



**Report on the evaluation of the  
Department for Environmental  
Research and Innovation (ERIN)  
at the Luxembourg Institute of  
Science and Technology (LIST)**

**Based on a peer review as commissioned by the Ministry of  
Higher Education and Research of Luxembourg**

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# 1. Introduction

The Ministry of Higher Education and Research (MESR) of Luxembourg mandated *Interface Policy studies Research Consulting*, Switzerland, to organise and lead a research evaluation of the Centres de Recherche Publiques (CRP).

The Grand Duchy of Luxembourg operates three non-university public research and technology institutions. They are the Luxembourg Institute of Science and Technology (LIST), the Luxembourg Institute of Health (LIH) and the Luxembourg Institute of Socio-Economic Research (LISER). The three CRPs include departments linked to different scientific disciplines. The evaluation focused on the research performance of the CRPs' departments.

The research evaluation conducted in 2022 followed two earlier evaluations carried out in 2012 and 2018. This report presents the evaluation of the department for Environmental Research and Innovation (ERIN) of LIST.<sup>1</sup>

The observations and recommendations presented in this report are based on a peer review by the following three experts working in the department's research fields<sup>2</sup>:

- Prof. Dr. Teresa Fitzpatrick, Head of Fitzpatrick Lab, Vitamins & Environmental Stress Response in Plants, Department of Plant Sciences, University of Geneva, Switzerland
- Dr. Serenella Sala, Deputy Head of Unit / Scientific Project Manager, European Commission, Land Resources Unit, Directorate of Sustainable Resources, Joint Research Centre, Ispra, Italy
- Dr. Jan van der Eijk, Private Consultant & Former chief Technology Officer for Shell

The peer review consisted of a self-assessment report written by ERIN and a hearing at the department that took place in September 2022. The assessment period runs from 2018 to 2021. The hearing, which was organised and moderated by Interface, comprised a presentation by the department, a group discussion of the self-assessment report and several individual and group interviews. These included interviews with the Head of department, research team leaders, members of the wider research staff and PhD students as well as clients and business partners. The report was finalised by Dr. Nicolas Grosjean (Panel chair) and Chiara Büchler (Rapporteur) of Interface.

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<sup>1</sup> Between 2010 and 2012, evaluations of selected departments of the former CRPs were carried out. The first full evaluation of the CRPs, which included all departments, was carried out in 2018.

<sup>2</sup> Initially, four peers were invited to participate in the evaluation. Due to a cancellation at short notice, the evaluation was conducted with the participation of three peers.

The overall results of all departments are summarised in an institute report for each CRP<sup>3</sup> and a synthesis report<sup>4</sup>. The institute report includes an assessment of the CRPs as a whole. It also summarises the findings from additional governance interviews with representatives of the management teams at the CRPs as well as a comparison between the CRPs and a foreign benchmark institute.

The report is structured into two parts: The first part discusses in detail the observations gathered by the expert team during the evaluation process. This part will focus on the input, output and outcome/impact of the Department:

- *Input* includes the preconditions for the research conducted, such as strategies, financial and human resources, infrastructure, organisation and external research, industry and other collaborations.
- *Output* includes the performance of the department, exemplified through research and innovation results and their dissemination.
- *Outcome and impact* refer to the medium- and long-term effects as well as the relevance of the output on science, society, economy, and public administration/politics.

The second part presents the expert team's overall assessment and recommendations for further developing existing strengths and overcoming observed weaknesses.

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<sup>3</sup> Rieder, Stefan; Grosjean, Nicolas; Büchler Chiara (2023): Report on the evaluation of the Luxembourg Institute of Science and Technology (LIST), Interface Policy studies Research Consulting, Lucerne and Lausanne.

<sup>4</sup> Rieder, Stefan; Balthasar, Andreas; Haefeli, Ueli; Grosjean, Nicolas; Büchler, Chiara; Essig, Stefan; Thorshaug, Kristin (2023): Synthesis report on the evaluation of the Centres de Recherche Publics (CRP) in Luxembourg, Interface Policy studies Research Consulting, Lucerne and Lausanne.

