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RCNDE 2023-2028 STRATEGY

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INTRODUCTION

BACKGROUND AND MOTIVATION

The UK Research Centre in Non-Destructive Evaluation (RCNDE) is a long-standing collaboration between industry and academia to coordinate research into NDE technologies. Established in 2003, RCNDE received funding from the Engineering and Physical Sciences Research Council (EPSRC) in the form of three large grants until 2020. This funding was complemented by the membership fees of its industrial members. However, from March 2020, RCNDE's funding model has changed and does not rely on a large grant from EPSRC. The model is now based on the contributions from industrial membership fees and a portfolio of grants aimed at different Technology Readiness Levels (TRLs) funded, or partly funded, by a variety of public funders.

This shift in RCNDE's funding model alongside other external and internal factors identified below, has motivated the RCNDE Management Team (RCNDE MT), the executive team that manages the day to day running of RCNDE, to consult the membership in order to develop a new strategy for RCNDE for the period 2023-2028.

EXTERNAL FACTORS – STEEP ANALYSIS

Using the STEEP model (Social, Technological, Economic, Environmental, Political), the RCNDE MT have identified a series of external aspects that affect RCNDE's current position, future objectives and delivery approach:

Social – the COVID-19 pandemic and its economic consequences have deeply affected society, from how people work and communicate, to business models and production lines. Whilst it has opened opportunities for remote working and mobility and accelerated the adoption of technical tools that have permitted RCNDE to reach wider audiences, it has also meant the suspension of membership of one of RCNDE's Full Members and the withdrawal of membership of some Associate Members. COVID-19 has affected how member companies execute their day-to-day activities and some have accelerated the removal of human manpower from plants and hazardous environments and the move towards a more digital and automated NDE. Another social aspect that is affecting RCNDE is the current low unemployment rate which has caused difficulties in recruiting PhD students as the job market is quite buoyant and jobs are relatively well paid. The social changes experienced in the past years need to be considered in the design, planning and delivery of any future objectives.

Technological – the current focus on Industry 4.0 manufacturing and digitalization, more explicitly, the use of modelling, digitised data collection, machine learning, robotics and automation, etc. has meant a concentration of funding calls around these areas from RCNDE's default funders. Some examples are the UKRI Manufacturing Made Smarter call, the EPSRC Digital Manufacturing call and the recently opened EPSRC call for Artificial Intelligence (AI) hubs for real data and for scientific and engineering research. This has had a profound effect on RCNDE as the technical focus of many of its supported proposals has adapted to fit the requirements of available calls. Whilst NDE is an underlying science and technology that supports safety, reliability and integrity assessments and applications across many sectors, it has been noted that non-NDE related research proposals that are a more direct fit to the funder's priority areas, e.g., manufacturing, have been ranked more highly at the award stage. The move towards digitalization will also, undoubtedly, have an impact on the required skills of NDE professionals and could potentially create

challenges around culture in the traditional NDE workplace. As a result, RCNDE needs to incorporate these aspects and any potential consequences in its mid-term 5-year planning and objectives.

Economic – a series of events in the last few years (Brexit, COVID-19 pandemic, recession and raise of the cost of living and doing business) has created a substantial uncertainty in the UK economy and, as a result, in UKRI budgets. For the last three years the research councils have been running on a yearly settlement which has made any forward, mid-term planning difficult. In addition, a combination of a growing academic community and the rise in costs of conducting research have translated into the traditional responsive mode becoming oversubscribed and highly competitive. It is noted that a shift is taking place and UKRI has now published its 5-year strategy which has led to a multi-year budget settlement for many research councils, including EPSRC. This is opening opportunities and making the funding environment more dynamic, meaning this the right time for RCNDE to develop its new strategy. Another aspect to consider is that the cost of delivering research has greatly increased in the past few years. This has an effect in the scale of activities that can be funded when using exclusively members funds. In addition, the cost of running RCNDE has also risen due to inflation. Both these aspects need to be considered in the design and delivery of this strategy.

