

Shaping the Future of Health and Well-being for Animals







### The Future of Animal Health

As a Biopharmaceuticals and Technology Solutions company, Merck Animal Health has a proud history of improving the lives of animals and the people who care for them. Our collective experience as a highly energized, passionate global team is helping us shape the future. So, while we cherish our beginnings and the bold ideas we have brought forward, we look toward the future as we work with commitment, passion and urgency, focused on leading in ways that impact how we interact with animals. Today, we are striving to become an even more ambitious, innovative force for progress in science and technology with a goal to benefit the health and well-being of animals.



Our pioneering science, technology and insights-driven solutions are proven to be effective in maintaining the health and well-being of animals because they are created through intuitive, collaborative relationships with our customers. We work with our customers to understand their animal health needs, which inspires us to create solutions that impact and improve their lives and their businesses.





## Harnessing the Power of Technology

We create health solutions with the power to protect humans against diseases passed from animals, provide for longer, healthier lives for our pets, and help customers raise the levels of a safe, healthy and sustainable food supply in their farming businesses through enhanced measures of animal health and welfare.

Our wide range of veterinary medicines, vaccines and health management solutions and services, as well as an extensive suite of connected technology that includes identification, traceability and monitoring products, are designed to improve the health and well-being of Livestock and Companion Animal species. We have access to real-time, actionable data and insights to help improve or enhance animal health management and health outcomes. Our expertise is the way in which we identify animals, engage with them, monitor their activity, anticipate their health needs and help people manage or care for them.

We understand that veterinarians, farmers, pet owners, food producers and retailers face challenges that are wider, more complex and evolving faster than ever. These partnerships are how we work together to create and generate products and technology that evolve the industry and change lives for the better.





### Our Purpose-Driven Research

Research and Development is our powerhouse of turning fundamental research into scientific advances and treatments in our industry. Our leading scientific discoveries require the industry's foremost researchers and state-ofthe-art facilities in the world – committed to advancing veterinary medicine through novel solutions in key therapeutic areas.

We are focused on innovation, which drives our unwavering commitment to research and development as the path to tomorrow's breakthrough products. As a leading animal health company, we are committed to adapting and applying the latest technologies to our research efforts so that we are focused on advancing the state of veterinary medicine.

With a worldwide network of dedicated research sites and multi-species research centers of excellence, we are better positioned to discover and develop first- and best-in-class opportunities in small molecules, vaccine technologies and biotechnologies, such as monoclonal antibodies, to provide targeted solutions to our customers.



Today, we have hundreds of ongoing projects focused on everything from combating parasites and infections to improving animal health, well-being and performance. Our research includes the vital field of biologics, where we're focused on using new technologies that will address a range of diseases, including zoonotic diseases that affect both humans and animals.

We work closely with our company's Human Health colleagues to enhance the strength and rigor of our scientific base. Many of our most effective treatments have their roots in human health-based research.

Our global manufacturing network delivers the most innovative capacity and capabilities to build our strength for the future to meet the rapidly growing customer demand for our products. We continually invest in new technologies to improve our overall efficiency with complex manufacturing processes, such as the novel SPHEREON® vaccine formulation technology, that will strengthen our platform for sustained growth. These processes enable us to strengthen our global footprint, increase our ability to fulfill customer needs and reduce our environmental footprint.

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# Animal Health Solutions for an Interconnected World

The scale and complexity of the global challenges in animal health means no company can afford to work in isolation. We combine our internal discovery efforts and co-innovation partnerships with pharmaceutical and crop science companies and academic institutions. Also, we have an active Business Development approach as well as Animal Health Ventures programs that partner with start-ups, inventors and entrepreneurs in bringing advanced digital technologies that address unmet customer needs.

Also critical to our innovation efforts are our Technology Labs and Data Labs' efforts in leading technology development and leveraging data collection to meet scale and complexity for our customers.

As a leading company in animal identification and monitoring activities, as well as animal traceability from the birth of an animal to food on the plate through a combination of DNA and data analytics, we can provide an evidence-based traceability solution about how animals are raised and processed. For example, we pioneered a gold standard for traceability and transparency that is unique in the industry that can verify the exact origin of beef, seafood, pork and poultry products in every stage of the production chain – from the farm gate, the processing plant and right through to the restaurant plate - for the food retailer, food producer and consumer. As more consumers demand higher standards of sustainability, food retailers need to be sure that the products match the claims they make about their food's climate impact.







### A One Health Approach

As a company that advocates and fosters innovation, we partner with policymakers and governments to ensure that decisions are based in science and that our customers readily have access to our products and technology to make the world a better place.

We believe in taking a One Health approach to solve today's health issues. With our vast expertise in both Human Health and Animal Health, the company is uniquely positioned to collaborate with customers to benefit the broader connection among humans, animals and the shared environment. It is our hope to develop innovative tools and technologies to tackle major population health challenges, prevent animal disease and ensure a safe, nutritious, sustainable food supply, as well as practices that protect our environment.



As for environmental sustainability, we continue to work to reduce our negative environmental impact and improve our operations by changing processes and policies around energy, climate, water, waste and air. Our contributions to these efforts can be seen in our adherence to the United Nations 17 Sustainable Development Goals.

### Supporting Animal Health and Well-being

Healthier animals mean a sustainable food supply, protection for humans against diseases passed from animals, and longer, healthier lives for pets.



