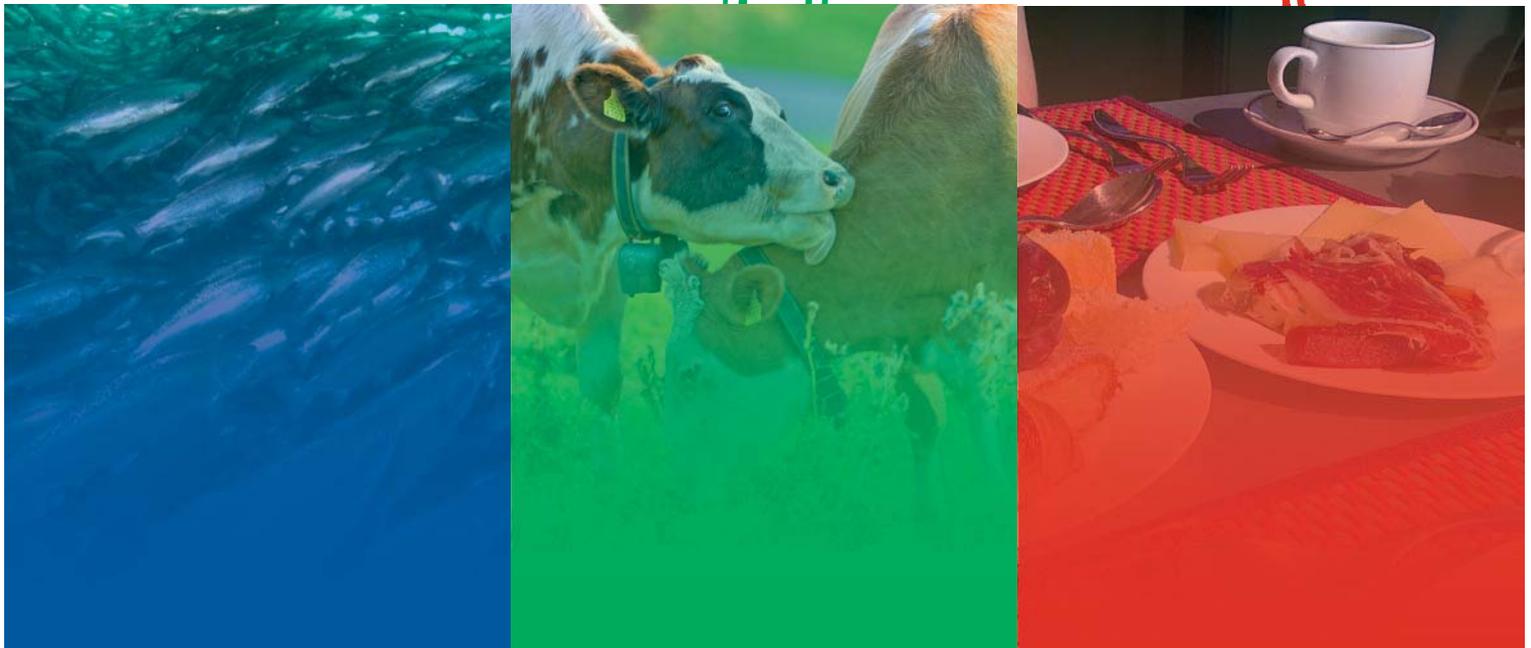
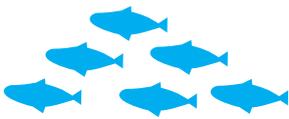




Veterinærinstituttet  
Norwegian Veterinary Institute



Research strategy for The Norwegian Veterinary Institute:

2016 - 2020

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*Scientifically ambitious, forward-looking and cooperative.*



Photo credits: Arkitekt PG Campus Ås, Ellen Christensen, Hanne Wilheimsen Giske, Carl Andreas Grøntvedt, Asle Haukaas, Tor Atle Mø, Mari M. Press and Eivind Røhne.

## About us

The Veterinary Institute is a biomedical research institute and Norway's leading centre of expertise regarding biosecurity in fish and land animals. The aim of the Institute is to become Norway's contingency centre for One Health. In 2019, the Institute's headquarters will move to Ås, and the activities of its regional units will be expanded. The Veterinary Institute is one of the most important contributors to the continued development of the Norwegian bioeconomy in aquatic and terrestrial environments.

