

Holland
BIO

HOLLANDBIO HIGHLIGHTS

ENGLISH EDITION





FOREWORD

HollandBIO is 5 years old! Under the motto “challenging the status quo”, we work every day to maximize biotech’s impact on our society. HollandBIO is the Dutch biotech industry association and the voice of the Dutch biotech sector. We take a stand in a sometimes polarized public debate and we dare to speak our minds.

But HollandBIO does much more than just debate the issues – we also put them on the agenda. And with success. An innovative sector generates solutions, and that is exactly what HollandBIO is doing. We make sure we are in the front row of policymaking, and we bring our expertise to the table, engaging in the conversation in a constructive and positive way.

The Dutch biotech sector is doing well, and so is HollandBIO. We welcomed many new members last year! From companies working on cultured meat to drug developers, from entrepreneurs developing biobased applications to players completely immersed in the vaccines and crops of tomorrow. HollandBIO is incredibly proud that we can represent so many fantastic companies. Without their support, expertise and trust, we would be nowhere.

Our members can count on HollandBIO’s commitment in the years to come. Just as we count on the support of our members. Because only together will we be able to make a difference in the success of the sector and the path towards a healthy and sustainable future. As partners in HollandBIO and as ambassadors for our wonderful sector!



Annemiek Verkamman
Managing Director

HOLLANDBIO

AT A GLANCE

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Challenging the status quo

HollandBIO runs with the frontrunners, and is not afraid to challenge the status quo. This and more has been embedded in HollandBIO's vision and strategy.

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HollandBIO: standing for the sector

The more members we have, the stronger we stand. We go the distance when it comes to keeping our members and attracting new ones.

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Faster and better from bench to bedside

HollandBIO targets solutions that combine health, innovation and affordability.

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Together with our members, we work through four programs in a structured and project-based way to boost the success of the biotech sector.

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Always up-to-date with HollandBIO

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Rock-solid innovation climate

Capital, knowledge and infrastructure make the Netherlands *the* undisputed biotech place to be.

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Societal challenges call for biotech solutions.

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HollandBIO: the voice of the sector

We cannot remove obstacles on our own. HollandBIO actively leverages its network to improve the route to innovation.

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HollandBIO Business Solutions

HollandBIO offers practical Business Solutions which make running a biotech company that much easier and more affordable.

CHALLENGING THE STATUS QUO

Healthy and sustainable

Biotechnology is of the utmost importance for a healthy and sustainable society. The life sciences sector is instrumental in no fewer than 11 of the 17 Sustainable Development Goals from the United Nations. Vaccines and medicines save millions of lives around the world. Thanks to biotech, crop yields have been on the rise for many years, and the circular economy is within reach. The future, though, has much more in store: personalized medicine, cell and gene therapy, resilient and healthy vegetables and fruit, biobased materials and cultured meat. But there are no guarantees that we as a society will reap these benefits in the near future. That is why HollandBIO works tirelessly every day to fulfill biotechnology's promise.



Frontrunners

The biotech sector is immensely innovative. Biotech companies transform cutting edge scientific findings into applications that go straight where they are needed: to people and society. These endeavors seldom avoid hitting a snag or two, because by definition, frontrunners are the first to reach the limits of what is possible. Therefore, frontrunners need room to innovate. Enthusiastic and knowledgeable, HollandBIO concentrates its efforts on removing the obstacles that get in the way of these frontrunners. We are convinced that this approach generates much more impact than simply defending the status quo.

From vision to action

Like its members, HollandBIO sets a high bar. But with the huge range and array of companies, countless biotechnology applications, and current events, the potential to-do list is seemingly infinite. Real impact means setting priorities, which makes us vigilant about which obstacles we tackle. Does it factor into the success – or failure – of the frontrunners? And is it within our power to make a difference? If the answer to both of these questions is yes, then we initiate a structured process to determine the goal, effort, result and effect. Only then do we take off in a run, and with allies wherever possible, always keeping our members up to date on our progress.

Ultimate success

The better the life sciences sector is doing, the greater its impact on society. This is why HollandBIO's mission is to make a significant and visible contribution to the success of the sector. In our ideal world, the Netherlands offers a climate where innovations incubate, flourish, and become quickly and widely available to society. And where people dream about having a career in the sector. In short: we will only be satisfied when the Netherlands is *the* undisputed life sciences place to be. To achieve this ultimate success, there is work to be done.

Members

HollandBIO requires broad and strong support to succeed. We have 200 members already, and this number is growing steadily. Our members are the pioneers, the movers and shakers that form the heart of the sector. People with steadfast faith in their own approach and who want to work even harder against the headwinds. Together we are strong, and together it is easier to build the bridge to society.

Biotech in the spotlight

HollandBIO has many reasons to be proud of its members. But not everyone knows how exceptional and indispensable they are. And that is a shame, because we cannot value what we do not know. We hope to change this by giving a face to the sector and by giving our members a stage. In every conversation, presentation, letter and press release, we emphasize the value of biotech to the world of today and tomorrow. And with our positive, transparent and solution-oriented approach, we strengthen confidence in the sector.

More impact with HollandBIO Programs

Ultimate success means that the Netherlands has everything it needs, on all fronts and in every stage of development. This means a thriving innovation climate that allows the sector to flourish and that serves as a magnet for companies and leading talent: the smart minds who will work on the technologies of tomorrow. The path that biotech innovations follow in the Netherlands from the lab to society must be the fastest and most efficient. In 2018, we introduced four programs through which we structure our work towards this ultimate success.

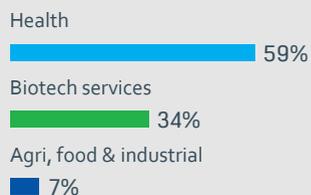


HOLLANDBIO: STANDING FOR THE SECTOR

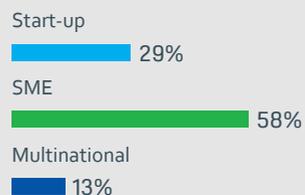
HollandBIO is a privately-funded association that is growing like a weed. Our members mirror the biotech sector: from start-ups and mid-sized to small companies to the big firms, active in healthcare, nutrition or the biobased economy. The more members HollandBIO tallies, the stronger we stand. We put our 200 members first, and continuously invest in attracting new ones.