Environmental – the current imperatives towards sustainability and ‘net zero’, and the implications for energy, power generation, transport and manufacturing pose challenges for the industrial sectors involved in RCNDE. These challenges will increasingly involve a transition towards low-carbon and renewable power generation, novel energy conversion and storage technologies, and the use, and reuse, of new materials in a circular economy. Nevertheless, realistically, there will be a long-term requirement for ongoing and existing fossil fuel activities for decades to come, including, potentially, the future adoption of advanced high efficiency, clean fossil-fuel technologies. NDE will continue to have a key role in supporting all these sectors, although the anticipated shifts in engineering materials and designs, manufacturing technologies and energy economics are likely to drive changes in the demand for novel NDE and monitoring. Some of the expected industrial trends are:

- Wider use of a much more distributed renewable power generation system that will require lower-cost NDE and monitoring solutions
- NDE to underpin the safe growth in battery and hydrogen production and storage technologies. This will involve complex structures and equipment, and/or safety critical materials degradation processes
- Next-generation nuclear, both fission and fusion, demanding very high fidelity NDE and monitoring to satisfy the criteria for widescale public acceptance
- Synthetic fuels and lightweight materials for future clean air transportation

Political - the political environment both nationally and internationally has been somewhat unsettled in the last few years. In the UK, Brexit has had a great impact in the research environment as it is still unclear whether the UK will be able to participate in EU programmes after 2025, and if so, in what capacity. A succession of different UK Governments with different political ambitions has contributed to the uncertainty around research funding budgets as some initiatives such as the Levelling Up agenda have been cut short in the last six months. Also, in the last year or so, the ‘cost of living’ pressures, and particularly those resulting from the increasing the cost of energy, has hindered the UK Government’s ability to fund public sector activities. The Government faces some difficult decisions to balance the funding of many competing and contrasting demands. However, one political trend that has, so far, been enduring is the ambition of transitioning to ‘net zero’, with all the implications outlined above. Nevertheless, recent UKRI documents seem to suggest that the Industrial Strategy Challenges agenda,

with is societal ‘grand challenge’ themes, is also being abandoned, and a ‘technology families’ approach is now being favoured, which could bring potential opportunities to RCNDE.

INTERNAL FACTORS – SWOT ANALYSIS

In a similar fashion, the RCNDE MT have conducted an analysis of RCNDE using the SWOT (Strengths, Weaknesses, Opportunities and Threats) method to help define its strategic objectives and delivery approach.

Strengths

- Long-standing centre that has demonstrated its viability even without receiving public funding support directly in the last couple of years.
- Clear objectives and good understanding of RCNDE’s membership and the challenges that they face.
- Good and solid relationships amongst members that foster an environment of open collaboration.
- Excellent representation of world-class university groups, internationally recognised end-user companies and an extensive number of Associate Members representing the supply chain both in the UK and abroad.
- An engaged and supportive group of member representatives making up the Board.
- Associate Members with a wide range of capabilities in the sector.
- A cadre of academic champions who see their future in research related to NDE.
- A strong record for PhD and EngD students finding employment within Industry and actively transferring their expertise.
- Well established processes and robust procedures to manage RCNDE.
- Complementary professional profiles within the RCNDE MT that have allowed an expansion of the type of activities undertaken by the team.
- Outstanding track record of transitioning technologies into industrial applications.

Weaknesses

- RCNDE is currently running only on membership funds which limits the scope and quantity of activities that can be pursued.
- Lack of direct influence on public research funding decisions.
- Reliance on RCNDE academics to continue engagement without a ‘big grant incentive’.
- RCNDE MT succession management is key to ensure continuity.
- Limited influence on member’s operations.

Opportunities

- Multi-year budget settlement for EPSRC creating a dynamic funding environment where opportunities can arise.
- Renewed conversations with EPSRC staff, including the newly appointed portfolio manager. Good relationships with Innovate UK (IUK) and the Knowledge Transfer Network (KTN).
- Not being tied to a single grant has meant bigger engagement with those outside a defined consortium. The inclusion of two new universities shows inclusivity and is well regarded by funders.
- Non-profit membership category and links with new industrial sectors (civil sector).
- Outstanding track record of transitioning technologies into industrial applications that can be expanded in the future.
- Revived impetus in nuclear energy and fusion with some key players acknowledging the importance of design for NDE.
- Advanced Research and Invention Agency (ARIA) programme might bring some potential funding opportunities.
- New call for CDTs.
- Increased engagement with Associate Members could help to guide and pull through the technology portfolio
- Membership can be grown in numerous directions consistent with maintaining the focus on core topics