## Our range of activities

The most important function of the Veterinary Institute is preparedness // contingency planning and development of expertise in the fields of fish-, animal- and human- health. Diagnostics have always been at the core of the Institute's activities, which today also include research, innovation, monitoring, risk assessment, consulting and communication. The Veterinary Institute is a national reference laboratory and is involved in a wide range of international collaborative activities.

## Facts about the Norwegian Veterinary Institute

### The history

The Veterinary Institute was established in Oslo in 1891 as a diagnostic laboratory for animal diseases, and was the first of its kind in Scandinavia. During the 1990s, the Institute expanded with incorporation of regional units in Bergen, Harstad, Sandnes, Trondheim and Tromsø. The original principal task of the Veterinary Institute was to combat tuberculosis and brucellosis. The Institute was subsequently awarded responsibility for prevention of outbreaks of other diseases, as well as production of sera and vaccines. Today, its activities encompass the entire food chain from plants, via animal feed, fish, animals and food for human consumption.

### Ownership and partners

The Veterinary Institute is a public-sector institution under the ownership of the Ministry of Agriculture and Food. The Institute also carries out tasks for the Ministry of Industry and Fisheries. The Veterinary Institute is funded by the two aforementioned ministries and the Research Council of Norway. These sources account for around 40 per cent of the Institute's total revenues, with the remainder originating from externally funded research projects and contracts. The Veterinary Institute collaborates closely with public institutions, a number of universities, research institutes, industrial companies and other national and international professional bodies.

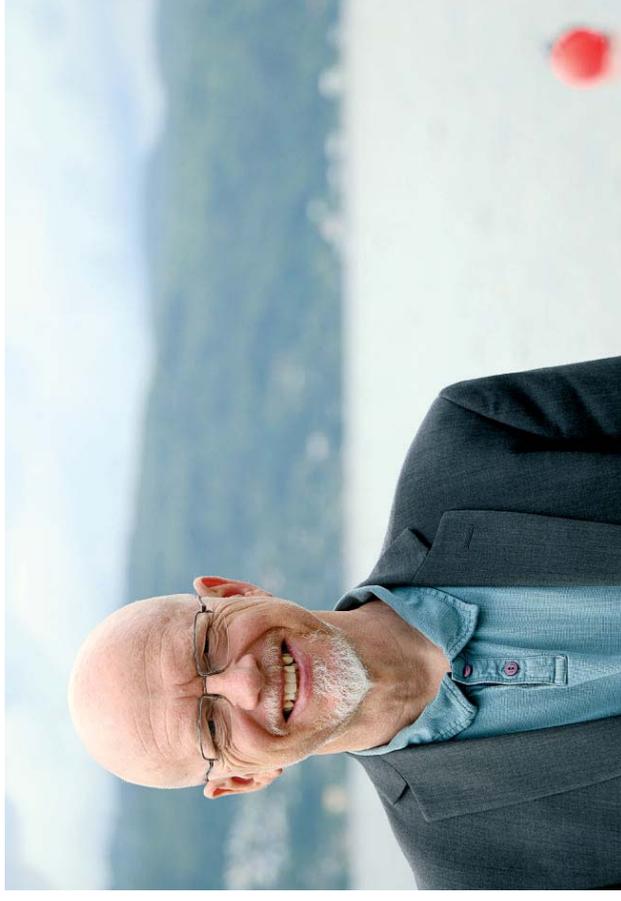
## Introduction

Our research is of great relevance to society; for the most part, we perform applied research, and our results are intended to be useful to the public sector and industry in our core areas. Our research activities support our role as a preparedness/contingency institution.

The Institute currently performs a significant amount of research and development that we intend to develop further in the future. Strengthening of our research will be essential for further development of national and international collaboration. Our move from Oslo to Ås in 2019 will result in increased collaboration with the Norwegian University of Life Sciences, NOFIMA and other agricultural institutions. Our regional units will also increase their collaboration with local knowledge-based and industrial companies. The aquaculture sector will continue to grow, and environmental and climate changes will present significant challenges. Structural changes in traditional agriculture and increasing imports of food and biological products will result in new obstacles. There will be a greater need for new knowledge in the fields of health and bioproduction. All of the above offer the Norwegian Veterinary Institute important opportunities to contribute to knowledge generation. Our research activity in the aquaculture sector in particular can be expected to increase in the future.

