

**Assessment Report**  
**Wageningen Food Safety Research**

**Wageningen University and Research**

**29-31 March 2021**

*Assessment Committee:*

Dr. ir. Harry Paul (chair)

Prof. dr. Chris Elliott

Prof. dr. ir. Leo den Hartog

Dr. Mieke de Wit (secretary)

## **Content**

### **Preface**

### **Summary**

#### **1. Introduction**

#### **2. Mission and position**

#### **3. Assessment results**

#### **4. Appendices**

## **Preface**

On behalf of the Assessment Committee I have the pleasure to present the Assessment Report of Wageningen Food Safety Research (WFSR).

The Committee gratefully acknowledges the preparatory work undertaken by the staff and the management, and their contributions during the site visit. A thorough self-assessment was written by WFSR and discussed by the Committee in advance. The assessment activities were performed on March 29-31, 2021. Due to Covid-restrictions, all meetings and interviews were performed online. Using all the information that was obtained, the Committee was able to integrate all views and contributions and gained a good insight in the performance of WFSR. The Committee is grateful to all interviewed persons for the open and informative discussions. The assessment could not have been completed without the excellent help of the secretariat, both within the Committee and from WFSR.

At the end of the programme, the Committee's general observations and recommendations were presented to the Vice President of Wageningen University and Research and to the staff of WFSR. The results of the assessment show great performance across all criteria, which is reflected in the high scores that were given to these various domains of the assessment.

The Committee feels confident to present the findings and the recommendations and hopes that they will contribute to the further development of WFSR.

Also on behalf of Chris Elliott and Leo den Hartog,

Harry Paul

April 2021

Chair assessment committee WFSR

## Summary of general conclusions and recommendations

Wageningen Food Safety Research (WFSR) is an outstanding institute, performing its statutory tasks very well in terms of enhancing feed and food safety. This was agreed by all national and international stakeholders interviewed. The merger of RIKILT and NVWA laboratory on Feed and Food Safety has improved the critical mass of the organisation and consolidated the position in feed and food safety both nationally and internationally. As with all such integrations this will need ongoing attention.

Recommendations were made on all fields of the assessment, summarized as written below:

- Extend scientific collaboration, both to enhance quality and for fulfilment of vacancies.
- Align ambitions of WFSR with NVWA and the ministry of Agriculture, Nature and Food Quality and the ministry of Health, Welfare and Sport.
- Give ongoing attention to the development of the organisation post merger.

### Scores

Quality	Statutory tasks	Impact	Viability
4	4	4	3

## **1. INTRODUCTION**

### **1.1 Assignment of the assessment committee**

The Executive Board of Wageningen University and Research (WUR) commissions an independent peer review of each of its Wageningen Research (WR) institutes in a cycle of four to five years. These institute assessments help the organisation to improve and allow the organisation to account for the public funding received by the WR institutes. The members of the committee are presented in Appendix 4.1.

The overall aim of the assessment of WFSR is to obtain an independent view of the (inter)national position of the institute in its field of expertise, to receive recommendations for further improvements, and to provide an independent account of its activities to the Dutch Government and other stakeholders. The assessment criteria are research quality, performance of statutory tasks, research impact and viability of the organisation. The criteria should be assessed taking into account the institute's mission as an applied research institute, and are further specified in the Terms of Reference (Appendix 4.2).

### **1.2 Assessment procedure**

The previous institute assessment of WFSR (then RIKILT) was in 2012. Because of the imminent merger with the Food and Feed Safety laboratory of the Netherlands Food and Consumer Product Safety Authority (NVWA), it was decided to postpone the 2016 institute assessment until after the merger, which took place in 2019. The institute did participate in the 2016 Wageningen Research assessment in the context of the Dutch applied research organisations (TO2), commissioned by the Ministry of Economic Affairs. The current assessment therefore covers the period from 2016 up to and including the year 2019, using the official documents and reports. However, during the interviews also more recent experiences were discussed and taken into account.

