

# Investment and Innovation in Animal Health: The Past, Present, and Future

Investment and innovation in the animal health space has evolved drastically over the last decade driven primarily by the growth of protein demand and the humanisation of pets. The frenzy of investment activity has substantially increased with an estimated \$4.5 billion invested in small to emerging startups since 2010 with over 400 + startups actively operating in the animal health ecosystem. Not to mention, the industry has seen the largest players spin-off from their human health parent company and garnered some record-breaking IPOs. This, coupled with extreme M&A activity, has formed the industry into a highly consolidated space with innovation being driven by small and agile startup companies that quickly get consumed by the larger players. The animal health space has navigated the ebbs and flows of the economic rollercoaster shockingly well, emerging as a resilient and recession-resistant category; making investment in this space extremely attractive.

## A Decade in Review

One of the most significant differences which has happened in the past 10 years has been the breakaway of large animal health corporates from their parent human health companies and the rapid mergers and acquisitions activity that follow suit. Probably the most notable shift, which moved the animal health industry into the spotlight, was in 2013 when Zoetis split from its human health parent company, Pfizer. At the time, this IPO was the largest seen on the stock exchange since the Facebook IPO, with an initial public offering of over \$2 billion. This event garnered much needed validation for the industry and proved that animal health focused ventures can stand alone as robust, multi-billion-dollar corporations. Just taking a look back to 2012, we can see how quickly the players have evolved from the top 4 animal health companies being Pfizer, Merck, Merial, and Elanco to 2022 where the top 4 are now Zoetis, Elanco, Merck Animal Health, and Boehringer Ingelheim. Out of the current corporates at the top, only two are still tied to their parent human health company: Boehringer Ingelheim and Merck Animal Health. The chronologic flurry of activity in the animal health industry peaked in 2018 with Elanco's bold move to acquire Bayer Animal Health, resulting in 2019 as being one of the biggest years for acquisitions in the industry with over \$8.1 billion reported in public disclosures.

## An Overview of the Industry

The global animal health market is comprised of every category that directly or indirectly touches animals. The majority of revenues come from livestock animals, companion animals, and aquaculture, however, there are other subsegments of the space that are quickly growing. The core animal health industry is projected to be worth over \$40 billion with complementary categories such as nutrition, diagnostics, and digital technology adding another \$35 billion. Adjacent categories such as pet insurance, pet food, and agritech combine for an overall market size of \$350 billion. In 2018, out of the top general 6,000 products, the top 25 generates over 75% of total sales. Over the last decade this market has outpaced the market S&P 500 index with over 44% growth with the market product categories being pharmaceutical, biological

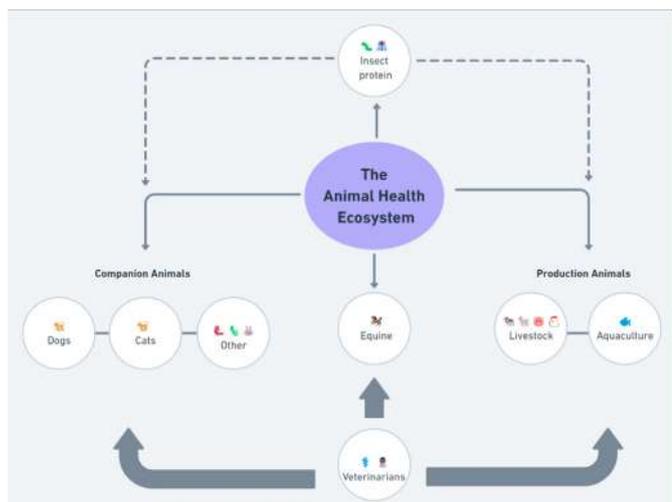
and medicated feed additives. The surge of medicated feed additives and biologicals can be correlated with the shifting mindset of the animal health industry from a treatment perspective to preventive model of care for animals. Likewise, these product categories have seen multiple blockbuster drugs (over \$100 million in annual sales) with next generation products such as Cytopoint from Zoetis for canine itch relief or Galliprant from Elanco for canine osteoarthritis. There are also complementary categories which are also emerging that are being wrapped up in the animal health ecosystem as sustainability and animal welfare are swiftly burgeoning to the forefront. Because of the demands placed on protein production, sub-categories such as insect protein are being utilised in all facets of the industry as a dietary supplement for companion and production animals. In fact, the largest ever raise from an animal health company happened in 2019 with a Series C raise of \$372 million by French insect protein company Ynsect. In addition, the veterinarian is at the core of animal health as they are usually the target customer for many of the large animal health company's products as well as being the medical epicenter, thus, solutions focused on the vet, such as practice management software, telehealth systems, and vet/pet owner interaction tools have gained significant investment recently.