HollandBIO members

R&D focus

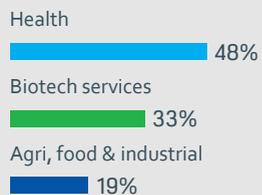


Company size



The Dutch life sciences sector

R&D focus



Total number
of R&D
companies:
682



Clinical
products in
development:
407



Total
number of
companies:
1797

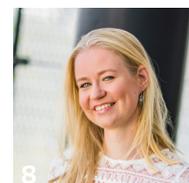
Source: Biotechgate 2019

MEET HOLLANDBIO

Team

Our team is the driving force behind HollandBIO's activities. We organize events, collect and analyze information on the sector, represent the sector in the press, and we make sure that the bottlenecks that stand in the way of the sector's success are inventoried, discussed and cleared out of the way.

Are you looking for specific information on biotech, do you want to exchange ideas, or would you like to sit down for a cup of coffee? Contact us!



- 1 **Annemiek Verkamman** | Managing Director
- 2 **Wieteke Wouters** | Program Director
- 3 **Timen van Haaster** | Public Affairs Manager
- 4 **Britt van de Ven** | Program Manager
- 5 **Fabian Pruissen** | Program Manager
- 6 **Irma Vijn** | Program Manager
- 7 **Marit Heblj** | Program Manager
- 8 **Leonie White-Scholten** | Operations Coordinator
- 9 **Ingrid Vosters** | Office Manager

Board



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The board consists of seasoned biotech professionals. Together they form an ideal reflection of HollandBIO members. They represent SMEs, multinationals, members active in healthcare and prevention, agrifood, industrial biotech and the associate members.

- 1 **Markwin Velders** | Kite Pharma (chair)
- 2 **Bas Reichert** | Basedear (treasurer)
- 3 **Carine van den Brink** | Axon Advocaten
- 4 **Erik van den Berg** | AM-Pharma
- 5 **Oscar Goddijn** | Avansya, a JV of DSM & Cargill
- 6 **Marc Kaptein** | Pfizer
- 7 **Martine van Vugt** | Genmab
- 8 **Michiel van Eijk** | Keygene
- 9 **Joep Rijnierse** | Amgen



IN MEMORY OF KRIJN RIETVELD

To our great sadness, our board member Krijn Rietveld passed away suddenly on January 29, 2018. Krijn represented DSM on the HollandBIO board and was highly regarded for his extensive knowledge and valuable contributions. Krijn had a passion for biotech and was driven by his firm belief in the importance of biotech for a sustainable society. He was widely known and loved.

At DSM, Krijn has many pioneering inventions in advanced biotechnology to his name, and he was the architect of countless new strategic partnerships. Characteristic of his approach was the combination of technology, innovation, his eye for new opportunities and his genuine interest in the people who brought them to life.

We miss Krijn not only for what he brought to our sector, but also and especially for his humor, devotion and warm personality.

HOLLANDBIO PROGRAMS

In 2018, HollandBIO launched four programs to amplify our impact. In one fell swoop, the programs spell out what HollandBIO stands for and does (“why”). Driven by the program objectives, we map out the bottlenecks and opportunities, and we strive towards the implementation of solutions (“what”). And all of this together with our members, in the distinctive HollandBIO way (“how”).

Why!

Rock-solid innovation climate

With plenty of funding in each phase of development, seamless tech transfer and a business climate that serves as a magnet for companies and leading talent, the Netherlands is becoming the undisputed Boston of Europe.

Technology for a brighter future

To address societal challenges, innovation has to be in the highest gear. This requires incentivizing policies which give biotech room to deliver on its promise. Because if it's up to the sector, the future is healthy, sustainable and animal-friendly.

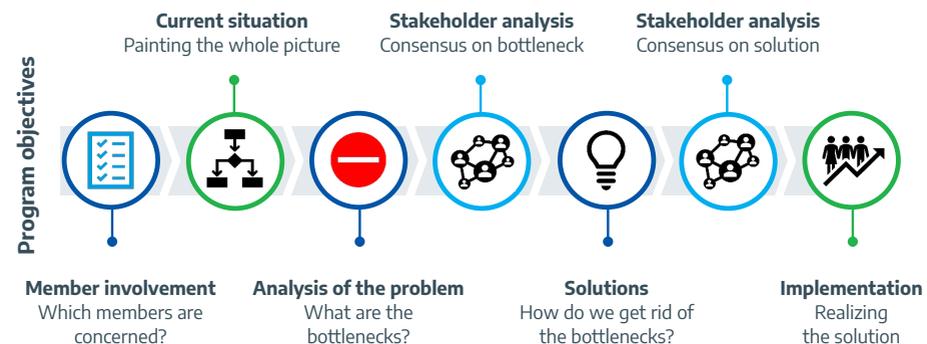
Faster and better from bench to bedside

Drug development takes too long, is too expensive and too risky. This stands in the way of our ambition to provide effective treatment to every patient. HollandBIO is committed to solutions which combine health benefits, innovation and affordability.

Prevention: better safe than sorry

Prevention is the holy grail of healthcare. And vaccines truly make that possible. They play a starring role in the fight against infectious diseases. HollandBIO is strongly committed to the optimal use of vaccination throughout our lifetimes.

What!



How!

Our way of working

- Proactive, stemming from our vision
- Structured and project-based
- Impact through significant and visible results
- Optimal member involvement
- Results-oriented cooperation with stakeholders

Want to learn more, think along with us, or get involved?
Get in touch with HollandBIO's Wieteke.



ROCK-SOLID INNOVATION CLIMATE

The Dutch life sciences sector is on the rise: over the last ten years, the sector doubled in size. And, as we firmly stated in our vision of the future “Life Sciences 2030”, our country has all of the ingredients it needs to advance from its European top-five position to the global top. In order for the sector to double again before 2030 and become the undisputed Boston of Europe, a thriving innovation climate is an absolute prerequisite.