Threats

- Membership drastically decreases and RCNDE can no longer fulfil its commitments and/or continue its operations.
- Funding environment continues focusing on applications/challenges outside RCNDE's remit, e.g., quantum, better health, etc.
- UKRI's multi-year settlement is overridden.
- Loss of critical member(s) of RCNDE MT.
- CDT funding stops.
- Difficulty recruiting students.
- Lack of public funded research grants.
- Increase in the cost of delivering research and running RCNDE could affect ability to deliver sufficient levels of research to keep membership engaged.
- The nature of NDE as an underlying science and technology means that it is rarely placed at top of the priority list by end-user companies and funding bodies.
- The impact of global warming and the reduction of the reliance on fossil fuels, may provide challenges in the future for the oil and gas sectors members.
- Reduced use of NDE by Industry due to lower operational margins.

STRATEGIC REVIEW PROCESS

The strategic review process started with a consultation with RCNDE's Full Industrial and Academic members in May 2022 which provided the RCNDE MT with a fundamental understanding of the most valued aspects and benefits that RCNDE provides to its members. The results of this session informed a full- day strategy workshop where members were consulted about specific aspects identified by the RCNDE MT as priorities. Note that for the purposes of this work, only Full Industrial members and Academic members have been consulted in depth. A satisfaction survey for RCNDE's Associate Members carried out in summer 2021 has provided insights which complement the results of the consultations. The conversations and feedback from these activities have been analysed by members of the RCNDE MT and consolidated in a series of strategic goals that will form the backbone of RCNDE's Strategy for 2023-2028. Specific priorities and actions will be identified in Annual Delivery Plans.

SETTING THE SCENE: RCNDE'S VISION AND MISSION

RCNDE's Vision is ***to be the world-leading centre of excellence in NDE research through active partnership with the industrial user community.***

RCNDE's Mission is to continue playing a leading role in the UK and global innovation landscape by:

- ***Supporting world-class scientific research*** by funding and partly funding cutting-edge research in the area of non-destructive evaluation.
- ***Delivering industrial benefit*** by liaising and collaborating with its wide and well-established industrial membership.
- ***Developing the NDE professionals of the future*** by supporting teaching and training and contributing to the UK's education environment.
- ***Supporting the RCNDE community and wider stakeholders*** through horizon scanning, capture and articulation of future requirements and needs.



Figure 1. RCNDE Vision and Mission diagram

STRATEGIC GOALS

The strategic goals are the RCNDE MT's way to realise RCNDE's Vision and Mission. The design of these goals has been informed by the different consultations held with members and, as such, the intention is that all the goals appeal and resound with all members. The four overarching goals that form RCNDE's strategy are:

1. Ensure the future sustainability of RCNDE

- 1.1. Governance systems that are robust, transparent and future proof
- 1.2. Maintain a strong financial model and activities to meet industrial members' requirements
- 1.3. Increase industrial membership and scope of activities
- 1.4. Promote Equality, Diversity and Inclusion

2. Deliver industrial benefit to RCNDE's membership and beyond

- 2.1. Address the technical requirements of the RCNDE industrial community
- 2.2. Support technology transfer and knowledge dissemination

3. Support talent

- 3.1. Support academics from the RCNDE universities and beyond
- 3.2. Support next generation of NDE specialists
- 3.3. Support members' employees' development

4. Strategic leadership and influence of the innovation landscape

- 4.1. Understand the funding landscape and explore new opportunities
- 4.2. Increase engagement and influence with stakeholders
- 4.3. Provide strategic leadership

The activities required to address these goals are described in detail below.

GOAL 1: ENSURE THE FUTURE SUSTAINABILITY OF RCNDE

1.1 GOVERNANCE SYSTEMS THAT ARE ROBUST, TRANSPARENT AND FUTURE PROOF

RCNDE is a membership-based organisation that provides a unique capability to its members; as a consortium, they benefit from inter-sector and inter-company synergies that would otherwise be not accessible to them as individual organisations.