## Investment

Investing in the animal health industry has seen a fervor of interest from small to large investment entities. A decade ago, startup animal health companies would be hard pressed to find investment money from dedicated animal health investment firms. Almost always entrepreneurs would have to go to human health investment entities seeking money for their animal health product with limited success as in-house investment expertise on these products was limited. Now, there are several boutique investment firms either spun off from their human health core or networks only focusing on only animal health such as Blue Rabbit Ventures, Anterra Capital, Veterinary Angels Network for Entrepreneurs, Borealis Ventures, and NovaQuest. In addition, most of the large animal health corporate have ventures arms which are recruiting innovators through partnerships, pitch competitions, or accelerators such as 9SquareVentures (Purina), Leap Venture Studio (Mars), PlugNPlay Animal Health (Topeka, KS) and Merck Animal Health Ventures. There has also been a swell of conferences, investment forums, networking events, and forums dedicated to investment and innovation in the animal health space with emphasis on subsegments such as microbiome, pet care, ag-tech, and aquaculture. Investment in the animal health space has correlated with the industry's growth. In 2010, the average series B raise in animal health, would be seen from \$20–\$30 million. In just the past 12 months, three emerging companies have raised series B funding with ticket sizes exceeding \$60 million: unprecedented for this space. Outside of smaller companies, the market has also seen increased funding in roll-ups, IPOs, and M&A activity with more and more investment banks, private equity, family offices, and external public companies funding large multi-million-dollar transactions such as a Merrill Lynch, Barclays, and Bank of America.

## Innovation

With an increase in market size, investment dollars, and



changing social needs, a natural result is the quickly evolving and expanding solutions being developed for the market's pain points. Traditionally, most innovations in the industry came from internal research and develop from the larger human health companies which would trickle down to their animal health departments. With the break away from these larger counterparts, more and more innovations and pipeline product expansions are being done through partnerships, joint research projects, licensing of technology, mergers, and acquisitions. Although all of the large animal health players have internal R&D departments and teams, majority of new products and services, that fall outside of the traditional pharmaceutical space, are obtained by licensing or acquisition. This has changed the landscape of the industry and has required the large corporates to hone their integration processes as well as step into unfamiliar adjacent categories of animal health such as next generation solutions and technology. In addition, more strategic partnerships and interdisciplinary development alliances have started to take shape, as the likes of Evergy, a large energy company, supporting the animal health accelerator Plug and Play or Amazon collaborating with VCA to enhance pet health care management systems. The innovation categories which have garnered the most traction in the past decade have been truly challenging old business models and industry's standards, uncovering a more consumer aware and animal welfare oriented demand. Some the most prevalent innovation categories are:

- Alternative protein (e.g. insect protein, cell cultured meat, aquaculture, plant based products)
- Next generation solutions (e.g. stem cell therapies, monoclonal antibodies, immunotherapy)
- Diagnostics (e.g. point of care diagnostics at the clinic, at home mail in tests for pet parents)
- Consumer facing products (e.g. education tools, pet insurance/preventative services, e-commerce)
- Veterinary technology (e.g. practice management software, telehealth tools, customer engagement platforms)
- Animal nutrition (e.g. pet treats and food, pre/pro/post-biotics, alternatives to antibiotics)

Although all of these categories are developing into spaces on their own, none have been as impressive nor as fast moving, at the pet care space. With the increase in pet ownership and the amount of time spent with pets at home drastically increasing over the course to the pandemic, the pet care space has enjoyed large investment sizes. In May 2022, biotherapeutics startup, Invetx, successfully

raised an oversubscribed series B of \$60.5 million, making it the largest amount of pre-initial offering investment in a companion animal biotherapeutics startup ever. As was mentioned in the investment segment, a majority of investors did not have a background in animal health with funding coming from Google Ventures, Novo Holdings, and F-prime capital. Likewise, in December 2021, molecular pet diagnostics company, PetDx raised an impressive series B of \$62 million and the most significant series B ever recorded in the pet care industry happened in August 2021 with Embark Veterinary, a pet DNA testing company, bagging a substantial \$75 million.

It is clear with the flood of activity in investment and innovation in the animal health space that this is a market that will continue to grow and produce cutting-edge technologies to help animals and the humans that take care of them. The investment sizes and innovation activity not just endorse the validity and the appetite of the companion animal segment but also highlights investor interest in the wider animal health space. With all of the change and promise seen in the past decade, it will be exciting for those in this space to see what the next 10 years in the animal health industry will bring.

## REFERENCES

1. <https://www.grandviewresearch.com/industry-analysis/animal-health-market>



## Amanda Burkardt

Amanda Burkardt earned both her Bachelors of Science in Animal Science and her Masters in Animal Molecular Biology from Oklahoma State University. She has over seven years of laboratory experience domestically and internationally in various scientific fields. Amanda also has a Masters in Business Administration with an emphasis in Entrepreneurship and a Masters of Management Information Technology from the University of Oklahoma. Amanda not only worked with OSU to spin-off a startup company based on her Master's work, but she also collaborated with OU's Office of Technology Development assisting with due diligence, analysis and decision support for the evaluation of intellectual property created at OU. Through her experience, she has started consulting with other scientists, entrepreneurs, and innovators in evaluating technologies for start-up opportunities as well as the creation, protection and commercialization of intellectual property. Amanda is currently working with a large network of angel investors in the Midwest, scouting for innovations and disruptors in the life science, animal health, and agriculture industries. Through her immense and multi-national networks, she conducts investigations and discoveries, putting together large due diligence reports for investors to examine entrepreneurial value and product opportunity. With her company, Nutripeutics Consulting, she has consulted with the largest animal health companies and institutions in the industry and is frequently showcased in industry-wide speaker series, judging panels, newsletters, articles, podcasts, and reports. She has grown her community and is currently working with clients domestically and internationally. She truly has a passion for innovations in science and technology, and desires to discover, develop, and fund products that will "Turn Research into Return".