Thanks to our leading science, a beautiful future lies ahead of us. The Dutch life sciences sector is not only an important driver of innovations for health and sustainability, but it also

realizes economic growth through quality employment, by attracting international companies and by increasing private investment. The people in the life sciences sector are driven and exceptional, with unrivaled perseverance in making their ambitions come true.

HollandBIO is strongly committed to an innovation climate in which biotech entrepreneurs and companies can excel. We aim to broaden and improve the financing options, to realize targeted and well-run valorization processes between academia and business, and to ensure an innovation-friendly business climate.

A glimpse at our results

Innovation Credit structurally raised and simplified

In 2018, the budget for clinical Innovation Credit was raised from € 10 million to € 30 million. This credit is one of the most important financing sources for the innovative SMEs among our members. Unfortunately for years, the budget has been overrun by the millions on just the first day. The additional budget is a first step in the right direction to meet the demands of the sector. The Innovation Credit process has also been simplified thanks to HollandBIO and the Netherlands Enterprise Agency, which worked together to dig into the application procedure. The requirement for board members’ personal guarantee of the Innovation Credit has been eliminated. Board members are no longer personally responsible for “a mistake”. Thanks to these excellent results, the Innovation Credit can contribute even more to the growth of Dutch life sciences companies.

Socially responsible innovation starts with knowledge valorization

No patient benefits from knowledge that stays on the shelf. Socially responsible innovation thus begins with fostering the valorization of publicly-financed academic research. It was this very message that formed the common thread in HollandBIO’s input in the discussions on socially responsible licensing led by the Netherlands Federation of University Medical Centres. For optimal social return, valorization must play a central role in research institutes, and knowledge transfer processes and conditions must have an incentivizing effect. That socially responsible entrepreneurship can mean many things and that the action steps for entrepreneurs are not clear, emerged from the Biotech Thursday that HollandBIO organized around this topic. Everyone agreed on one thing: biotechnology is undeniably socially relevant.



Leiden Bio Science Park

2,451 followers
4 mnd · Bewerkt

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Congratulations **HollandBIO** with your 5 year anniversary!
Thank you **Annemiek Verkamman** and team for your contribution and commitment to the sector. The year event yesterday was spot on with interesting speakers and an enthusiastic crowd. Also fantastic to see the positive response on **Daan Luining's** story of the Leiden based company **Meatable**.



The life sciences "bid book" puts the sector in the spotlight

The publication of a bid book for the life sciences has given the sector an excellent tool for demonstrating what the Netherlands has to offer. The book was produced under the banner of Health~Holland in collaboration with several partners. HollandBIO's Annemiek presented the bid book at Nieuwspoord to Dutch Members of Parliament Leendert de Lange (VVD) and Jessica van Eijs (D66). The development of the bid book was one of a series of activities that put the Dutch business climate in the spotlight. The Amsterdam edition of the international partnering conference BIO-Europe Spring 2018 was painted orange, the leading biotech company Alnylam opened an office in the Netherlands, and the EMA broke ground for its new Amsterdam office. Two authoritative reports from EY and KPMG also contributed to profiling the Netherlands as the hub for life sciences by underlining the quality of the Dutch business climate. All of this attention brings us a step closer to our vision: the Netherlands as the Boston of Europe for biotech.

There's work to be done!

HollandBIO is committed to a rock-solid innovation climate where biotech companies flourish. That's why we're working on:

- **Financing for life sciences companies in each phase of development**
There are gaps in the financing landscape for life sciences companies, and these gaps delay or obstruct the start and growth of companies. HollandBIO considers the investment institution Invest-NL a major chance to close these gaps by freeing up venture capital for investments in life sciences start-ups and scale-ups. This way, Invest-NL can become the flywheel for innovation, and companies can gain more speed and strength to work towards innovative solutions. We are dedicating everything we have to realizing this opportunity.
- **Seamless knowledge transfer from academia to business**
Companies' use of academic knowledge can be and must be better. By giving valorization a central role at research institutes, we can foster tangible knowledge application. Incentivizing principles for socially responsible licensing and uniform framework agreements between research institutes and companies could make this possible. HollandBIO provides the knowledge and experience of life sciences entrepreneurs in order to bring valorization policy, its processes and implementation to a higher level.
- **Business climate as a magnet**
HollandBIO will only be satisfied once the Netherlands has a business climate that serves as a magnet for international life sciences companies and leading talent. Through means and measures like the bid book and Health~Holland pavilions at leading conferences, we are putting the Netherlands in the international spotlight. Meanwhile, we are also lobbying at the national level to reinforce this business climate even more, for example by maintaining or even reinforcing the tax incentives for R&D activities.

Want to learn more, think along with us, or get involved?
Get in touch with HollandBIO's Fabian.



TECHNOLOGY FOR A BRIGHTER FUTURE

Technology brings unprecedented prosperity to the world. Thanks to innovation, more and more people have a better life, and today humanity lives longer and in better health. Life sciences is one of the cradles of sustainable progress.

Biotech exploits the brilliant ingenuity of nature, such as by putting bacteria, fungi, cells and viruses to work as biological factories. The life sciences has many success stories to its name already: antibiotics, vaccines and drugs, new plant varieties, nutrients, soap and toothpaste. Piece by piece, scientists are unraveling the secrets of nature and its biological processes, making entirely new applications conceivable: gene therapy, plants that can grow in deserts or brackish soil, and bioreactors that produce cultured meat, animal proteins or biofuels.

To address the big societal challenges, technology development must be in the highest gear. Because we want to eradicate poverty, hunger and

malnutrition from the world. Cure diseases – or even better, prevent them. And all of this done in a sustainable way, without depleting the Earth. We owe it to the future to keep innovating.

HollandBIO cannot wait to cash in on the many opportunities that biotechnology has in store. But outdated regulation, old-fashioned ideas and technology-aversion stand in the way of progress. With the program technology for a brighter future, HollandBIO aims to remove the barriers that prevent the frontrunners from making full use of biotechnological methods in the development of innovations that the world desperately needs. We are working towards the sustainable application of technology, on innovation-friendly legislation and regulation, and on optimal implementation. Our motto: pave the way for biotech! Because if it's up to the sector, the future will be healthy, sustainable, animal-friendly — and sensational.