The assessment committee based her findings on a thorough self-assessment written by WFSR, background documents and stakeholder interviews. All relevant documents were made available to the committee, including the previous assessment report from 2012. The committee shared their first impressions based on the WFSR self-assessment and aligned their focus for the interview sessions in an online meeting prior to the site visit. After this pre-meeting, some additional background documents were requested and provided by WFSR.

The site visit took place from 29<sup>th</sup> – 31<sup>st</sup> March 2021. The committee Chair was present on site in the Vitae building in which WFSR is located, but the other committee members were remote and all sessions were online using MS Teams, due to Covid-19 restrictions. The committee was welcomed by the WR vice-president prof. Arthur Mol, who gave an overview of the position of WFSR within WUR. This was followed by two days of interview sessions with WFSR management, researchers and stakeholders, including an online poster session in virtual breakout rooms and a virtual tour of the

research facilities. The main findings and recommendations were discussed in internal committee meetings in between interview sessions. Preliminary findings based on all the provided evidence were presented to the vice-president of WR and WFSR Management Team, as well as all WFSR staff, in two separate sessions at the end of the site visit. The site visit programme, including an overview of the stakeholders who met with the committee, can be found in Appendix 4.3. The assessment report was finalized by email correspondence in the two weeks following the site visit, after which it was presented to the director of WFSR to check for factual inaccuracies.

### **1.3 Outcome of the Assessment**

The committee had access to all information they needed to get a full insight into the institute's performance and organisation, and was able to ask all their questions during the interviews. Also because of the use of on line meetings, the Committee was able to speak with a wide number of stakeholder representatives, both nationally and internationally. The committee did not have the intention to give a complete overview on all ongoing topics, but is confident that the report adequately describes the present situation at WFSR. The committee's findings and recommendations on the four assessment criteria were agreed unanimously and weighted according to the scale presented in the Terms of Reference (Appendix 4.2).

### **1.4 Quality of the information**

The self-assessment report was of high quality and gave a thorough overview of the organisation during the assessment period 2016-2019. All necessary background documents were provided and additional requests for information were promptly answered by WFSR. During the site visit, presentations at interview sessions and poster sessions were informative and well-prepared. Stakeholder discussions provided valuable insights in past performance and opportunities for the future of WFSR. The committee especially valued the open atmosphere during all discussions with WFSR staff and collaborators.

## **2. Mission and position**

WSFR is an autonomous Statutory task Institute (WOT-Institute) of Wageningen University and Research (WUR) on food and feed safety control. In 2019 the former RIKILT and the NVWA laboratory of Food and Feed Safety merged to become WFSR. Although various parts of WUR conduct statutory tasks that support government in the enforcement of legislation and regulations, WFSR is the only institute that is a WOT Institute as a whole. The merger increased the critical mass of the institute and strengthened the position of WFSR both nationally and internationally. Although WFSR has a special position as a WOT Institute, the organisation is strongly embedded in WUR, which gives good opportunities for collaborations, joint positions and shared facilities.

The mission of WFSR is stated as follows: "By improving the safety of food and feed WFSR contributes to public health." This is performed through sample analyses, reference tasks, policy research and innovative research. The budget of WFSR is approximately 48 million euro's, of which around 80% is used for statutory tasks, policy advice and the knowledge base, which is used for scientific research, including development of new techniques and participation in joint research programmes. The remaining funds are used for other public tasks and contract research in public-private partnerships. Stricter criteria were introduced for third-party research during the process of the merger, to enhance the independent position of WFSR. This has resulted in a decline in third party contracts in recent years.

WFSR conducts a wide range of National Reference Laboratory tasks (NRLs) on food and feed related topics, with recently pesticides and food virology added to the list. Furthermore, WFSR is the European Union Reference Laboratory (EURL) on hormonal growth promoters and since 2018, also on mycotoxins and plant toxins.