## 2. Detailed results of the evaluation

### 2.1 Description of the department

ERIN started its activities in 2015 following the merger of two public research institutes: CRP Henri Tudor and CRP Gabriel Lippmann. The department aims to provide sustainable benefits to society and to support Luxembourg's economic diversification strategy through impact-driven scientific excellence. To achieve this goal, ERIN strives to a) increase collaborations with the private sector and policymakers and b) develop market solutions that increase the environmental performance and sustainability of economic activities. As a Research and Technology Organisation (RTO), ERIN's mission is to be a reliable partner for companies, national and European agencies and society, developing solutions for a resilient, sustainable and digital society. Based on this mission, ERIN conducts research and offers science-based policy support in six focus domains to develop socio-economic impact: natural resources and agrosystems; circular bioeconomy; environment and health; safe and sustainable production; renewable energy systems; living cities and territories. The department's research is multidisciplinary and combines approaches in the field of environmental sciences with the areas of environmental sensing and modelling, biotechnologies, environmental sustainability assessment, circularity and energy systems. The target groups for the departments activities are the national and international scientific community, public policy actors, industry stakeholders, and the public.

The department is organised into four corresponding research units, as well as two infrastructures structured as platforms to support lab or field research activities. Various changes to the organisation took place during the evaluation period, most notably the reorganisation of the "Sustainable Urban and Built Environment Group", which was transferred from ITIS to ERIN in 2020, and the creation of the "Intelligent Clean Energy Systems" research unit in 2021 to support Luxembourg's and the EU's energy transition.

In 2021, ERIN had a total of 214 employees (198.79 full-time equivalents). Third-party funding amounted to approximately 11.5 million Euros in 2021, with almost 50 per cent thereof originating from competitive grants, 36 per cent from contract research and 14 per cent from services and other revenues. In total the departments third-party funding covers approximately 50 per cent of its expenditures, the other 50 per cent are covered by the block grant.

### 2.2 Input

#### 2.2.1 Strategy of the department

In the 2018 evaluation, the experts suggested developing an overall departmental strategy to strengthen coherence and critical mass in certain research areas in order to gain international visibility and maintain the provision of services. The experts from the 2022 evaluation acknowledge that ERIN took measures to clarify and implement its strategy. Overall, the experts rate the strategy as coherent with the available and planned infrastructure. However, the measures taken to implement the strategy have yet to materialise, as, for example, the Technology & Innovation lines have only been implemented in late 2021. Accordingly, the bibliometric analysis conducted shows a coherent research structure, but indicates that current focus areas are not fully integrated into the activities of the department yet.

The expert group identifies potential for further reflection on the future strategy of the department especially as concerns a) achieving a critical mass in certain focus areas and b) the market strategy and bridging function of the department. In the expert's assessment, industrial and environmental biotechnology, which is one of the foci of the department, is a quite competitive area due to the presence of similar and more elaborate set-ups outside of Luxembourg. Hence, with a view to raising the profile and visibility of ERIN the expert team suggests conducting a risk assessment:

- Firstly because of the capital needed to reach scientific excellence in this field.
- Secondly because of the strong competitors in industrial biotechnologies in the European research landscape, e.g. VTT in Finland whose R&D overlaps with ERIN's, but also includes food and smart technology, and is well established and renowned in the field.
- Thirdly, to assess the staff competencies available in applied research in the “Environmental and Industrial Biotechnologies” unit.

The experts also acknowledge that the department has taken steps to specify its “route to market” and is developing a market strategy. Nevertheless, how it envisages market application is unclear. The experts suggest prioritising the development and implementation of a market strategy. This is particularly important because a strong inclination towards classic academic research at a low TRL-level is noticeable in some areas. The cultural change from a pre-merger research institution to an RTO is not yet complete in all areas. Even though the experts observed a willingness to improve its economic impact, it is uncertain whether ERIN can strengthen its collaborations with industry and implement its market strategy (see section 3.2.4).

Furthermore, the experts observed that the department worked on a wide range of small projects (120 ongoing projects at the time of the evaluation), which are not fully aligned with the department's strategic objectives. Since 2021, however, in parallel with the definition of the Technology & Innovation lines, guidelines have been put in place for selecting projects that are aligned with the strategic objectives of the Technology & Innovation lines. The effects of these guidelines have yet to materialize.