A glimpse at our results

Taste the future with CRISP*

HollandBIO developed a web shop full of biotech products that will make your mouth water. With CRISP.vision, we show the kinds of sustainable treats that come from the application of new plant breeding techniques. Unfortunately, these are still wishful thinking in Europe since the European Court decided to include all forms of mutagenesis under the strict regulation for genetically modified organisms. Contrary to a growing number of countries, crops made in Europe with these methods face a long, costly and uncertain approval process before they can be grown or put on the market. A massive restraint that puts biotech innovation in Europe at a huge disadvantage. The ruling was met with a wave of disappointed reactions, not only from breeders, but also from farmers, scientists, politicians and policymakers. We are not letting the issue go, and we are working together across Europe to turn the tide.



HollandBIO lays the basis for modernizing biotech policy

The HollandBIO vision on future-proof biotech policy is gaining support. That optimal policy is comprehensive, mission- and product-driven, and has clear, rapid procedures for its implementation. The Ministry of Infrastructure and Water Management (I&W) also recognizes that current national and European biotechnology policy is outdated. In 2017, the Ministry announced a plan to modernize existing biotech policy in the Netherlands. By participating in many deliberations and working groups, we are putting our ideal future on the table, and we are putting pressing issues on the agenda here and now. Not only does a growing group of stakeholders support the policy model that HollandBIO has developed, but several parliamentary parties also support our principles for modernizing national and European biotech policy.

Politics: biotech is indispensable to sustainable agriculture

Politicians are convinced: new plant breeding techniques are essential for making agriculture sustainable. This became apparent after two discussions organized by HollandBIO and Plantum that were brilliantly led by science journalist Hidde Boersma. While only a few “yes, but’s” were heard from Dutch parliamentary members during the first discussion, the use of technology was an absolute no-brainer for the political youth organizations that joined the second discussion. A tremendous boost for a sustainable future.

There's work to be done!

HollandBIO stands for the optimal use of biotechnology to address the big societal challenges. That is why we're working on:

■ Putting biotechnology in the spotlight

Biotechnology is not only spectacular, it is essential to a healthy, sustainable and prosperous society. Everyone who works in the sector knows this. But outside of our bubble, there is still a world to win over. HollandBIO gives biotech the spotlight it deserves. Until everyone is as big a fan of biotech as we are.

■ Paving the way for cell and gene therapy

The biotech pipelines are bursting with cell and gene therapies: a generation of innovations with the potential to cure patients in a single treatment. But the Netherlands is not yet ready for it. For example, the classification of clinical research with cell and gene therapy under Dutch laws and regulations is unnecessarily strict, making the permit procedure more difficult and time-consuming than in the countries around us. HollandBIO is taking this and many more bottlenecks on.

■ Taking a stand for new plant breeding techniques in Europe

Everyone in the Netherlands agrees: Europe must make room for the application of new plant breeding techniques. HollandBIO supports the Ministry of Agriculture and the Ministry of I&W in not only getting the problem on the agenda of the new European Commission, but also in solving the issue in the short term.

■ Building blocks for the future

If it's up to HollandBIO, we would eliminate national biotech policy entirely. The features and safety of the end products should be central, not the technology with which they are developed. This is a long-term ambition, but the modernization plan of the Ministry of I&W is a major chance to lay the foundations of future policy. We remain committed to seizing that opportunity.

Want to learn more, think along with us, or get involved?
Get in touch with HollandBIO's Irma.



FASTER AND BETTER FROM BENCH TO BEDSIDE

The life sciences sector lives up to its promises. Thanks to our groundbreaking new treatments like immunotherapy and gene therapy, patients get a new lease on life. But despite such impressive results, the way we develop innovations sometimes leaves something to be desired. HollandBIO is concerned that the innovations the sector is working on will not reach their target: the patient. The development path for drugs takes too long, is too risky and too costly. This gets in the way of our ambition to provide effective treatment to every patient. It has to be faster, and it has to be better.

HollandBIO advocates solutions that pave the way from lab to patient. For solutions where health, affordability and innovation go hand in hand. And even though there is no quick fix, we see plenty of possibilities. The patient's perspective must be central in each phase of development. We should do everything we can to develop and implement smarter testing methods and models, like organoids, which have

massive potential for therapy development as well as application. We need to work on an adaptive ecosystem that, thanks to customization, links reimbursement seamlessly to registration, and on innovative pricing models to optimize our use of the healthcare budget.

With its leading life sciences sector and knowledge position, excellent healthcare, and a culture of entrepreneurship and public-private partnership, the Netherlands has all of the ingredients it needs to be an international testing ground for innovative drug development. To show the world that it can be faster and better. And that with these innovations, the health of increasing numbers of people, all around the world, is improved. Orphan drugs and gene and cell therapies warrant more attention. It is precisely for these innovative frontrunners that the system fails first. If we can remove the obstacles for these vanguards, then the exciting prospects of personalized medicine come a step closer.

A glimpse at our results

Patient Engagement Guide puts the patient front and center

In cooperation with admedicum, HollandBIO developed the Patient Engagement Guide (PEG): a practical online handbook to help companies give the patient's voice a structural and leading role in their organizations. Desperately needed, because even though patient participation has proven to accelerate and improve drug development, not every organization is adept at it. The online handbook presents examples of successful and less successful patient participation. It also shows the way through the jungle of information on this topic. Companies can get straight to work with useful tools and checklists. Take advantage of this resource and visit www.patientengagement.guide.