Progress in research and development often takes place when scientists from different research sectors come together. In the future, it will be essential for the Veterinary Institute to develop networks with both medical and other scientific groups. Society also faces a number of challenges that require responses from both the natural and social sciences. For example, there are challenges in animal welfare that can only be dealt with through collaboration with research groups in the social sciences.

The ambition of the Veterinary Institute is to increase both the quantity and quality of its research. To do so, we need competent scientists, good research management, a high level of engagement in our own efforts, and our research results need to be made available to our users and to society in general. Absolute prerequisites for successful research are a long term approach to strategic research and a stable economic framework. Our research managers will therefore plan several years ahead with focus on maintenance of a secure economic platform for our activities. The social mission of the Veterinary Institute is to contribute to good fish health, animal health, animal welfare and food safety. Fish health will be our most important strategic focus. At the global level, focus will be placed on health interactions between different species, and between animals and human beings. This is currently known as the



“One Health” or “Ecosystem Health” philosophy. The effects of infectious and toxic agents on the health of animals and human beings will be a central aspect of this research, and the Veterinary Institute will prioritise this area in the future. Animal welfare is another important focus, and our Institute will play an important role in future research in this area.

Our research strategy will help us to attain our strategic goals. I look forward to being part of our future development. Thanks in advance for your efforts!

A handwritten signature in black ink, which appears to read 'Gudmund Holstad'.

Gudmund Holstad  
Managing director  
Norwegian Veterinary Institute

## Societal tasks

The Norwegian Veterinary Institute is a biomedical contingency and research institute whose core areas of activity are fish and animal health, animal welfare, food safety and animal feed safety.

The Veterinary Institute occupies a free and independent position in all aspects of its scientific activities.

The Veterinary Institute is the most important supplier of science-based knowledge to the authorities in matters concerning monitoring, prevention,

advice, clarification, and diagnosis/eradication/containment of serious infectious diseases (fish, terrestrial animals, zoonoses).

The Veterinary Institute provides support in prevention and management of crises caused by harmful substances and infectious agents in feedstuffs and food.

The Veterinary Institute provides services and science-based knowledge to industry, professionals and livestock

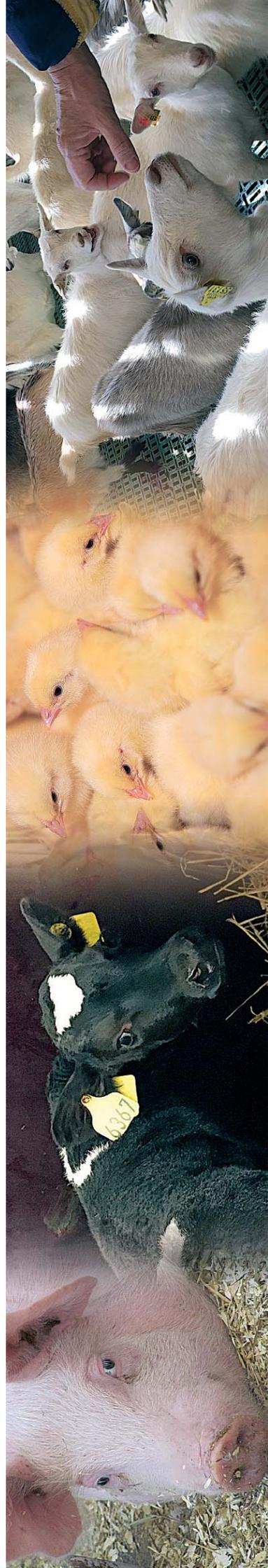


### Our principal objectives

Through its research, diagnostic capacity and advisory services, the Veterinary Institute will contribute to monitoring, good contingency planning, good health and welfare of fish and livestock, food and animal feed safety, as well as responsible and sustainable bioproduction.