Overall, the experts see a need for a reflection on the positioning of ERIN in Luxembourg's research and innovation landscape. The strategic dilemma of being a leading research institution, providing contract research and applied science to make an impact on the economy, working with national agencies and society is still unresolved. This holds especially true regarding the future positioning of ERIN as against the new Interdisciplinary Centre for Complex Environmental Systems in creation at University of Luxembourg (UL) which activities are unknown by the end of the evaluation period. ERIN needs to clearly identify the areas in which it has the critical mass to reach scientific excellence and can provide contract research as well as services to public administration and the industry (see also 3.2.4). Concretely, ERIN might conduct a collective exercise, including a mapping of the current activities and their potential to be translated into a marketable proposition, identifying those which may represent areas of excellence and development specific to ERIN in comparison with other organisations. A first step in this direction was taken with the identification of six focus areas during the process for developing the new strategy, which included an analysis of the national and international trends. Moreover, several of ERIN's private partners are already big multinational companies. Further exploiting the contact and cooperation with them, on different files and domains could be an initial step in better positioning the multidisciplinary assets of ERIN.

### 2.2.2 Human and financial resources, infrastructure and equipment

As regards human resources, the experts state that ERIN has many passionate, highly qualified and experienced researchers, who rate their working conditions very positively. While the experts appreciate that ERIN has made reasonable efforts to build a new and appropriate culture in line with its status as an RTO, the high proportion of long-standing permanent staff makes this transition challenging. The experts suggest, in the future, recruiting staff with not only scientific experience but also good knowledge of the industrial environment. Thus, the research units and groups can be integrated and aligned with the areas of partnership development and future Innovation Line management.

While rated positively, the experts identified a few shortcomings as regards human resources management at ERIN:

1. The experts observed that career paths and promotion possibilities within the department are not outlined transparently for the staff. According to the expert group, the career management of young researchers and PhD students should be intensified, e.g. through formalised structures for discussing career options and paths, perhaps in cooperation with the UL. A formal structure that supports new employees on their arrival in Luxembourg and in clarifying administrative procedures and questions would be useful.
2. The experts were made aware of the challenges that ERIN faces in attracting talent. The experts encourage ERIN to further enhance cooperation with universities abroad in order to gain better access to doctoral schools and reduce its current dependency on the doctoral school of the UL.
3. The impressive infrastructure at ERIN needs to be more widely advertised in order to attract talent appropriate to an RTO.
4. The experts observed that the number of female staff members in management positions is low (2 out of 15 management positions in the RDI departments or the platforms are held by women). Apart from a few positively rated bottom-up initiatives (such as an action plan based on proposals from the ERIN gender equality network), no diversity strategy could be identified.
5. The experts emphasise the need to establish a close dialogue on human resources with the UL, especially regarding the new Interdisciplinary Centre, thus fostering cooperation and complementarity over the long-term (e.g. regarding the access to doctoral students, or coordination on top level recruitments to achieve complementary research agendas).

As regards the financing of the department, the experts are of the opinion that the overall financial situation of ERIN is very sound. Notably however, the availability of the block grant provides a comfortable seat causing a reluctance to seek outside third-party funding that would increase ERIN's international visibility. Although the 2018 experts recommended that LIST distribute the block grant more transparently, this recommendation has not been implemented during the evaluation period.

Currently, ERIN is physically fragmented across four locations with limited possibilities to expand further. The experts consider this as a threat to ERIN's development, as the department's future strategic growth planning builds on the continuous development of its research and technology infrastructure. Although the experts found that external influences essentially shape the building strategy of ERIN and LIST, they encourage LIST to continue to work towards a building strategy that accounts for the growth plans of its departments.



### 2.2.3 Organisation

The experts note that ERIN runs a well-functioning organisation. The organisation is clear, well-understood, and allows for multidisciplinary working, which is an evident strength of the department. The collaboration between ERIN and other departments of LIST, especially ITIS, is assessed as positive based on the references made to these collaborations during the interviews.