Dialogue gaining steam

A constructive dialogue among all stakeholders is a prerequisite to realizing the solutions in HollandBIO's faster and better plan. In the completely polarized drug debate, where it seems that taking down the pharmaceutical industry is in vogue, HollandBIO is making every effort to improve dialogue by openly engaging in the discussion on a future-proof model for drug development. Under the name "The Might of the Media", we organized a debate on the drug debate where we encouraged the 100+ attendees to open up as a sector about their motivations, possibilities and impossibilities. And we also took our own advice. We discussed our faster and better plan with the entire directorate team of the Pharmaceuticals and Medical Technology Department of the Ministry of Health, Welfare and Sport, carried out several conversations with parliamentary members and with License to Heal, a collaboration of nine political youth organizations. We spoke to patient organizations, insurance companies, the Dutch National Health Care Institute, economists and journalists about the many obstacles along the path from bench to bedside. The second edition of the Rare Disease Symposium confirmed that our approach is working: more than 170 people, from all corners of healthcare, joined us to brainstorm about a better future for rare disease patients. And this is desperately needed, because we are all indispensable to a thriving healthcare ecosystem.

The guide to patient access and reimbursement

The national track for patient access and reimbursement is tearing at the seams. To curb costs, the government and insurance companies are setting up more and more barriers to keep drugs out of the basic health insurance package. The consequences are huge: personalized drugs, like orphan drugs and cell and gene therapies, are stuck in a bureaucratic quagmire, at best reaching patients after much delay, and at worst not at all. It is high time to clear these insurmountable obstacles out of the way. But to get to the effective solutions, you first have to figure out how things really work. HollandBIO has mapped out the system of access and reimbursement. Through interviews conducted with our members, we identified the various bottlenecks in that system: from outdated and unfit assessment systems and criteria to the purgatory called “open inflow” and the erosive effect brought on by the many rounds of negotiation. Thankfully our members had plenty of ideas for improvement and our ideal adaptive ecosystem began to take shape. Armed with these insights, we are well-prepared to seize any opportunity to make these improvements.

Not so GRADE

The trend towards personalized medicine is challenging the status quo on all fronts. The same applies to the methodology used by the Dutch National Health Care Institute to determine the effectiveness of new drugs. This method, called GRADE, puts large, double-blind, randomized clinical studies (RCTs) on a pedestal. Needless to say, it is impossible to provide RCT data on (ultra)orphan drugs. It's even unethical. But when a dataset does not meet the lofty requirements, it is classified as “not robust”, which seriously marginalizes the effectiveness of drugs for small groups or subpopulations and gene and cell therapies. So the frontrunners in personalized medicine already start at a disadvantage, no matter how groundbreaking their work is. By making the distressing consequences of such unfit methodologies visible, HollandBIO puts the major bottlenecks to customized care on the agendas of the Ministry of Health, Welfare and Sport, the National Health Care Institute and others, as well as on the political agenda. And with clear results: the Dutch Parliament unanimously approved a motion to future-proof the assessment system of the National Health Care Institute for the newest generation of drugs. Improvements are on the way!

There's work to be done!

There is still a lot to do before the Netherlands becomes the testing grounds that faster and better dreams of. We will continue the dialogue, specifically working on:

- **Smarter testing**

Among our members some of the most outstanding innovations are underway that can turn traditional drug development and clinical practice on its head. From artificial intelligence and all types of -omics technologies to 3D cell cultures and organoids. We are looking into their potential and the bottlenecks to their realization.

- **Patient's perspective in the lead**

HollandBIO plays an active part in the EUPATI NL initiative, which, based on the European model, is setting up a course intended for patient representatives in drug development. During the 14-month course, students learn the ins and outs of drug development so that they can optimally deploy their essential knowledge as expert and user in order to accelerate and improve the route from bench to bedside.

- **Adaptive ecosystems**

HollandBIO works on several levels to improve the link between registration and reimbursement, initially focused on the frontrunners in personalized medicine. We contribute to developments such as a pilot on parallel review, efficient and effective registers, continuous improvement of the “horizon scan”, the modernization of the drug coverage system, and the new conditional approval scheme that will lay out a red carpet for promising drugs.

Want to learn more, think along with us, or get involved?
Get in touch with HollandBIO's Marit.



PREVENTION: BETTER SAFE THAN SORRY

Treating a disease is a beautiful thing. Curing a disease is even better. But preventing a disease: that is the holy grail of biotech. Thanks to the preventive achievements of biotech innovation, people are living healthier, longer and more productive lives. And there is still a lot of health to gain: with vaccines that globally eradicate nasty infectious diseases, for instance, or screening and diagnostics that make it possible to identify and treat disease at an early stage. When we invest in preventive innovations today, we will all reap the benefits tomorrow.

HollandBIO's program "prevention: better safe than sorry" concentrates on the optimal utilization of preventive interventions, particularly of vaccines. Vaccination is the most effective intervention, after clean drinking water, in the global fight against infectious disease. Over the last decades, vaccination has protected millions of people from serious diseases like diphtheria, tetanus

and whooping cough. And thanks to large-scale vaccination programs, smallpox was completely eradicated.

Vaccination's role in preventing disease and reducing the disease burden in society is as important as ever: flu epidemics lead to overcrowded hospitals and the loss of already scarce staff in sectors like healthcare and education. Meningococcal disease claims victims close to home, and exotic infectious diseases like Ebola and Zika threaten public health, with enormous social and economic consequences.

Fortunately, the continuous development of vaccines offers new possibilities. Take the development of vaccines against HIV. And new scientific evidence that supports the use of vaccines for expectant mothers, the elderly and other at-risk groups. In other words, the optimal application of vaccines throughout our lives. That is exactly what HollandBIO is committed to.

A glimpse at our results

Position paper

In a position paper, HollandBIO published what needs to happen in the Netherlands to achieve even more health gains through vaccination. The current route from vaccine registration to its introduction is slow and uncertain. Intern Channa Willemsen mapped out the bottlenecks in fine detail. Increasing numbers of parties agree: the Dutch vaccination policy must be and can be improved. Intense discussions with our vaccine members resulted in five recommendations:

- Establish the Dutch vaccine ambition in an Infection Prevention Agreement;
- Provide all registered vaccines with a recommendation on its implementation in the healthcare system;
- For each vaccine, set up a customized access route;
- Improve and accelerate the assessment of vaccines based on lessons learned in the recently applied crisis structure;
- Investigate and learn from successful international best practices.

With our ideals laid out, HollandBIO is ready to work with participating organizations and experts to investigate whether and how these recommendations can be put into practice.