### **3. Performance**

#### **3.1 General**

During the interviews, the positive culture within the institute was observed and often mentioned. The merger did not significantly influence the way WFSR undertakes its work. To judge WFSR performance after the merger will be a subject for the next review, although it should be noted, that during the interviews the integration of the NVWA laboratory on Feed and Food Safety to form WFSR was reflected upon. All scientific and industry partners were positive about their collaborations with WFSR, which is seen as an engaging and approachable partner. WFSR has an excellent reputation for all activities in the fields of science, statutory tasks and the NRL and EURL tasks and is seen as the expert organisation on feed and food safety by the stakeholders. In the next paragraphs, the main findings are summarized, followed by the Committee's recommendations.

#### **3.2 Quality**

##### **Findings**

WFSR publications are strong and there has been a substantial increase in the mean impact factor achieved since the last review. Publications cover the whole range of scientific and applied research and are high quality papers. It is notable, that WFSR researchers operate in a number of international networks and many papers are written with international research partners. There is a strong network of European collaborators, but collaborating institutes outside of Europe were not viewed as being as strong. Working with other (inter)national universities was mainly realised in an indirect way, through EU-projects. It should be of importance to enhance collaboration with high-ranking organisations, since in general the best researchers work in these locations. Although the main focus of WFSR is on the contribution to safety of feed and food, high-level collaboration enhances creativity, which in the end will positively influence results.

Staff at WFSR are appreciated for their skills and as a partner to work with, although some partners consider WFSR as being rather expensive. Also their contribution to international fora like EFSA and within the European Commission's EURL working groups is noticed as very valuable. The number of PhD graduations at WFSR is rather low, although the number is increasing. WFSR supervises more PhD students outside their own institute, however, it does not seem to get the deserved credit for this.

WFSR has state-of-the-art science and technology and has ample access to equipment and facilities, either owned by themselves, or through sharing with WUR, using shared research facilities (SRF). New areas such as Artificial Intelligence (AI) are being developed and used for early detection of emerging risks and the development and use of hand-held technologies enhances the possibilities of on-site testing. Both areas of expansion of activities are supported by the Committee.



Young scientists find it especially difficult to keep the balance between statutory and managerial tasks on the one hand and research on the other hand. It can be challenging to find enough time to write papers and proposals for grants and research projects. Joint staff positions with a university, either Wageningen University, or elsewhere, might be one of the solutions that allows staff to develop academically through their appointment at a university. It might also solve the problem of competition for excellent staff between organisations. In the coming years, two of the three joint professorships will come to an end. Preparations are being made for continuation and indeed expansion, which is seen as very important.

*Scientific quality: very good (score 4)*

### **Recommendations**

1. *Further extend scientific collaborations:*
  - *both with national and international research organisations,*
  - *with high-ranking institutes, while keeping focus on impact.*
2. *Find ways to increase the number/recognition of PhD students supervised by WFSR.*
3. *Stimulate joint positions on various levels at WU groups or universities elsewhere to improve scientific collaborations, and avoid competition for highly skilled staff.*

### **3.3 Performance of statutory tasks**

#### **Findings**

All stakeholders were very positive about the high quality of the analytical testing conducted. Various times, the excellent emergency response was mentioned. WFSR has an extended and impressive number of NRL tasks and two EURL tasks. In their NRL function, WFSR is known as being dynamic, and a good contributor to the NRL network. With all partners there are strong relationships. It was noticed that the supporting role to private control laboratories should get more attention. Across Europe, WFSR shows strong leadership in their EURL functions.

Participants were positive about the new steering model for the statutory tasks, that was introduced last year. In this model the ministry of Agriculture, Nature and Food Quality (LNV) as a chair, together with the ministry of Health, Welfare and Sport (VWS) and the Netherlands Food and Consumer Products Safety Authority (NVWA) discuss the statutory policy tasks with WFSR. Separately, the NVWA discusses the statutory enforcement tasks with WFSR. Coordination meetings are held between the former two.