### Our values

- Scientifically ambitious
- Collaborative
- Forward-looking



## Aims for our research and development

### Overarching aims

*The Veterinary Institute's research and innovation activities will support our role as a contingency planning institution and contribute science-based knowledge and expertise of high quality and relevance for application in public management and industry within our core areas.*

### Quantitative aims

*Research and development performed by the*

*Veterinary Institute will:*

- help maintain a high level of relevant up-to-date expertise among its research staff.
- maintain high quality and ethical standards; the Institute's researchers will follow the guidelines of the National Research Ethics Committee for the Natural Sciences and Technology (NENT) for good research ethics.
- contribute to the development of the public administration and industry
- make the Institute an attractive and preferred partner in projects financed by the EU, the Research Council of Norway, industry and other instances; its research will be carried out in collaboration with other high-quality research centres.

- in the course of the period, lead to the Veterinary Institute becoming an international leader in fish epidemiology and fish health, including identification and treatment of "emerging diseases" in aquatic organisms.

### Quantitative aims

*In the course of the period, the Veterinary Institute*

*will:*

- increase research production by 10%, equivalent to approximately 10 person-years of externally financed research. Participation in EU research in particular will be continued and strengthened (16% increase in hours, equivalent to approximately two person-years). Furthermore, we will aim for a 150% increase in researcher-time dedicated to industry-financed R & D, equivalent to seven person-years.
- strengthen its academic publishing activity by increasing the number of publications in internationally refereed journals, measured by a 10% increase in publication points relative to 2012. (Our publication points in 2012 were 102.4).
- strengthen its efforts in doctoral training with an aim of 5 - 8 doctoral disputations per year.

## Strategic areas of special effort

*Within our core areas, research in fish health, One Health and animal welfare will be strengthened and have a long-term perspective. Within these areas, we aim to attain a high international level, particularly in the following topics:*

### Fish health

Fish epidemiology  
Studies of pathogenesis and immunology

### One Health

Biotoxins  
Mycobacteria

### Animal welfare

Health-related animal welfare



# Measures

## Organisation of research activities

### The Veterinary Institute will:

- prioritise long-term focus on selected topics within its strategic areas
- finance strategic efforts at the institute level, equivalent to at least 30% of the Institute's basic grant from the Research Council of Norway.
- create suitable conditions for establishment of sustainable, structured and dynamic research groups, which will
  - utilise methodologies which will both stimulate to- and allow- achievement of well-defined goals.
  - represent a robust mix of expertise, capacity and economy.
  - communicate their activities and results at several levels.
  - be required to publish and organise themselves in such a way as to make this possible.
- enjoy competent management with a focus on management development.
- participate in relevant national and international networks.
- emphasise research experience and competence in making new appointments to our regional units.
- evaluate, wherever possible, the doctoral training process for colleagues at our regional units.
- identify the potential for work- and role-sharing between research and diagnostic activities.
- prioritise retention of talent.
- be cross-disciplinary and dynamic with regard to competence, capacity and duration.

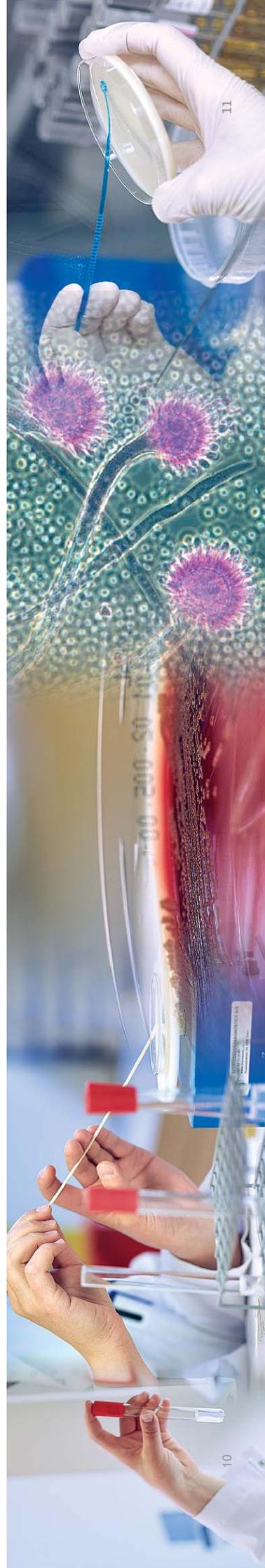
## Internationalisation

### The Veterinary Institute will:

- encourage increased participation in EU research, by strengthening technical, administrative and ICT support for researchers in relation to acquisition, follow-up and execution of research projects and by motivating researchers to take part in such processes.
- further develop the competence of project managers by holding annual courses.
- stimulate and encourage active participation in relevant high-quality international research and researcher networks.
- establish routines for economic and practical help with long-term stays abroad, and provide support for visiting guest researchers.
- host at least three Marie Skłodowska Curie fellows per year, and increase participation in relevant COST actions.