Declining vaccination rates call for proactive policy

The urgency for vaccination is greater than ever: due to a declining vaccination rate, an intense flu season, the rise of meningococcal disease and the European comeback of the measles, an unprecedented, intense and fierce vaccination debate is underway in parliament and the media. The tide around the anticipated Dutch vaccination policy is turning. During a roundtable with experts that was held ahead of the first plenary debate on vaccination in years, parliamentary members were extensively informed on the topic. HollandBIO played a constructive role in the run-up to the roundtable and debate by providing and explaining its position paper. And with success! Parliamentary members called on Secretary of State Blokhuis of the Ministry of Health, Welfare and Sport to work on, among other things, faster advice from the Health Council of the Netherlands and better information about vaccines. Important aspects in achieving a more proactive policy.

Ministry of Health, Welfare and Sport working on health gains

Secretary of State Blokhuis recognizes that vaccination plays a major role in our healthcare system, and has eagerly taken up the topic in his portfolio. By having his flu shot administered on camera, he has made an important pro-vaccination statement. But the parliament is not easily satisfied, and is approving one motion after another to bring vaccination to the next level. At the request of parliament, Blokhuis will start working to ensure that every registered vaccine comes with a recommendation on its use. The Ministry of Health, Welfare and Sport is also going to investigate whether assessment and introduction can be accelerated, for example by integrating lessons learned from the crisis procedure and by looking into the possibilities around parallel review by the National Institute for Public Health and the Environment and the Health Council. Finally, the Ministry will address the communication on and introduction of vaccinations, within and beyond the National Vaccination Program. Blokhuis is being advised by the Vaccination Alliance, a group of vaccination ambassadors and experts that he set up. In short, a robust to-do list that encompasses several recommendations from our own position paper. Onwards and upwards towards more health gains thanks to vaccination!



The #flushot doesn't only protect you, it protects everyone around you too. Join @hugodejonge, Bruno Bruins and me, and get the shot!

There's work to be done!

HollandBIO is committed to the optimal utilization of vaccines. That's why we're working on:

■ Vaccination facts at a glance

HollandBIO has made a convincing infographic that exposes the slow road from vaccine registration to its introduction in clinical practice, and we are going to go door to door to find supporters who will help us tackle the bottlenecks.

■ A customized approval process for every vaccine that is proven effective

The Netherlands misses out on health and economic gains because vaccines outside of the National Vaccination Program do not necessarily reach their intended target groups. To improve access, HollandBIO is mapping out and calling attention to alternative routes.

■ European developments

It's not only in the Netherlands that we are seeing a growing call for action. Now that the European Council Recommendation has been agreed upon and the European Joint Action on Vaccination is in effect, we are keeping a close eye on these international developments to see what we can learn from our European colleagues.

Want to learn more, think along with us, or get involved?
Get in touch with HollandBIO's Britt.



ALWAYS UP-TO-DATE WITH HOLLANDBIO

Did you know that the Dutch life sciences & health sector, with its 682 R&D companies, stands at the European top? And that with more than 407 products in development, these companies have an impressive clinical pipeline? HollandBIO knows exactly how Dutch biotech is doing.

A glimpse at some of the results:



Our website is attracting more and more visitors. Numbers doubled to reach **5,000** visitors per month.



Every year we send **46** HollandBIO Weekly's to over **2,300** contacts.



HollandBIO's reach on LinkedIn grew by around 50% to a sizeable **1,500** followers.



The number of HollandBIO's Twitter followers rose by nearly 40% to **2,000**.

We closely follow developments in the sector, maintain overviews of deals and investments, and monitor (social) media and politics. In return, we gain a mountain of knowledge and insights that we share with our members.

We are increasingly providing our own views on related news. This way, we are letting the world know what Dutch biotech companies think about the latest developments.

HollandBIO in the media

HollandBIO makes every effort to put the biotech sector on the map. We have contributed to dozens of panels, presentations, publications and interviews. We are doing this not only in the Netherlands, like at the NVFG's EMA symposium and the Hot in Healthcare event organized by Baker McKenzie, but also internationally during the BIO International Convention in Boston and the BIO-Europe Spring in Amsterdam. And of course, we regularly make the news:

- HollandBIO's Annemiek was a guest on the BNR radio show "Zakendoen met" about solutions for getting drugs from the lab to the patient faster and better.
- In the FD, HollandBIO, together with the Innovative Medicines Association and several academics and scientists, called for relaxing the rules around the development and introduction of promising treatments like cell and gene therapy.

- In the Algemeen Dagblad, HollandBIO's Annemiek responded with enthusiasm to the news that the EMA's move to Amsterdam will lead to an influx of new jobs and companies.
- In De Volkskrant, we addressed the challenges faced in the development of orphan drugs, in response to an article on the difficult search for a treatment for mitochondrial diseases.
- After the disastrous ruling of the European Court of Justice on the rules for applying biotechnology to crops, HollandBIO sounded the alarms in several newspapers, including De Telegraaf and Trouw.
- Under the headline "The Sweet Fruits of Innovation", HollandBIO's chair Markwin Velders put the Dutch biotech sector in the limelight in response to Kite Pharma's construction of a production location for CAR-T treatments in Hoofddorp.
- The Boston Globe covered the BIO and the highly prominent Health~Holland pavilion that HollandBIO helps realize every year.

We have also contributed to many articles in trade magazines and special editions:

- In the Mediaplanet insert on rare diseases in De Telegraaf, HollandBIO's Annemiek discussed the potential of gene therapy.

- She was also front and center in the FD's "Life Sciences & Health" insert about the questions around how drug development will look in the future.
- Annemiek has given many interviews in Biotech News and has even made it to the front page several times.
- In a column, the C2W shared its agreement with HollandBIO's vision for new plant breeding techniques in response to the ruling of the European Court.
- Pulse Media interviewed Annemiek and Health~Holland director Nico van Meeteren in a Volkskrant special on biomedical innovation.
- On the NEMO Kennislink website, HollandBIO's Irma and Timen addressed the promises of new plant breeding techniques and how their application can contribute to health and sustainability.
- HollandBIO's activities had a prominent spot in the Updates from Health~Holland (LSH "top sector").