For statutory tasks that come from the Ministry of Agriculture, Nature and Food Quality, WFSR obtains, besides funds for the enforcement and policy advice, also funds for the so-called knowledge base ('kennisbasis'). These funds allow WFSR to invest in new research and allow co-funding of projects with research partners. This so-called exploratory research is also needed to keep providing high quality reference and official laboratory tasks in the future. Since the merger of RIKILT and the NVWA laboratory for Feed and Food Safety, microbiology and virology have been added to the statutory tasks of WFSR. These tasks come to WFSR from the department of Health, Welfare and Sport. Funds are provided for enforcement tasks, but no funds are available for the 'kennisbasis' of the domains of microbiology and virology. Especially microbiology reference tasks are performed by RIVM, which is part of the ministry of Health, Welfare and Sport. The research ambitions of WFSR in this area potentially overlap with those of the partners. There is good cooperation between WFSR and RIVM, but the Committee feels that this topic should be discussed more thoroughly with the policy departments. Although less prominent, it was observed, that also the relationship between NVWA-BuRO, responsible for risk-assessment and research coordination within NVWA, WFSR and RIVM on risk assessment should be discussed further, since BuRO currently seems to take a larger role than in the past.

Virology is an emerging field of expertise of WFSR. Food-transmissible viruses are a potential threat to food safety, for which the world currently is not prepared. To build up expertise and to have adequate facilities to work with these kind of viruses, a laboratory at Biosafety Level 3 (BSL3) is an indispensable facility.

WFSR also has a small statutory task in the field of Nature and Environment, consisting of supervision of private laboratories for manure analysis. According to the responsible ministry of Agriculture, Nature and Food Management, WFSR performs its task very well.

*Performance of statutory tasks: very good (score 4)*

### **Recommendations**

4. *Extend support to private control laboratories.*
5. *Align ambitions on microbiology with policy departments and RIVM, including the consequence for the knowledge-base funding.*
6. *Extend expertise in foodborne virology. The committee supports WFSR's plans to build a food-based BSL3 lab.*

### **3.4 Societal and economic impact**

#### **Findings**

All partners agree that WFSR has high impact in terms of protecting feed and food safety and Dutch consumers and supporting the agri-food industries. It is often difficult to see this level of support, due to the confidential nature of statutory task data and the position of WFSR towards the NVWA, where WFSR has a support role and NVWA does the enforcement and communication on data and measures. Visibility will be improved by further collaboration with the “Voedingscentrum” which has the statutory task to inform the public on food. WFSR also has great impact through capacity building on food safety standards in developing countries.

As a result of new contract rules with the ministries of LNV and VWS, contract research has become more restricted after the merger to enhance the independent status of the organisation. Public – private partnerships are carried out in the context of the so-called “Topsectoren”, which is mainly pre-competitive research with industry. These and additional contract research projects are carried out when a consortium of companies is involved, or a production chain, consisting of various partners. Especially smaller companies support this approach, while bigger companies might prefer bilateral contracts, which are not allowed under the new contract. WFSR has the ambition to extend contract research for further development of applied research and for disseminating results in the field to serve public interest. When WFSR considers a potential contract research project to be within the ministries’ rules, a first assessment is performed by NVWA, and then the proposal is sent to the ministries. A different attitude has been observed between the two ministries in dealing with this topic, with the ministry of VWS applying criteria in a stricter manner than the ministry of LNV. It is important to fully align ambitions on this topic with all partners. More clarity is required by VWS in terms of understanding the benefits to Dutch consumers of such types of research activities.

*Societal and economic impact: very good (score 4)*

#### **Recommendations**

7. *Clarify discussions on 3rd party research, by preparing and discussing a policy paper on this topic with all relevant partners.*

### **3.5 Viability**

#### **Findings**

The WFSR institute is well staffed and well-equipped. Especially very expensive equipment or equipment that is not used full-time is shared within WUR through SRF.

The merger of RIKILT and NVWA laboratory for Feed and Food Safety took a substantial amount of the attention of the management; during the interviews, however, it became evident, that the outcome was not affected negatively. Not surprisingly, quite some work has still to be done on unification of the organisation's cultures and work processes. While the NVWA lab was more orientated at routine screening than RIKILT, an interchange of staff between units will enhance unification and further broaden experience. It was made clear that the IT system of WFSR needed an upgrade at the time of the merger and a new system will be put in place the coming time.