A few shortcomings in the organisation of the department were identified that, if addressed, could advance the transition to a fully-fledged RTO and also improve the department's outreach internationally and with industry. Based on the available documentation and the interviews at the hearing, the experts state that ERIN needs to further clarify its organisational structures as regards partnership development support. The experts note that, during the evaluation period, the role of the Partnership Development Office was not completely clear, especially to the research staff. There is a need to improve communication between the research units and the Partnership Development Office with scientific dialog being the common language. Overall, the experts are of the shared opinion that to fully exploit the available infrastructure, the communication and outreach to potential industrial and other partners need to be optimised, and thus scientific and technological transfer expertise is required. Whether the partnership officers have the resources to develop new partnerships is unclear as the current focus is mainly on the existing partners.

In particular, the expert group sees a need to consolidate the duties of the Communication Officer and the Partnership Office. Both units need to improve dialogue and purpose with the RDI groups. To proceed with the partnership development, they identify a clear need for a communication strategy that gives direction to the department's external and internal communication. This would not only improve internal communication but could also enhance the department's visibility in the future.

Where the administrative processes within the department are concerned, the experts got the impression that there are, in some cases, comprehension issues between the research units and the administrative services at both departmental and corporate levels. The experts advise ERIN to review the cost-benefit ratio of the administrative services carefully and to concentrate on the services needed to implement the strategy further and provide support for the research personnel, especially Principal Investigators.

### 2.2.4 External research and industry collaboration and service provision

The experts note that ERIN collaborates with several national partners in the public sector as well as in the national and international scientific communities. However, further efforts to facilitate the opportunities to apply for third party funding as well as industrial service provision based on the excellent infrastructure are required and would help ERIN to strengthen and expand its collaborations, to gain international visibility and to increase its success rate with, for example, EU funding applications.

ERIN's main stakeholders are positioned in the public sector in Luxembourg, and according to the financial data presented in the SAR, the department acquired two-thirds of its collaborative funding from projects carried out for the public administration or ministries in Luxembourg. ERIN's performance in the public sector is rated very positively by the experts. Irrespective of this positive assessment, the experts share the opinion that ERIN has reached a plateau: the department has established successful cooperations with the public sector and offers extensive services, but it has not sufficiently managed to increase the revenues from collaborative projects with industry. Even though many small projects have been conducted during the evaluation period, few large-scale

collaborative projects with industry have been carried out to translate findings (see section 3.2.1).

The experts observe an improvement in the department's success in acquiring Horizon 2020/Horizon Europe grants, with a noticeable jump in funding between 2019 (0.5 Mio. EUR) and 2020 (1.3 Mio. EUR). The expert team notes that the research units vary in their success in acquiring EU projects: ENVISION and BIOTECH are not yet performing well enough at the European level. Thus, the experts encourage ERIN to further intensify its efforts to acquire EU projects in order to generate more third-party funding and to gain international visibility through participation in international consortia.

Considering ERIN's relationship with external research institutions, the experts see a clear pathway for action. Over recent years, ERIN has been the only research institute focused on sustainability in Luxembourg and therefore profited from a monopoly position in environmental science. With the new Interdisciplinary Center for Complex Environmental Systems at UL on the horizon, the experts strongly encourage ERIN to seek complementarity and further embrace collaboration with the UL. It is evident to the experts that the management of ERIN and LIST need to establish a close formal or informal dialogue with the management of the new Center at UL. Considering the small domestic target market for ERIN in Luxembourg and the low international market visibility of ERIN complementary research and a focus on established and well-performing research areas is needed.

## 2.3 Research and innovation performance (Output)

### 2.3.1 Quality of output

The results of the bibliometric analysis show that ERIN is the strongest department in terms of research impact metrics, FWCI and top-10 per cent citation per centile share within LIST. The department also has the highest overall number of publications within the institute. Furthermore, ERIN's international record is excellent, with 85.9 per cent of the publications having an international co-author. Overall, this indicates a high research impact. However, as indicated in the Self-Assessment Report (SAR), the publication intensity per researcher has been decreasing since 2018. In addition, there was a slight decrease in the FWCI discernible after 2019, together with a decreasing citation count and decreasing number of publications in the top 10 per cent most cited publications worldwide. This does not indicate an overall decrease in performance in scientific excellence *per se* but may be a consequence of the focus on more applied research that is generally published in niche journals.

The experts assess ERIN's interdisciplinary approach as promising and encourage the department to continue to promote interdisciplinarity while at the same time supporting discipline-specific research. Furthermore, the policy support provided to the public administration and ministries is an integral part of ERIN's output portfolio and is assessed as excellent, as evidenced by the feedback provided by the local authorities' representatives who were interviewed and also by the impressive media coverage of ERIN's activities in local media.