Members in the news

Our members also make the news on a regular basis thanks to their development of groundbreaking innovations. Innovations that not only boost a sustainable and healthy society, but also contribute to Dutch business.

A small selection of superstars:

- Aduro Biotech, AM-Pharma, Biogen, Celgene, Galapagos, GSK, Hudson River Biotechnology, InteRNA, Janssen, Pharming, Synthon, Temple, Uniqure, Vertex, Vitalnext and many others have made the news with their positive research results.
- Genmab can call itself the largest independent biotech company in Europe.
- Several products from Alnylam, Amgen, AstraZeneca, Janssen, Kite Pharma, MDxHealth, MSD, Novartis, Quirem and Vertex have been approved.

- Celgene is acquiring Juno Therapeutics, Sanofi is doing the same with Ablynx, Novartis is signing a takeover deal with AveXis, Bayer is finalizing the much-discussed takeover of Monsanto and the sale of Nunhems to BASF.
- Alexion, Cleara Biotech, Gadeta, Genmab, KeyGene, Merus, Novo Nordisk, SkylineDx, Pfizer and Sanofi are closing new partnership agreements.
- Hubrecht Organoid Technology is going to work with Pfizer on the development of organoids, Solynta has announced the development of resistant potato chip potatoes, and FunGeneX has a global first with the production of chicken egg protein without the need for a chicken.
- DC Prime, ENPICOM, Facio Therapies, Galapagos, Khondrion, Kiadis, Lava Therapeutics, Madam Therapeutics, Meatable, Mimetas, MyLife Technologies, ProQr, SeraNovo, SkylineDx, Xenikos and others are successfully attracting new financing.

- Colja Laane received the Roland Lageveen Award during the HollandBIO Year Event 2018.
- The number of patents granted to Dutch companies reached a record high.
- KeyGene opened a large, new research space: the Crop Innovation Center.
- In Leiden, Janssen Vaccines opened its new Vaccines Launch Facility, a state-of-the-art production facility for the research of new vaccines.
- Scenic Biotech was named one of Nature's Biotechnology Academic Spinouts of 2017.
- Abbie, Amgen and Novo Nordisk received high rankings in the "Best Place to Work 2018".
- Biogen received the prestigious Prix Galien for its groundbreaking medicine against SMA, Spinraza (nusinersen).
- Biotechnology was the force behind the 2018 Nobel Prizes. The Nobel Prize for Chemistry went to the discoverers of the accelerated evolution of proteins and of the phage display, which were both at the start of the development of Adalimumab, better known as Humira. The Nobel Prize for Medicine went to two pioneers in immunotherapy research.

Other good news:

- The European Medicines Agency, or the EMA, will open its temporary Dutch office upon the delivery of its new site in Amsterdam.



@HollandBIO has come up with a constructive solution in the debate on pharmaceutical compounding: registration instead of copying!

HOLLANDBIO EVENTS

Every year, HollandBIO organizes many events for networking and knowledge exchange. Whether it's our keynote speakers or the high level of the knowledge we bring, the unique locations or their distinctive character and social functions: our events are highly valued, and we are proud of that!

HollandBIO Year Event

HollandBIO always starts the year off with the finest event in the Dutch biotech sector: the HollandBIO Year Event. With a jam-packed program of innovation, inspiring entrepreneurship and a good dose of humor, we thank our members and contacts for their endeavors. It has become a tradition that the good vibes continue during dinner and on the dancefloor.

In 2018, Martina Puglisi (MSD) shared the phenomenal story of Keytruda. Then Peter Punt (DutchDNA) took us on a journey into the world of fungi: “a day without fungi is a day not lived”. Afterwards, “Professor” Pieter de Rijk tricked the audience with a fantastic fake speech in German.

In 2019, HollandBIO's fifth anniversary was celebrated at a fantastic party in the Tobacco Theater. The opening film showed in one fell swoop how the life sciences sector contributes to a sustainable and healthy society, and the role that HollandBIO plays in this.



Afterwards, Anant Murthy shared the highs and lows in the amazing journey of Alnylam, the frontrunner in the development of a new generation of drugs based on RNA technology. Daan Luining from Meatable then took the attendees through his pioneering

work on the frontlines of the cultured meat revolution. He showed us what the future will look like: 100% real and delicious meat without a single animal having to suffer for it. A world of unprecedented possibilities, which we at HollandBIO eagerly look forward to.





Dutch Biotech Event

At the Dutch Biotech Event, the veterans and high potentials of biotech come together to be inspired, meet each other, and to brush up on their business skills in practical workshops. Last year, we hung on every word from David Nicholson (Allergan), Sebastiaan Nijman

(Scenic Biotech) and Arthur Lahr (Kiadis Pharma). In the workshops, there were powerful discussions around financing and business models. The day concluded with drinks and a BBQ under a shining sun and with amazing views. In short, a perfect day for biotech!



Rare Disease Symposium

For the second time, HollandBIO and PSR joined forces to organize the Rare Disease Symposium. A huge success! Backed by bright sunshine and a constructive setting, speakers and participants looked for solutions to the challenges in the rare disease domain. The auditoriums were full and everyone in the mixed audience felt the urgency to reach solutions. We discussed how we can make sure that rare disease patients are better off by 2030, and who can contribute what to making that happen. There is no shortage of ideas in our innovative sector. Let's use our beautiful country of the Netherlands as a testing ground for a future-proof healthcare ecosystem.



HollandBIO's Biotech Thursdays & College Tours

HollandBIO knows what is going on in the sector and when there is a need for additional information. The Biotech Thursdays highlight a single theme from multiple angles and provide plenty of room for discussion, concluding with drinks. During the College Tours, experts bring you up to speed on legislation and the political developments around an urgent topic.

Past events have addressed the drug debate, the financing landscape, socially responsible innovation and pharmaceutical compounding. Both the Biotech Thursdays and the College Tours are must-attend events for anyone who wants to get quickly up to speed on the latest issues in biotech.