WFSR is working on a new strategy document, which has not yet been discussed with partners like NVWA and both ministries LNV and VWS. In line with earlier remarks it is necessary to align strategy and ambitions with all government partners, including discussions on appropriate budget to fulfil the statutory tasks.

Human Resource management is very important for all organisations. At WFSR, critical expertise is sometimes concentrated in one person, which is a potential risk. A robust analysis of all staff and equipment through a so-called 'single point of failure analysis' will show weaknesses and will give the possibility to anticipate future issues and thus allow the development of a risk mitigation plan. Furthermore, WFSR has difficulty finding staff at the right level of education and skills. Since there is a lack of high-skilled staff also elsewhere in research organisations, they might be found through MSc internships and PhD collaborations. This was already mentioned in paragraph 3.1., where it was outlined in the context of getting the research at a higher level, but this will also help the organisation in filling vacancies. With WFSR's standing in the field it will be possible to recruit from a wider pool of organisations all over the world, which will also increase staff diversity. Within WFSR it was found that young researchers pointed out that they have good career possibilities, and although there is no formal mentoring programme, they are well-supported by senior staff. Within WUR a leadership programme is offered to staff, to enhance personal and career development.

There are many new opportunities in the field of feed and food quality in the coming years, requiring new skills and new research methods. It was found that WFSR is already moving into that direction, using new AI techniques, data science and predictive modelling. Development of hand-held testing methods and self-tests will give changes in the type of work to be done, but high-end analysis and supervision on the equipment and methods that will be used will remain. Climate change and circular economy are two of the big themes for the future. Although the topics were mentioned in the strategic document, the consequences for the organisations are not yet fully worked out.

*Viability: good (score 3)*

**Recommendations**

8. *Keep working on institute culture and integration and build capacity and resilience in IT infrastructure.*
9. *Further improve strategic relationships with ministry departments and NVWA and discuss the Strategic Plan with partners.*
10. *Perform a single point of failure analysis and develop a mitigation plan.*
11. *Recruit from a wider pool of talent, both national and international.*

#### **4. Appendices**

- 1. Members of the WFSR Assessment Committee**
- 2. Terms of Reference for WR Institute assessments**
- 3. Programme of site visit 29-31 March 2021**

**Members of the WFSR Assessment Committee****Dr. ir Hendrik (Harry) Paul, MPA (Chair)**

Harry Paul has extended experience in the various fields of government work. Originally trained at the Wageningen University and Research, after his PhD he moved to The Hague, where he worked in various management positions in the Dutch Government, including inspector general of the Netherlands Food and Consumer Product Safety Authority (NVWA) and deputy secretary general at the Ministry of Finance. In recent years, he worked with ABDTOPConsult and performed various advice and interim projects, such as secretary general ad interim at the Ministry of Agriculture, Nature and Food Safety (LNV). He is often consulted in complex governance issues.

**Professor Christopher Elliott, PhD, FRSC, FRSB, MRIA, OBE**

Chris Elliott is currently Professor of Food Safety and founder of the Institute for Global Food Security at Queen's University Belfast. He served as Pro Vice Chancellor responsible for the Medical and Life Sciences Faculty between 2015 and 2018. He has published more than 470 peer review articles, many of them relating to the detection and control of agriculture, food and environmental related contaminants. His main research interests are in the development of innovative techniques to provide early warning of toxin threats across complex food supply systems. Protecting the integrity of the food supply chain from fraud is also a key research topic and Chris led the independent review of Britain's food system following the 2013 horsemeat scandal. He currently co-ordinates a flagship Horizon2020 project involving 16 European and 17 Chinese partners on food safety. Chris is a visiting Professor at the China Agriculture University in Beijing and the Chinese Academy of Sciences. He is a recipient of a Winston Churchill Fellowship and is an elected Fellow of the Royal Society of Chemistry and Royal Society of Biology. In 2017 he was awarded the Royal Society of Chemistry Theophilus Redwood Prize and was also awarded an OBE by Her Majesty Queen Elizabeth II. He was elected a member of the Royal Irish Academy in 2020.