Where the IP-strategy of ERIN is concerned, the experts have doubts about the alignment of the IP-strategy with the market strategy of the department. In line with this assessment, the experts rate the quality of the innovation outputs of ERIN as only partially adequate. Even though the number of patents accepted and held by ERIN is increasing, the revenues generated from licenses, which started from a low level, have further decreased during the evaluation period. Although the experts acknowledge that patents are important to make ERIN's innovation output visible, the experts encourage ERIN to strengthen its market-

oriented portfolio management further, including a possible change towards a more flexible/adaptable IP strategy. In addition, the experts rate the two spin-offs created by ERIN during the evaluation period as a success and encourage the department to intensify its efforts to create spin-offs.

### 2.3.2 Quantity of output

Overall, the experts assess the quantity of the research output to be good. With 767 publications, ERIN has the highest overall number of publications within LIST (Total LIST: 1'456 publications). According to the experts, though, ERIN's innovation output is insufficient compared to the department's available human and financial resources. The output could be improved through a higher number of larger industry collaborations.

The experts observe that ERIN has steadily increased its third-party funding since 2019. This demonstrates that the output, both in terms of quantity and quality, is sufficient. However, the experts observe two areas for improvement:

1. The competitive grants received from the Fonds National de la Recherche (FNR) stagnated at around 4.2 Mio. EUR each year between 2019 and 2021. This could be an indication that ERIN has reached a limit in the funding of projects by the FNR. Thus, the experts encourage the department to continue focusing on competing for Horizon Europe projects (see 2.2.4).
2. In 2021, third-party funding from the private sector in Luxembourg was around 243'000 EUR. This is regarded as too low compared to ERIN's resources. Overall, the experts agree that the small domestic market in Luxembourg leaves limited possibilities for the large collaborative projects with the private sector that would be necessary in order to further strengthen the department and to implement the RTO mission. In agreement with the experts from the 2018 evaluation, the experts of the 2022 review strongly encourage ERIN to increase the quantity of its applied research and to increase its partnership work with industry, including those companies with whom cooperation is already in place. A market analysis of target companies and activities is considered a prerequisite in order to define sectors for further or greater investment. Ideally, the identification of niche markets where ERIN's expertise is more unique in terms of value proposition is key. For example, the strong integration of environmental science, engineering and IT competence is an element to explore further in terms of services offered by ERIN (including in cooperation with other LIST departments).

In addition, the experts rate the two spin-offs created by ERIN during the evaluation period as a success, as they are expected to provide several jobs in the mid-term. The experts advise ERIN to strengthen its spin-off approach further.

### 2.4 Outcome and Impact

The department's academic impact is assessed as very good (see section 3.3.1). The societal and policy impacts of ERIN are evaluated as excellent, based on the type of output provided at both local and international levels. ERIN's contract research commissioned by national agencies and ministries provides an appropriate science, technologies, and policies interface. The experts rate this position as a vital asset for ERIN. During the evaluation period, this was effectively illustrated by the wastewater monitoring of SARS-CoV-2, where ERIN successfully contributed to the sanitary crisis management of the government of Luxembourg.

As regards environmental impacts, ERIN's activities have both direct and indirect positive impacts. The direct impacts are related to the environmental monitoring services provided

to the national authorities. The indirect impacts are related to the type of research activities conducted in many cases via integrated environmental assessment (e.g. the activities on life cycle assessment or the activities on remote sensing and implications for land planning).

According to the experts, assessing ERIN's economic impact in Luxembourg is difficult due to a low number of industry collaborations and a small domestic market. However, through the creation of spin-offs like WASDI, ERIN encouraged a transfer of skilled researchers and technical expertise as well as different product lines to the industry. The experts advise ERIN to concentrate on strengthening its economic impact through collaborative projects.

## 3. Overall assessment and recommendations

### 3.1 Overall assessment of the department

The overall assessment of the department is positive. In general, ERIN has achieved the objectives set for the evaluation period. The department is well organized, and the staff are highly motivated. The infrastructure and equipment available at ERIN's facilities are outstanding and are a vital asset for the department. Furthermore, the multidisciplinary approach offered by the department is seen as an obvious strength. Performance-wise, the department has met or exceeded several Key Performance Indicators (KPIs).