In collaboration

Together with HollandBIO, our members are making their events an even bigger success. That's why we started the "in collaboration with" program. With our support, MinacNed and hDMT organized a networking event with the theme organ- & lab-on-a-chip technology. With Baker McKenzie, we looked into how drug

development can be faster and better during the Hot in Healthcare event. HollandBIO also helped out with the NautaDutilh Life Sciences Seminar. Would you also like to organize an "in collaboration with" event with HollandBIO? Contact us at bs@hollandbio.nl.





HOLLANDBIO: THE VOICE OF THE SECTOR

HollandBIO is *the* representative of the interests of Dutch biotech. Our goal: to clear the obstacles that stand in the way of the success of our frontrunners. We can't do this alone. HollandBIO therefore actively involves parties and organizations in accelerating and smoothing out the route to innovation. Only then can we ensure biotech's optimal contribution to a sustainable and healthy society.

International presence

HollandBIO is putting the Dutch biotech sector on the world map. On behalf of the Dutch government and under the Health-Holland flag, we made sure to give the Dutch biotech sector a prominent presence at the BIO International Convention, BIO-Europe and the BIO-Europe Spring. With the striking Health-Holland pavilion, we show what the Netherlands has to offer in the life sciences field: as a place to do

business, as an innovative business partner, as a top location for talent. The pavilion also serves as a living room for Dutch attendees. In addition to the many partnership conversations underway in the pavilion, visitors gladly come here to blow off some steam and to chat with their compatriots. BIO-Europe Spring 2018 took place in Amsterdam. And of course, we took full advantage of this edition!



Holland BIO

NGOs

Health charities, environmental initiatives

Media

Newspapers, trade magazines, RTV, online media

Advisory bodies

COGEM, Council for Health and Society, Rathenau Institute, Health Council, Advisory Council for Science, Technology and Innovation (AWTI)

National and international umbrella organizations

Association Innovative Medicines, Plantum, VNO-NCW, VNCI, NFU, EuropaBio, EFPIA, Vaccines Europe, ICBA

Politics

Dutch members of Parliament, members of the European Parliament, political youth organizations

Policy

Several ministries, representation in Brussels, Geneva and the European Commission

Regional organizations

Science parks, clusters, campuses

Patient organizations

Dutch Patient Alliance for Rare and Genetic Diseases (VSOP), Netherlands Patients Federation, PGOsupport

Implementation

National Health Care Institute, Netherlands Enterprise Agency, LSH top sector, Medicines Evaluation Board, ZonMw, Netherlands National Institute for Public Health and the Environment

Academia

Knowledge transfer offices, university medical centers and universities, the Regulatory Science Network Netherlands

Financing

Venture capital firms, regional development agencies, banks, pension funds

Want to learn more?
Get in touch with HollandBIO's Timen.



HOLLANDBIO BUSINESS SOLUTIONS

Running a biotech company is demanding and challenging. It requires courage, dedication and perseverance. With our Business Solutions, HollandBIO makes business in the life sciences a bit easier. Visit www.hollandbio.nl/business-solutions/ and discover the possibilities that await you!

Financing opportunities laid out in the Life Sciences Funding Database

The Life Sciences Funding Database quickly guides entrepreneurs towards available sources of financing at both the national and European levels. The database is easy to use: in the easy wizard, enter the requested information. You are then shown an up-to-date overview of financing options. This database is an initiative of HollandBIO and ttopstart to give biotech entrepreneurs a grip on the complex and ever-changing fiscal and subsidy landscape.

See and be seen in the Dutch Life Science Database

The Dutch Life Science Database offers the best, most comprehensive overview of the Dutch life sciences sector. This database makes finding a Dutch biotech company a breeze. The database offers

the most complete overview of our national life sciences sector and is part of the global Biotechgate Database. With useful search filters, you can find what you're looking for in a single click, whether it's a company to partner up with or a specialized service provider. Thanks to the database, HollandBIO can provide the most up-to-date statistics on the sector.

Stay up-to-date with the Health Knowledge Database

The Health Knowledge Database delivers a daily update on the most important health news. Healthcare is complex and constantly changing. The database provides insights into the latest developments, policies and initiatives from government bodies in healthcare, biotech and the pharmaceutical sector. Including objective, in-depth articles and

accounts from experts from the Axon Healthcare editorial team. HollandBIO members (SMEs) can get a 70% discount on access to the database. Check the conditions on our website.

Start saving money with the HollandBIO-VWR purchasing program

Saving money on your purchases was never this easy. By taking advantage of our shared purchasing power, the HollandBIO-VWR purchasing program offers attractive discounts on a large assortment from VWR, a world-leading supplier of laboratory products. Discounted products range from chemicals to equipment to consumables. The discounts can really add up, so check out our website for more information, or sign up now via bs@hollandbio.nl.

Discounts to leading national and international events

Partnering conferences are essential in biotech. Whether you're looking for investors or research partners, if you're

looking for a particular technology or if you have one to offer: these professional speed-dating events are the place to be. HollandBIO makes visiting these conferences even more attractive for our members by negotiating discounts on the registration fees. That means hundreds of euros off your visit to the BIO International Convention, BIO-Europe and BIO-Europe Spring.

Organize your event together with HollandBIO

HollandBIO organizes dozens of events every year. Large, small, specialized or general: it makes no difference. Are you a member of HollandBIO and are you organizing an event that would be interesting for our network? Take advantage of our "in collaboration with HollandBIO" program. We will leverage our experience and network to make your event an even bigger success. We will think along with you to develop an attractive program and will promote the event in our Weekly.

Want to learn more?
Get in touch with HollandBIO's Leonie.



JOIN HOLLANDBIO

Become a member today and...

- Participate in our programs
- Have a say in our standpoints and prioritizations
- Stay up-to-date on developments in the sector
- Gain access to our network
- Meet peers and KOLs at our events
- Put your organization in the spotlight
- Profit from our Business Solutions

 www.hollandbio.nl/word-lid/

The HollandBIO team is at your service!



Not yet convinced? Our members will win you over:

Colophon

Concept, editing and realization

HollandBIO

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Jacob & Jacobus

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