**Professor Dr. ir Leo den Hartog**

Professor Dr Ir Leo den Hartog is director of R&D at Nutreco and part-time professor in "Animal Nutrition in a Circular Economy" at Wageningen University, The Netherlands. It was from this same university that den Hartog graduated in Animal Sciences in 1978, and where he obtained his PhD in 1984.

In 1989, den Hartog received the Henneberg Lehmann Award from the University of Göttingen, Germany. In 1999, he accepted an honorary PhD from the University of Kaposvar, Hungary. In 2014, he was given the Molenaar Award from the *Animal Nutrition* magazine in the Netherlands and Belgium. This award is given every two years to a person for his or her contribution to the animal feed and additive industry. Den Hartog's extensive experience in animal production is reflected in over 450 scientific and applied articles and seven books as author or co-author. To date, he has given more than 750 lectures in over 40 different countries. He has also been chairman of Dutch trade missions on behalf of the Ministry of Agriculture, Nature and Food Quality to China, Taiwan, South Korea, Brazil, Argentina, Chile and South Africa.



## Terms of Reference for WR Institute assessments

## Key evaluation criteria and sub criteria

Key criteria	Elements to be considered - Sub criteria
<b><i>Predominantly directed towards the evaluation period</i></b>	
<p><b>Quality of research</b></p> <p><i>This criterion reflects the research quality</i></p> <ul style="list-style-type: none"> <li>• <i>as it is perceived in the professional eyes of its peers and competitors (scientific quality).</i></li> <li>• <i>as it is appreciated by clients for usefulness and reliability.</i></li> </ul>	<ul style="list-style-type: none"> <li>○ Scientific quality</li> <li>○ Output</li> <li>○ Knowledge / experience / training</li> <li>○ Esteem / authority / visibility</li> <li>○ Strategic choices / targets</li> <li>○ Position / share in Topsector- and EU-research programmes and other renown competitive research programmes</li> <li>○ Client satisfaction</li> <li>○ Collaborations that add synergy / critical mass</li> <li>○ Acquisition strength as appears from e.g. portfolio</li> <li>○ Case studies that indicate the research strength</li> </ul>
<p><b>Performance of statutory tasks</b></p> <p><i>This criterion reflects the overall performance of statutory tasks for the government, including support during food safety incidents and crises.</i></p> <ul style="list-style-type: none"> <li>➤ WOT Food Safety</li> <li>➤ WOT Nature &amp; Environment: WFSR tasks in the manure research programme</li> <li>➤ Knowledge Base (KB)-WOT</li> </ul>	<ul style="list-style-type: none"> <li>○ Quality of statutory task performance (scientific soundness, quality of results, and timely reporting of results)</li> <li>○ Overall organisation and efficiency in performing routine and specialized analytical tasks</li> <li>○ Overall organisation and adequacy in supporting the policy of the government and the inspections</li> <li>○ Quality of and contribution to the international tasks of LNV and EC</li> <li>○ Quality and speed of support during incidents and crises</li> <li>○ Adequate contingency plans</li> <li>○ Proactive renewal of the range of duties</li> </ul>
<p><b>Societal and economic impact</b></p> <p><i>This criterion reflects the institute's impact</i></p> <ul style="list-style-type: none"> <li>• <i>as it appears from the knowledge utilisation by users. The evaluation is based on information about knowledge utilisation by various user groups (client questionnaires or interviews / surveys about knowledge utilisation.</i></li> <li>• <i>as it is appears from the efforts to promote knowledge utilisation by users. The evaluation is based on information about the actions that the WR institution undertakes to promote the utilisation of research results. The question about impact thus becomes a question about how the WR institution connects with which stakeholders. This concerns e.g. the organisation of demand-driven research for stakeholders, performing research in partnership with users, helping users to utilise the research results, etc.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Strategic relevance of research for <ul style="list-style-type: none"> <li>○ Government (contribution to national policy / Topsectors)</li> <li>○ Private industry</li> <li>○ Economy (contribution to innovation agenda's etc.)</li> <li>○ Public in general (contribution to social theme's in the national policy)</li> </ul> </li> <li>○ Customer orientation / knowledge utilisation</li> <li>○ Role in public debate / opinion / agenda setting</li> <li>○ (Inter)national visibility (EU-, Topsector- programmes etc.)</li> <li>○ Successes in economic value creation through <ul style="list-style-type: none"> <li>- new business cases and start-ups</li> <li>- intellectual property</li> </ul> </li> <li>○ Visibility in Steering committees / media</li> <li>○ Volume and ratios of money flow</li> <li>○ Customer relations in public and private arena</li> <li>○ Collaborations with prominent knowledge institutions</li> <li>○ Case studies (narratives) that support these indicators</li> </ul>