Ruminants: We have a broad portfolio of products and technologies to protect against the most common and harmful pathogens affecting ruminants, such as cattle (dairy- and beefproducing), sheep and goats. We are a leader in veterinary medicines, vaccines and therapeutic solutions for diseases, pain management and reproduction management solutions, including internal and external parasite protection. Our ALLFLEX<sup>®</sup> identification brand supports farmers by providing identification technology that delivers real-time information to help them improve livestock management. Our SENSEHUB® monitoring brand monitors livestock by collecting information on cow states to detect the potential for illness early and provide actionable insights. Our DNA-based animal traceability platform, DNA TRACEBACK®, provides a verifiable solution from fork-to-farm for food producers, processors and retailers for Livestock and Aquaculture. Other enhanced technology involves the ability to track, monitor and manage the movement of cattle through a platform of virtual fencing for rotational grazing and livestock management.







Aquaculture: Our company helps aquaculture producers and conservationists cultivate and maintain healthy and sustainable aquatic ecosystems. In aquaculture, we promote fish welfare and sustainability with state-of-the-art vision technology and fish handling equipment that delivers insights for fish farmers to make informed decisions about the health and welfare of their stock in real-time. In conservation, we offer a series of modular, scalable fish passage solutions to promote the long-term sustainability of renewable hydropower and the surrounding aquatic species. These holistic, customizable solutions were developed to provide actionable intelligence to resource managers by monitoring the movement and population structures of wild fishes, optimizing attraction and survival through fish passage facilities, and benchmarking performance.



**Poultry:** We have one of the largest poultry vaccine portfolios with products against most major pathogens and a focus on diseases affecting broilers, breeders and layers. Through our SENSEHUB® Poultry brand, we have the ability to allow farmers to measure, compare and record key health and environmental indicators in the poultry barn, as well as to identify patterns and trends to predict potential health issues, improve well-being and, ultimately, prevent disease.



**Companion Animal:** We have disease prevention and treatment strategies to improve the quality of life of pets and protect owners from contracting transmittable diseases with leading brands, such as BRAVECTO<sup>®</sup>, NOBIVAC<sup>®</sup> and CANINSULIN<sup>®</sup>. Additionally, our SURE PETCARE<sup>™</sup> brand platform offers a selection of digitally connected products, including microchip-operated feeders, water dispensers and pet doors; RFID identification chips, such as THERMOCHIP<sup>®</sup>; and solutions that monitor pet behavior and provide insights to pet owners, such as the ANIMO® activity tracker. Those technologies help pet owners enhance their pets' quality of life, along with the HOMEAGAIN® brand-leading service provider in pet recovery.

Swine: We have a wide range of medicines and vaccines covering the most common and harmful pathogens affecting pigs and various fertility management products for the breeding sector. For the past 20 years, the IDAL® needle-free intradermal vaccination system has provided farmers with a first-in-class, high-technology answer to swine vaccination, and its continued use and evolution demonstrates the impact it has had on the swine industry. IDAL's proven technology eliminates the traditional needle and syringe and offers a convenient approach that improves animal welfare. Additionally, we added a digital swine traceability solution to our portfolio that will track individual pig data from birth throughout





# Supporting Those Who Care for Animals

We all share a responsibility for the food chain, and we are taking the lead in helping the farming industry evolve to meet future demand. We lead with prevention to help keep animals healthy and minimize the need for treatment. We innovate with science to drive continuous improvement in animal health. We advance welfare to enhance the comfort and care of all major Livestock species.

Our portfolio is already focused on helping farmers keep their livestock healthy and productive while maintaining welfare standards. Targeted intervention with vaccines, therapeutics and performance technologies ensures we get the most from our healthy animals because the better the health and welfare of our animals, the more their natural potential is achieved. We understand the strong relationship



between people and their pets. Our goal is to support those relationships by providing veterinarians and pet owners with stateof-the-art products, technology and services that help pets live longer, healthier lives. We address the totality of health needs and improve the well-being of Companion Animal species, which include dogs, cats, horses and rabbits. We are proud to be part of the daily lives of both veterinarians and pet owners by providing them with the support they need to ensure pets receive the high-quality care they deserve.



### **About Merck Animal Health**

At Merck, known as MSD outside of the United States and Canada, we are unified around our purpose: We use the power of leading-edge science to save and improve lives around the world. For more than a century, we've been at the forefront of research, bringing forward medicines, vaccines and innovative health solutions for the world's most challenging diseases. Merck Animal Health, a division of Merck & Co., Inc., Rahway, N.J., USA, is the global animal health business of Merck. Through its commitment to The Science of Healthier Animals<sup>®</sup>, Merck Animal Health offers veterinarians, farmers, pet owners and governments one of the widest ranges of veterinary pharmaceuticals, vaccines and health management solutions and services as well as an extensive suite of connected technology that includes identification, traceability and monitoring products. Merck Animal Health is dedicated to preserving and improving the health, well-being and performance of animals and the people who care for them. It invests extensively in dynamic and comprehensive R&D resources and a modern, global supply chain. Merck Animal Health is present in more than 50 countries, while its products are available in some 150 markets. For more information, visit <u>www.merck-animal-health.com</u> and connect with us on LinkedIn, Facebook, Twitter and Instagram.

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