In parallel to the delivery of the department's objectives and goals, significant efforts were made to address two change management challenges:

1. LIST was formed from the merger of two previous entities, with each having its own history, culture and focus. Progress has been made in developing a "LIST culture" or "ERIN culture" but more work is needed to align all staff with a common purpose and values.
2. ERIN's management recognises the need to complement excellence in science with excellence in translating scientific results into technologies that meet market needs. Significant efforts were made to clarify the market strategy and to identify marketable technologies. However, the link between academic research and support staff needs to be strengthened, as a transition to applied research and technology transfer is not prominent in all areas. Over the coming period, this effort needs to result in an increase in income from technology-related services to the private sector, with the constraint of a small local market. An unresolved issue concerns the profile of ERIN (as well as LIST) and whether the department finds a balance between exploiting a deeper understanding of the needs of the Luxembourg economic and political ecosystem and carving out technology areas in which it will compete with international RTOs.

### 3.2 Recommendations

Based on the observations stated above and in the previous chapters, the expert team formulates the following recommendations (any aspects which concern LIST as well as ERIN are also reported in the institute report for LIST):

#### I Recommendation 1: Prioritise development of a market strategy

Over the evaluation period, ERIN took measures to clarify and implement its strategy. To become a leading RTO, ERIN should further diversify its stakeholders beyond Luxembourg and select areas in which it can develop a competitive offering on the basis of scientific excellence and strong technology development capabilities. Therefore, the experts recommend prioritizing the development of a coherent and realistic market strategy and implementation plan for the coming year. A point of specific attention is the positioning of ERIN in the highly competitive biotechnology field.

The department has a broad portfolio of marketable IP assets. In light of the development process of a coherent market strategy, the experts recommend reflecting on the current IP strategy. To promote this development, the experts additionally recommend appointing a focused advisory group to support the strategy process and transitions within the next evaluation period. The advisory board should include people with strong industry links in order to support the development and implementation of the market strategy.

**I Recommendation 2: Further develop the Partnership Development Office**

The department is a well-functioning organisation with a clear internal structure. However, the experts identify room for improvement regarding communication and exchange between the research units and the Partnership Development Office. Thus, the experts recommend considering and defining an internal partnership support strategy that focuses on:

- Measures to enhance communication between the research units and the Partnership Development Office, such as an internal communication plan.
- A clarification of the function of the Partnership Development Office within the Innovation Lines, especially as regards the interface between the Partnership Development Office and the future Innovation Line Management.

**I Recommendation 3: Develop a strategy for external communication**

The experts could not identify a communication strategy to reach external stakeholders in the public and private sector or other areas relevant for ERIN within the Partnership Development Office. Even though ERIN's media outreach is assessed positively, the number of collaboration partners in the private sector remains low. To improve ERIN's outreach to a) potential collaboration partners and customers in the private sector and b) stakeholders with whom ERIN has already partnered, the experts recommend developing an external communication strategy or plan.

Furthermore, the experts advise ERIN to implement recommendation three together with recommendation two. According to the experts, a combined implementation would best address the need to improve the department's internal and external communications, thus improving the development of partnerships, and ultimately the department's impact on the economy and the public sector.

**I Recommendation 4: Create an EU project office**

The ERIN department does not have a support structure for the administration and project management of EU projects. This leads to an increased workload for the principal investigators and impacts on the incentive to apply for such funding. The experts recommend establishing an EU project office at institute level to support the scientific staff and to further encourage project proposals in the next evaluation period.

**I Recommendation 5: Invest in active career management**

As regards human resources, the experts observe that many of ERIN's staff have worked in the department for several years, often holding fixed-term contracts. According to the experts, this raises an issue in that the career development of younger fixed-term and temporary staff members is challenging as it is unclear how they can progress at ERIN and, more generally, LIST. The experts find that the PhD students and postdoctoral researchers seem partially disconnected from the department's strategy.

The experts recommend investing in active career management for all staff members and aligning career management with strategic development plans for the department. For example, they recommend developing a scheme to address career development issues and providing opportunities and advice. Moreover, further exchanges and cooperation with universities (both within and beyond Luxembourg) may help in terms of the co-development of education paths and cooperation in talent development and the possibility of retaining them at ERIN.