RCNDE's governance and operational systems, i.e., the RCNDE Management Board, the RCNDE MT, the International Advisory Board (IAB), the Senior Academics Advisory Group (SAAG) the Industry Advisory Group and the Industrial Working Group (IWG), ensure RCNDE's integrity and standing, and play a key role in the delivery of its vision. It is, therefore, paramount that the governance and operational systems are robust, transparent and future proof.

RCNDE Management Board

The terms of reference for the Board are well established and form part of the RCNDE Collaboration agreement. These terms of reference are reviewed periodically, and any changes are subject to Board approval. It is proposed to continue with this approach in the future to ensure the RCNDE Management Board stays current and appropriate to the needs of RCNDE.

RCNDE Management Team (MT)

The strategic and operational running of RCNDE relies on the members of the RCNDE MT. This group of professionals have complementary and unique professional profiles, and some succession management planning might be required in the next five years. To achieve this, priority will be given to ensuring the RCNDE MT is enduring by continuing to operate in a flexible and transparent way; by producing a comprehensive list of tasks and responsibilities; and ensuring a future-proof MT appropriate to RCNDE's needs. Job shadowing of the key members of the RCNDE MT, alongside any specific training required, will also be included to achieve this objective.

International Advisory Board (IAB)

The International Advisory Board (IAB) is a group of international experts in NDE that provides independent advice and guidance to ensure RCNDE's research activities are of world-leading quality. A procedure that governs its membership and renewal was approved by the RCNDE Management Board in 2021. The RCNDE MT periodically engages with the IAB members to ensure its continuity and detect any requirements for future members. It is proposed to continue with this approach in the future to warrant the IAB's sustainability.

Senior Academics Advisory Group (SAAG)

The Senior Academics Advisory Group (SAAG) provides ad-hoc advice on research activities and plays an important role in helping the RCNDE MT to identify and plan for major bids that receive a substantial contribution from RCNDE members. The SAAG is made of one academic representative per RCNDE University and is chaired by RCNDE's Academic Director. Over the next five years, the SAAG will continue providing ad-hoc expert advice and it is expected the membership eligibility will continue under the same terms.

Industry Advisory Group (NDEvR Directors)

A number of industrial member representatives have volunteered to be Directors of the NDE Research Association (NDEvR), the legal entity representing RCNDE. From time to time, the RCNDE MT consults these individuals as an ad-hoc industrial advisory group before seeking the ultimate approval of the RCNDE Management Board. It is proposed to continue with this approach in the future.

Industrial Working Group (IWG)

The industrial members agreed to form a fluid and informal group of industrial representatives with the remit to visit and engage with RCNDE university research groups to describe the industrial context and needs for advanced NDE. The IWG occasionally makes recommendations to the RCNDE Board for discussion and decision, and it is suggested to continue this approach.

1.2 MAINTAIN A STRONG FINANCIAL MODEL AND ACTIVITIES TO MEET INDUSTRIAL MEMBERS' REQUIREMENTS

Another essential aspect for the continuity of RCNDE is to ensure its financial health by maintaining existing membership, setting membership fees appropriately, and keeping costs under control. RCNDE's current financial model is based on contributions from industrial membership fees and a portfolio of grants aimed at different TRL levels funded, or partly funded, by a variety of public funders. Given the competitive character of public funding, maintaining, and aspiring to grow, RCNDE's income via membership fees is paramount for its sustainability. In recent years, RCNDE has showed its viability and value to its members even at a reduced activity level. The quality of the research undertaken under the RCNDE umbrella and the synergies its members benefit from as a consortium will hopefully ensure the continuity of the current membership, and, therefore, the existing level of activities. The RCNDE MT will take appropriate actions to maintain RCNDE's health by ensuring the costs of running RCNDE are appropriate and affordable in relation to its level of income, including reviewing the industrial membership fees as necessary. In addition, financial forecasting will be periodically conducted to detect any variations that need to be addressed by the Board.

Equally important for maintaining the current level of membership is meeting the industrial members' technical requirements. The recently conducted Review of the NDEvR Vision provides outstanding, first-hand information on the current membership's technical priorities and work will continue to ensure the research activities conducted under the RCNDE umbrella are relevant to them, facilitating the continuity of their membership.

