often. The traditional Builder approach is rapidly becoming less appealing—and according to the biopharma executives we interviewed, it became almost impossible to create value from late-stage asset acquisitions due to record high transaction premiums in 2021.

The deals announced during the first two weeks of 2022 leading up to the J.P. Morgan Healthcare Conference supported our predictions. The largest deal announced at the conference was an example of the Ecosystem growth pathway. It is a collaboration between Sanofi and an AI-drug discovery company, Exscientia, worth up to \$5.2B, and covering up to 15 potential treatments.¹⁴ The largest upfront cash outlay was for an Architect pathway from Pfizer, with a \$300M payment to get access to Beam Therapeutics, a four-year-research collaboration focused on in vivo base editing for rare genetic diseases of the liver, muscle, and central nervous system.¹⁵

Inorganic growth pathways: 2010-2021, number of transactions



Architect

Early-stage asset acquisitions often with a biotechnology platform

Builder

Bolt-on-late-stage asset acquisitions

Ecosystem

Acquisitions of know-how and capabilities to innovate faster or reach customers in new ways

Controller

Geographic expansion or vertical integration

Predictions

Shift away from early-stage assets and towards platform-based deals.

Fewer late-stage asset-based Builder pathways.

More Ecosystem and Controller pathways thanks to nearly unlimited funding from VC and PE as well as increasing opportunities ex-US.

Source: Accenture Research Growth Pathways Model 2021. An analysis of all M&A transactions of top 30 biopharma companies by revenue, leveraging S&P Cap IQ data. Percentages were calculated based on # of transactions.



Three key actions

Based on our analysis, we believe future successes will involve an increased focus on platforms (Architect) and capabilities such as AI that support innovation at speed (Ecosystem).

We identified three key actions companies should take in this new era of innovation and growth:

- 1** Combine biotechnology platforms (bio-platforms) and capabilities to create value.
- 2** Become a “cross-platform” organization and culture.
- 3** Create a novel science and technology (S&T) incubator that reports to C-suite.

Three key actions

1

Combine biotechnology platforms (bio-platforms) and capabilities to create value:

Different bio-platforms can and should help each other evolve in new directions and create value together. For example, the combination of mRNA and lipid nanoparticle delivery bio-platforms made it possible for mRNA vaccines to be developed in record time.¹⁶ Additionally, Ecosystem growth pathways that provide access to computational power, data, and advanced analytics, as well as digital and automation technologies, help power bio-platforms to develop treatments faster.

This can be seen in how protein degradation platforms and artificial intelligence were combined to predict how proteins will interact optimally, which was key to the development of Amgen's KRAS inhibitor, a previously undruggable target.¹⁷

Three key actions

2

Become a “cross-platform” organization and culture:

Bio-platform approaches often include novel modalities which may require different considerations for manufacturing, clinical trials, regulatory and so on. Successful companies will learn to enter new modalities faster by evaluating these considerations early on, such as being able to get clarity on new manufacturing processes, to overcome the resistance in front of developing new modalities. The good news is that as companies develop additional assets using bio-platforms, they will learn how to develop these assets faster and more efficiently. This learning can and should then be applied to other bio-platforms and various therapeutic areas to increase speed.

Biopharma companies currently have therapeutic area (TA) verticals and have built disease expertise, both supported by capabilities, relationships, and in-house experts specific to each TA which can sometimes be detrimental to cross-TA learning. As bio-platforms and capabilities go across TAs, biopharma leaders will need to adjust their operating model including their organization and culture to realize the full value of their bio-platforms.

Three key actions

3

Create a novel science and technology (S&T) incubator that reports to C-suite:

If executed well, the bio-platform strategy will lead to a proliferation of assets in various therapeutic areas (TAs). It is not efficient to keep building new TA verticals and therefore biopharma will need to externally source experts, skill sets, capabilities, and relationships on demand. A dedicated team of R&D experts with an entrepreneurial mindset and direct access to a C-suite leader can orchestrate this internal and external effort.

Similar to a venture capital operating model, this team would incubate novel science and technologies while evaluating and managing various S&T collaborations that provide access to experts, skills, capabilities, and relationships. They would serve as a bridge between the R&D and BD teams.

With the pace of innovation accelerating and the expectation of companies to keep pace, the future of growth and M&A is set to transform. From shifting trends in partnerships to new models of thinking required to support acquisitions, we are deeply entrenched in a period of transformation for the life sciences industry—a transformation that will have a lasting impact on the future of treatments and patient outcomes.

For further reading, please visit:
[accenture.com/sustain-growth](https://www.accenture.com/sustain-growth)



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Authors:



Dr. Petra Jantzer

Senior Managing Director,
Global Life Sciences Lead

petra.jantzer@accenture.com



Selen Karaca-Griffin

Senior Principal,
Global Life Sciences Research Lead

selen.karca-griffin@accenture.com



Kenneth R. Munie

Managing Director,
Life Sciences Strategy Lead

kenneth.r.munie@accenture.com



Stuart Henderson

Senior Managing Director,
Northeast Market Unit Lead

stuart.t.henderson@accenture.com



Austin Corbett

Managing Director,
Life Sciences Strategy

austin.j.corbett@accenture.com

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