**I Recommendation 6: Foster relationship with UL**

Since its creation in 2015, ERIN has been the only research institution in Luxembourg with a strong focus on environmental sustainability. The research landscape will change with the development of a new Interdisciplinary Centre at the UL focusing on complex environmental systems. Experts suggest that ERIN sees this development as an opportunity and not as a threat, and they recommend that ERIN should actively engage in a strategic dialogue with UL about opportunities to build on each other's strengths. This may include further involvement in education programme development.

**I Recommendation 7: Develop and implement a diversity policy**

There is an emerging need for a diversity policy within the overall strategy of ERIN. The departmental diversity policy should be based on LISTs "Diversity and Inclusion Charter". Hence, the expert group recommends that ERIN develops a diversity policy with clearly defined targets to be implemented in all processes within the department. Particular attention should be paid to empowering women, helping them to value their contribution and to have the confidence to progress through the hierarchy while respecting their work/life balance. A possible avenue, in addition to ERIN's action plan (see section 2.2.2) could be the implementation of a deputy approach to encourage women in management positions.

**I Recommendation 8: Align Key Performance Indicators (KPIs) with key objectives**

The experts recommend the careful review of the KPIs for LIST and, therefore, ERIN. Additional KPIs should support ERIN's drive to become a leading RTO for which excellence in research is not a goal in its own right, but is an aid to realising its RTO mission.

## Appendix: Agenda of hearing

Wednesday, 7 September 2022		
<b>1   15:45 – 16:45   Welcome address by the Ministry of Higher Education and Research (MESR)</b>		MESR
16:45 – 17:00 <i>Break</i>		ERIN Evaluation team
<b>2   17:00 – 18:00   Presentation by the Department of Environmental Science and Innovation (ERIN)</b>		ERIN Evaluation team
Time	#	Function/institution of participants
17:00 – 18:00	1	Head of the Department
	2	Head of ENVISION unit
	3	Head of SUSTAIN unit
	4	Head of ICES unit
	5	Head of BIOTECH unit
18:00 – 20:00	Discussion of self-assessment report and preparation of interviews	
Evaluation team		
Thursday, 8 September 2022		
<b>3   8:30 – 10:00   Questions and discussion on the self-assessment report</b>		ERIN Evaluation team
Time	#	Function/institution of participants
8:30 – 10:00	1	Head of the Department
	2	Chargée de mission
	3	Head of ENVISION unit
	4	Head of SUSTAIN unit
	5	Head of Environmental Microbiology group
10:00 – 10:30 <i>Break</i>		
<b>4   10:30 – 12:10, 13:30 – 15:30   Individual interviews</b>		ERIN Evaluation team
Time	#	Function/institution of participants
10:30 – 11:00	1	Head of the Department
11:05 – 11:35	2	Senior Researcher
11:40 – 12:10	3	Senior Researcher
12:10 – 13:30 <i>Lunch Break</i>		
13:30 – 14:00	4	Junior Researcher
14:05 – 14:35	5	Senior engineer



14:40 – 15:10	6	Partnership Officer	
15:10 – 15:30	Break		
<b>5   15:30 – 17:15   Group discussions with clients/business partners (group 1) and PhD students (group 2)</b>			ERIN Evaluation team
<b>Time</b>	<b>#</b>	<b>Function/institution of participants</b>	
15:30 – 16:15	1	Ministère de l'Environnement, du Climat et du Développement Durable (MECDD)	
	2	PM International	
	3	Compagnie Luxembourgeoise D'Entreprises, C.L.E SA	
16:15 – 16:30	Break		
16:30 – 17:15	1	PhD Student	
	2	PhD Student	
	3	PhD Student	
From 17:15	Discussion of results and report writing		Evaluation team
<b>6   17:30 – 18:15   Visit to laboratories and other infrastructure</b>			Evaluation team ERIN
<b>Friday, 9. September 2022</b>			
<b>6   8:30 – 12:00   Discussion of results and report writing</b>			Evaluation team
<b>7   12:00 – 12:30   Presentation of results</b>			MESR ERIN Evaluation team