### Our research staff will:

- publish regularly in relevant high-quality international journals
- actively acquire new projects



# Development and governance

## National network development

- strengthen its professional network and cooperation with the institutions that will make up the new Campus Ås.
- Continue development of its network and collaboration with relevant national institutions.
- expand interaction with regional industries, regional research funding agencies and research institutions.

- hosting well-defined and relevant doctoral projects
- actively recruiting candidates for doctoral projects
- systematically developing the competence of PhD supervisors.
- implementing the doctoral regulations of the Norwegian School of Veterinary Medicine and NMBU
- establishing routines for training and follow-up of both doctoral candidates and supervisors
- establishing a quality assurance system for doctoral projects throughout the training process, including joint authorship
- establishing internal fora for doctoral candidate development (meeting places for follow-up and discussion)
- increasing the use of adjunct positions in order to improve supervision quality.

## PhD training

- The Veterinary Institute will:**
- establish good collaboration in doctoral training with the Norwegian University of Life Sciences (NMBU).
  - prioritise doctoral candidates in research projects wherever possible.
  - improve the quality of the entire doctoral training process by:

## Publications/communication

- The Veterinary Institute will:**
- increase the number of publications in level 2 journals.
  - define a plan of action to increase publication points.
  - strengthen communication of research to the authorities, the public sector, industry and the general public.

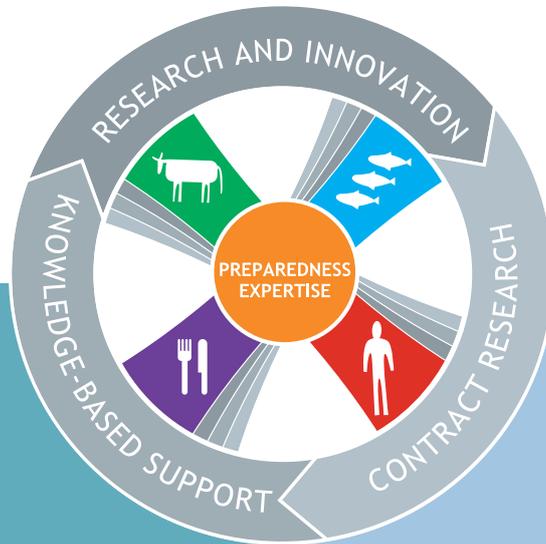
## Collaboration with relevant industry

- The Veterinary Institute will:**
- seek to actively collaborate with relevant industry partners on relevant R & D projects, in relation to both national and international research funding.

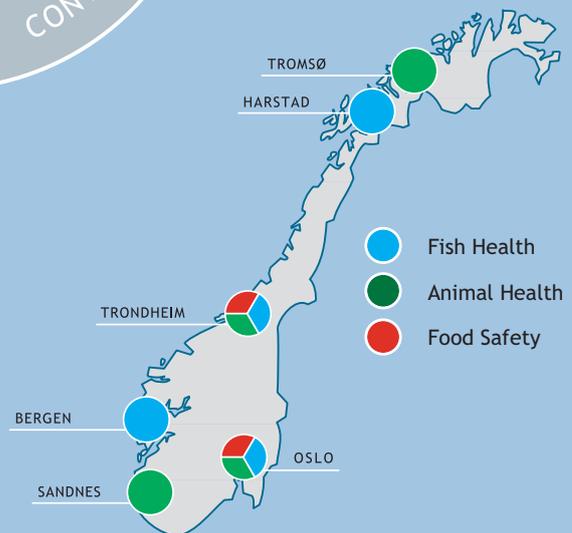
## Commercialisation of R&D results

- The Veterinary Institute will:**
- maintain a high overall level of IPR competence.
  - take an active and professional approach to commercialisation of its R & D results.





The Main Office of the Institute has been located at Adamstuen in Oslo since 1914. In 2019 it will move to new facilities at Ås south of Oslo. The five regional units are placed along the coast of Norway, here marked with colours to symbolize their sector of work.



*Scientifically ambitious, forward-looking and cooperative.*



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