1.3 INCREASE INDUSTRIAL MEMBERSHIP AND SCOPE OF ACTIVITIES

In recent years, emphasis has been put on expanding RCNDE's membership in the civil sector and a new membership category has been created to incorporate non-profit organisations that play a key role in the NDE innovation landscape. It is proposed that further efforts are made in this direction by identifying potential new members and engaging and liaising with them to deliver this objective. In addition, RCNDE will take special care to continue fulfilling the needs of its current membership.

Membership growth would allow an expansion of the scope of RCNDE's activities, and the new non-profit membership category provides exciting prospects for the future, such as direct involvement of RCNDE or member organisations in collaborative projects funded directly by governmental departments as grant-in-aid. (*a sum of money provided to an organisation to be applied in general support for the objectives of that organisation [1]*). The non-profit organisations also can provide additional research and infrastructure capabilities that would complement and enhance the existing expertise in RCNDE. To achieve this, the RCNDE MT will continue identifying suitable candidates and liaise with them to grow this membership category. Special care will be put in recognising and maximizing the unique capabilities and benefits to RCNDE that each of these organisations could bring.

1.4 PROMOTE EQUALITY, DIVERSITY AND INCLUSION

Diversity in people and diversity in ideas are key to RCNDE's future success and RCNDE will champion an open, inclusive and diverse environment that continues delivering world-class research and delivering industrial benefit to its members and society. The RCNDE MT will work on an EDI policy that provides a systemic approach for developing an inclusive culture for RCNDE as well as inclusive approaches to employment policies and practices of the MT.

GOAL 2: DELIVER INDUSTRIAL BENEFIT TO RCNDE'S MEMBERSHIP AND BEYOND

2.1 ADDRESS THE TECHNICAL REQUIREMENTS OF THE RCNDE INDUSTRIAL COMMUNITY

Supporting research outcomes with a potential application in the real world is part of RCNDE's ethos since its creation in 2003. A key aspect to ensure this is to continue to liaise and engage with the industrial membership to understand their needs and requirements for the future. The NDEvR Vision provides RCNDE's Full Members' requirements for the next 5, 10 and 20 years. The latest review, conducted throughout 2021-2022, building on and updating the previous visions published in 2012 and 2017, has now been published in the British Institute of NDT (BINDT) Journal, Insight [2], and will inform the technical scope of any internal funding calls run by RCNDE in the next five years. The aim is to address current members' technical priorities, thus contributing to creating impact for members and the UK economy and society in general.

During the next five years, RCNDE will continue running its standard annual funding calls (see Table 1) which already target the topics identified in the NDEvR Vision. It is expected that ad-hoc internal funding will be employed to contribute to RCNDE's core research programme to address long term research requirements of interest across industry sector and industry members. RCNDE will make use of other research means such as NDEvR supported studentships in a potential new CDT to progress fundamental research in NDE. In addition, other areas relevant to specific sectors or collections of companies could be identified and RCNDE MT will support the facilitation of targeted research projects consortiums around those topics.

Type of project	Description	Duration & typical contribution (£)	Call issued
iCASE studentships	Studentships focused on an industrial challenge	4 years £15K p.a.	Annually, September
Feasibility Studies & Technology Transfer projects	Test a new concept or to start moving a technology in the TRL scale.	6-9 months £25-30K	Annually, October
Impact Enhancement projects	Impact add-on for projects that have already been approved for 100% funding from other funding bodies.	Up to 1 year 10% of the original project cost (£60k max funding)	Annually, May
Core projects	Aimed at TRL 1-3, they create and develop solutions for longer term requirements in NDEvR Vision.	Varies	Ad-hoc

Table 1. Types of projects funded by RCNDE's membership fees

2.2 SUPPORT TECHNOLOGY TRANSFER AND KNOWLEDGE DISSEMINATION

Supporting and facilitating research activities that address industrial requirements does not automatically convert into research outcomes that can be utilised by industry. RCNDE supports the successful transition of research outcomes into commercial opportunities by offering the platform for the knowledge to be transferred. Since its creation in 2003, RCNDE has been successfully disseminating and transferring knowledge from the laboratory into industry, and a pipeline of more than 90 exploitable products across a range of TRL levels from TRL2-9 have been implemented, some by industrial members with significant benefits, some taken up by the market and some undergoing further development. It is notable that a number of spin-off companies have been established over the life of RCNDE to commercialise the original developments.