Continued on next page

<b>Predominantly directed towards the future</b>	
<p><b>Viability of the organisation</b>  <i>This criterion reflects the attractiveness of the institute's activities towards its stakeholders and the feasibility of their strategic plans and business plans. It gives an indication of its competitive strength, the robustness of the institute and its continuity.</i></p> <p><i>It also reflects the institute's abilities to operate in an efficient and effective way, supported by its management, leadership and skills of its employees.</i></p> <p><i>N.B. The market is a broad window that includes the total of customers. It includes the industrial clients but also governmental clients, NGO's and in some cases the general public</i></p>	<ul style="list-style-type: none"> <li>○ Customer appreciation (in the past and expectations towards the future)</li> <li>○ Strategic plan and marketing strategy (focus on needs of industry and general public)</li> <li>○ Competitiveness</li> <li>○ Strategic investments (strategic expertise (KB))</li> <li>○ Innovative strength (through examples)</li> <li>○ Order portfolio analysis / analysis of market segments / successes in Topsector-, EU-calls, bilateral contracts</li> <li>○ Attention for critical mass and synergy</li> <li>○ Collaboration (internal / external) especially with the counterparts within WUR</li> <li>○ Quality of the SWOT (focus on portfolio, staff, facilities, business model / finances)</li> <li>○ Organisation structure</li> <li>○ Leadership</li> <li>○ Skilled project-/programme-leaders</li> <li>○ Human resource management, recruiting and retaining good personnel</li> </ul>

**Key-criteria on a four-point scale**

<b>Score</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
	<b>Unsatisfactory</b>	<b>Satisfactory</b>	<b>Good</b>	<b>Very good</b>
<b>Quality</b>	The group's research has clear weaknesses and is insufficiently appreciated by its stakeholders.	The group's research shows some weaknesses but is generally of good quality. The research is respected by most stakeholders.	The group conducts good and respected research for its stakeholders.	The group conducts very good and highly respected research for its stakeholders. The research is highly respected world-wide.
<b>Statutory tasks</b>	Inadequate performance of tasks, as demonstrated by repeated complaints or deficiencies in output or testing methods Poor contingency plans with severe flaws.	Tasks are performed as agreed, and output meets the requirements. Contingency plans are adequate.	High level of service: high customer satisfaction and high level of anticipation of customer needs. Good solid testing methods. Contingency plans are reviewed regularly and exhibit no flaws.	Very high level of service and support, combined with high quality output and excellent customer satisfaction. New needs are anticipated and quickly met. Testing methods are developed to perfection and very advanced. Perfect contingency plans.