RCNDE will continue facilitating knowledge and technology transfer through technology readiness workshops, dissemination activities and networking. Special efforts will be made in the next five years to increase RCNDE's engagement with Associate Members as key players in this process. Actions will be taken to grow their involvement in RCNDE's research programmes, improve their exposure to Full Members and ensure all Associate Members are aware and make the most of the benefits that their membership offers them.

GOAL 3: SUPPORT TALENT

The success of RCNDE as the world-leading centre of excellence in NDE research relies on supporting world-class researchers at every stage in their career. RCNDE is committed to support its academic members in accessing and receiving grant funding; develop the next generation of NDE specialists for academia and industry by backing a new iteration of a CDT and partly funding EPSRC Industrial iCASE PhD studentships; and support members staff development through technology transfer, knowledge dissemination and specifically designed training activities that are of relevance.

3.1 SUPPORT ACADEMICS FROM THE RCNDE UNIVERSITIES AND BEYOND

During the next five years, RCNDE will continue to create opportunities to develop, test and evaluate ideas via feasibility studies, funding and fostering research and collaboration between members. RCNDE's straightforward funding processes allows to focus on delivering research that is required by industry in continuing advancing the area of NDE and its applications. In a similar manner, RCNDE will continue contributing to research bids via external funders through its core funding, when these represent and address the needs of the majority of our members as defined in the NDEvR Vision. The RCNDE MT will have an active role in understanding and monitoring the funding landscape in order to identify and explore new suitable funding opportunities and, when such suitable opportunities arise, will take a coordinating role to ensure cohesion and collaboration to support robust proposals that are suitable for submission. In addition, through the RCNDE Impact Enhancement route, RCNDE will continue offering funding to non-RCNDE universities to progress impact from projects that are aligned to the activities undertaken by RCNDE.

3.2. SUPPORT NEXT GENERATION OF NDE SPECIALISTS

RCNDE and its members have provided long-standing support for training and developing the next generation of NDE specialists in the form of cash contributions to four iterations of CDTs in the area of NDE. RCNDE will continue this support by backing a new CDT bid which will be submitted to EPSRC

throughout 2023. In addition, NDEvR, as the legal entity representing RCNDE's membership, annually receives ICASE studentships vouchers from EPSRC. RCNDE will continue partly funding such studentships and incorporating them into the core research programme. To ensure students get adequate exposure to industry needs and opportunities for networking with potential future employers, RCNDE will continue hosting the CDT Annual Conference alongside the RCNDE Annual Review Day to maximise industrial attendance and engagement. In a similar way, RCNDE will continue organising Industrial Working Group visits from the industrial partners to the university members so students can showcase their research, learn more about industry needs, and develop their personal networks.

3.3. SUPPORT MEMBERS' STAFF DEVELOPMENT

The traditional views on research career paths are becoming outdated [3], and many RCNDE industrial members are testament to research and innovation activities taking place at the workplace. RCNDE supports the view that research and innovation belong as much to the laboratory as to the plant floor and, during the next five years, will continue providing development opportunities for members' employees through technology transfer, free access to workshops, webinars and training opportunities allowing knowledge to be disseminated.

GOAL 4: STRATEGIC LEADERSHIP AND INFLUENCING THE INNOVATION LANDSCAPE

RCNDE is a collaboration between the best academic NDE groups in the UK, the end users of the research and key organisations in the supply chain and technology transfer providers. This unique position enables RCNDE to take a role in developing and influencing the UK and global innovation landscape and providing strategic leadership into forums and activities. RCNDE aims to achieve this objective in through several complementary work directions.