*Continued on next page*

Score	1	2	3	4
	<b>Unsatisfactory</b>	<b>Satisfactory</b>	<b>Good</b>	<b>Very good</b>
<b>Impact</b>	The group is insufficiently connected to its stakeholders. Also the utilisation of its research products is insufficient. The strategic importance for the economy (or policy-making / agenda setting) is minimal.	The group has good connections to stakeholders in general but falls short on some aspects. Also the utilisation of its research products is generally good but falls short in certain places. The strategic importance of this knowledge utilisation for the Dutch and European economy and/or resolution of societal challenges is generally substantial, but not in all respects.	The group has good and substantial connections with its stakeholders. Its research is used by its stakeholders. The utilisation of its research products has strategic influence on the economy (or policy-making and agenda setting) in the Netherlands and Europe and / or is of great use for challenges that society has to face nowadays.	The group has very strong structural connections to stakeholder groups. Its research products are used on a large scale. The utilisation of the research products is of great strategic importance for the economy (or policy-making and agenda setting) in the Netherlands and Europe and / or is of great use for challenges that society has to face nowadays.
<b>Viability</b>	Group with significant weaknesses. Not well positioned and insufficiently equipped for the future. The strategy has clear deficiencies. Problem might be of internal (strategy, expertise) or external (market related) origin. Group is facing problems, caused by internal deficiencies. Management is responding not adequately. Decisions made on a rather ad hoc basis. Significant improvements are achievable.	The group has a good strategy in general but in certain parts there is room for improvement. The groups is generally well-positioned and well-equipped for the future, but shows some deficiencies. Not too innovative and not very competitive. In general the management do what is required and are not too exciting. Prerequisites for achieving good quality and impact in terms of finance and staff and facilities fall short on certain places.	Good group with strong focus and strategy and sufficient critical mass. Innovative and competitive. The group is well positioned and equipped for the future. The strategic plan is adequate and well thought out. It has not used all the opportunities yet and with a few adjustments its attractiveness will improve. Management is solid and stimulating. Nevertheless some improvements might be worthwhile considering in respect to finance, staff and / or facilities .	Very strong group with strong focus and strategy and sufficient critical mass. Very innovative and competitive. The group is very well positioned and equipped for the future. The institute is very attractive to its stakeholders. Good strong, proactive management. Decisions are correct and timely. The strategic plan is highly adequate and well-thought-out. Highly satisfied employees and staff. Prerequisites for optimal performance in terms of finance and staff and facilities are present.

**Programme of site visit 29-31 March 2021****Monday 29 March**

Time	Activity
8.30	<b>Welcome and opening</b> by Rector Magnificus
9.00	<b>WFSR and its strategy</b> <ul style="list-style-type: none"> <li>• Presentation by general director</li> <li>• Conversation with general director, business unit managers, programme leader Statutory Research Tasks (WOT) and principal scientist</li> </ul>
10:30	Internal evaluation
11.00	<b>Statutory Research Tasks: structure, mission, management</b> <ul style="list-style-type: none"> <li>• Presentation by programme leader Statutory Research Tasks</li> <li>• Conversation with programme leader and sub-programme leaders</li> </ul>
12.00	Lunch
13.00	<b>Scientific quality: research management</b> Conversation with professors and some senior researchers
14.00	Internal evaluation
14.30	<b>Introduction to our research</b> <ul style="list-style-type: none"> <li>• Conversation about our research: KB, KB-WOT, R&amp;D (30 minutes)</li> <li>• Digital poster session (60 minutes)</li> </ul>
16.00	Internal evaluation
16.30	<b>NRL, EURL and EFSA</b> Conversation with researchers with NRL/EURL/EFSA tasks
17.30	Internal evaluation

Evening programme for the committee and secretary to work on the report.

**Tuesday 30 March**

Time	Activity
8.30	<b>Meeting with entrepreneurial researchers</b> Introduction by posters and conversation
9.30	Internal evaluation
10.00	<b>Meeting with young researchers</b> Conversation with 5 researchers
11.00	Internal evaluation
11.30	<b>Virtual laboratory tour</b>
12.30	Lunch
13.30	<b>Stakeholder conversations: Collaboration and Impact</b>
17.45	Internal evaluation

Evening programme for the committee and secretary to work on the report.

### **Wednesday 31 March**

<b>Time</b>	<b>Activity</b>
8.30	Internal evaluation: drafting report and presentation
10.00	Presentation of preliminary results and conclusions to the management team of WFSR and the Executive Board
11.00	Finalising presentation and draft report (internal meeting with committee)
12.00	Presentation of results and conclusion to all WFSR employees
13.00	Closure and departure of committee