4.1 UNDERSTAND THE FUNDING LANDSCAPE AND EXPLORING NEW POTENTIAL OPPORTUNITIES

In order to influence and impact the innovation landscape, it is paramount to have a good grasp of the funding landscape and available opportunities for RCNDE and its members. Several members of the RCNDE MT possess good experience in understanding and working within the remits of the UK research funding ecosystem. In addition, the long-lasting strategic partnership between NDEvR and EPSRC allows RCNDE to periodically engage with their staff obtaining first-hand information on upcoming opportunities and trends. With the objective of increasing RCNDE's activities in the higher-TRL realm, new relationships with representatives from Innovate UK have been cultivated in the last couple of years. It is proposed that the RCNDE MT will continue nurturing and developing these interactions with different members of UKRI staff to fulfil this objective and achieve an excellent understanding of the funding opportunities available for RCNDE's members.

4.2 INCREASE ENGAGEMENT AND INFLUENCE WITH STAKEHOLDERS

RCNDE's MT will work to increase engagement with the wider community and to support and influence relevant initiatives, forums and activities to bring about innovation outcomes. Cross sector and discipline engagement will provide greater understanding of the wider requirements for NDE including Non-Destructive Testing (NDT), Structural Health Monitoring (SHM) and Condition Monitoring (CM).

Reaching out to other communities, e.g., manufacturing, robotics, system integration, structural assessment, materials and those involved with the development of Industry 4.0 (NDE4.0) technologies will enable a better understanding of the innovation landscape and how the work of RCNDE can provide a benefit to related engineering functions.

The interaction and engagement with UKRI will also be aimed at influencing the innovation landscape and, particularly, around advocating for cross-TRL funding that supports RCNDE's technology transfer strategic objective.

Individual members of RCNDE MT influence in their own spheres, areas of expertise and via positions they hold in Institutes and other organisations that support innovation.

4.3 PROVIDE STRATEGIC LEADERSHIP

RCNDE is a key member of the recently formed NDE Leadership Forum providing strategic leadership to a collaborative cross industry sector community of end users of NDE and other relevant organisations.

It has been proposed that the Leadership Forum is organised in six themes: research, capture of industry requirements, technology transfer, engineering challenges, competence of people in NDE for the future and understanding the NDE landscape. RCNDE will lead the research and requirements themes and participate in several others. Through this involvement in the NDE Leadership Forum, RCNDE will be able to influence the research and innovation landscape including detecting missed opportunities due to lack of funding, identifying new sectors or technical areas where there is a need to capture requirements and contributing to technology transfer. RCNDE MT members will support the forum as it grows and develops relevant themes, workstreams and establishes working groups.

Complementary, increased involvement with organisations that have a role in steering and supporting national research and innovation agendas through the new RCNDE membership category, will provide RCNDE with better understanding of such objectives and allow it to contribute and influence relevant aspects to the NDE community.

Individual members of RCNDE MT provide Strategic Leadership in their areas of expertise and via positions they hold in Institutes and other organisations in the wider NDE community.

DELIVERING RCNDE 2023-2028 STRATEGY

FRAMEWORK FOR THE STRATEGIC DELIVERY PLAN

A Strategic Delivery Plan will be developed for each year of the Strategy from 2023 to 2028. The plan will detail specific goals per year, with timescales, deliverables, outcomes and success factors. RCNDE MT will monitor the delivery of goals at their regular meetings.

The Delivery plan will be presented to the RCNDE Board at the beginning of each year and updates provided at Board meetings.

The RCNDE MT will review the Strategy on an annual basis to ensure it remains relevant. This will include a review of external factors that may influence the NDE community and work of RCNDE.

KPIS / METRICS

The development of robust and transparent metrics will demonstrate the ‘health’ of RCNDE. The RCNDE MT will work to develop suitable metrics and / or key performance indicators (KPIs) which will support the sustainability of RCNDE going forward. The RCNDE Board will be updated on progress with regards to KPIs at Board meetings and through an annual report. Defined KPIs will be periodically reviewed to ensure they are appropriate to RCNDE’s activities and scope.

REFERENCES:

- [1] Government Grants Definitions, [link](#)
- [2] CR Brett and P Thayer, insight, Vol. 64, No. 11, pp625-632, November 2022.
- [3] UKRI Strategy 2022–2027, Transforming tomorrow together, [link](#)