

# Knowledge and Innovation Agenda Mission-Driven Innovation (KIA MV) 2024 - 2027

Committed to realising both societal and economic impact

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# Introduction

The Netherlands is facing global, urgent societal challenges. To address these, the Ministry of Economic Affairs and Climate Policy (EZK) initiated the Mission-driven Top sectors and Innovation Policy (MTIP). Public, private, and societal organisations are jointly committed to organising transitions in a smarter way and contributing to addressing societal challenges. The goal is to steer towards a Dutch economy that is innovative, robust, and sustainable, with a strong global position in a strong Europe, where Dutch society participates in and benefits from the wellbeing that is created. Statistics Netherlands (CBS) refers to wellbeing as “the quality of life here and now and the extent to which it is or is not achieved at the expense of the wellbeing of future generations and/or people elsewhere in the world.”<sup>1</sup>

The Knowledge and Innovation Agenda for Mission-Driven Innovation (KIA MV) stands for the realisation of both societal and economic

impact through the scaling and/or acceleration of mission-driven innovation. The KIA MV is about necessity and urgency, the need for action, perspectives and instruments, growth and balance, and society and entrepreneurship. This KIA operates at the intersection of the short and long term, innovation and conservation, and people and technology. This KIA develops a vision and instruments, offers practical methods and tools, and showcases examples for approaching transitions and complex societal issues, local challenges, and systemic change.

## Practices are at the centre

In so called *practices*, implementation and governance challenges are combined, creating a pull for technological solutions. Mission-driven innovation, wellbeing, and multiple value creation form a set of concepts<sup>2</sup> for a growth model where societal challenges are at the centre. Thinking about this occurs in public organisations, in academic and applied research, in SMEs and

the business world, as well as at the kitchen table. The KIA MV stimulates debate around this way of thinking and aids in formulating a guiding vision on the transitions that must lead to new economic growth and increased wellbeing.

In many places in the Netherlands (and in Europe), people are already working together on major societal challenges, often ‘disguised’ as local issues. Four years of experience in the KIA MV and an immense amount of expertise from the field, provide ingredients to work more specifically on (new) practices. By applying design thinking, a systemic process approach, creative methodologies, models and work forms, barriers can be broken down. Practices reveal underlying connections and dependencies that call for strategic choices and leadership. Additionally, the dynamics in practices consist of new questions and needs that form a catalyst for technological applications.

<sup>1</sup> CBS. Dossier Wellbeing and the Sustainable Development Goals.

<sup>2</sup> Creating social value. How universities of applied sciences contribute to Societal And Economic Impact’. Green Paper round table MV, December 2022

## KIA MV aims to make an impact in two areas:

### Transitions

A transition is a structural change that results from interacting and mutually reinforcing developments in areas such as economy, culture, technology, institutions, and society. At this systemic level, it's about different ways of collaborating, different approaches, and processes to arrive at collectively supported solutions for complex issues. It also involves achieving breakthroughs in legislation and regulation, governance, financing, and the application of knowledge and innovation. Ultimately, this is about the courage to make choices. Choosing new relationships, systems, and solutions, and opting to phase out or break down existing structures.

The impact we envision is that thinking in terms of problem-oriented and cross-domain transitions, combined with an action-oriented and exploratory approach, leads to an acceleration in the transitions that the Netherlands has to tackle.

### Market creation

To tackle societal challenges, we need practically usable products, services, and processes that help realise breakthroughs and are accepted by society. In this interplay of institutions, researchers, specialists, and direct stakeholders, entrepreneurs take on a crucial role. They develop products, services, and processes that are part of a broader approach to achieve larger goals in areas such as health, sustainability, food supply, and safety, including supportive measures like legislation, regulation, and new types of financing.

The impact we envision is that transitions offer opportunities to, on a small scale but frequently, connect technology, entrepreneurship, and societal challenges, thereby creating new markets. In doing so, the Netherlands can make new, strategic choices that strengthen its international position and autonomy.

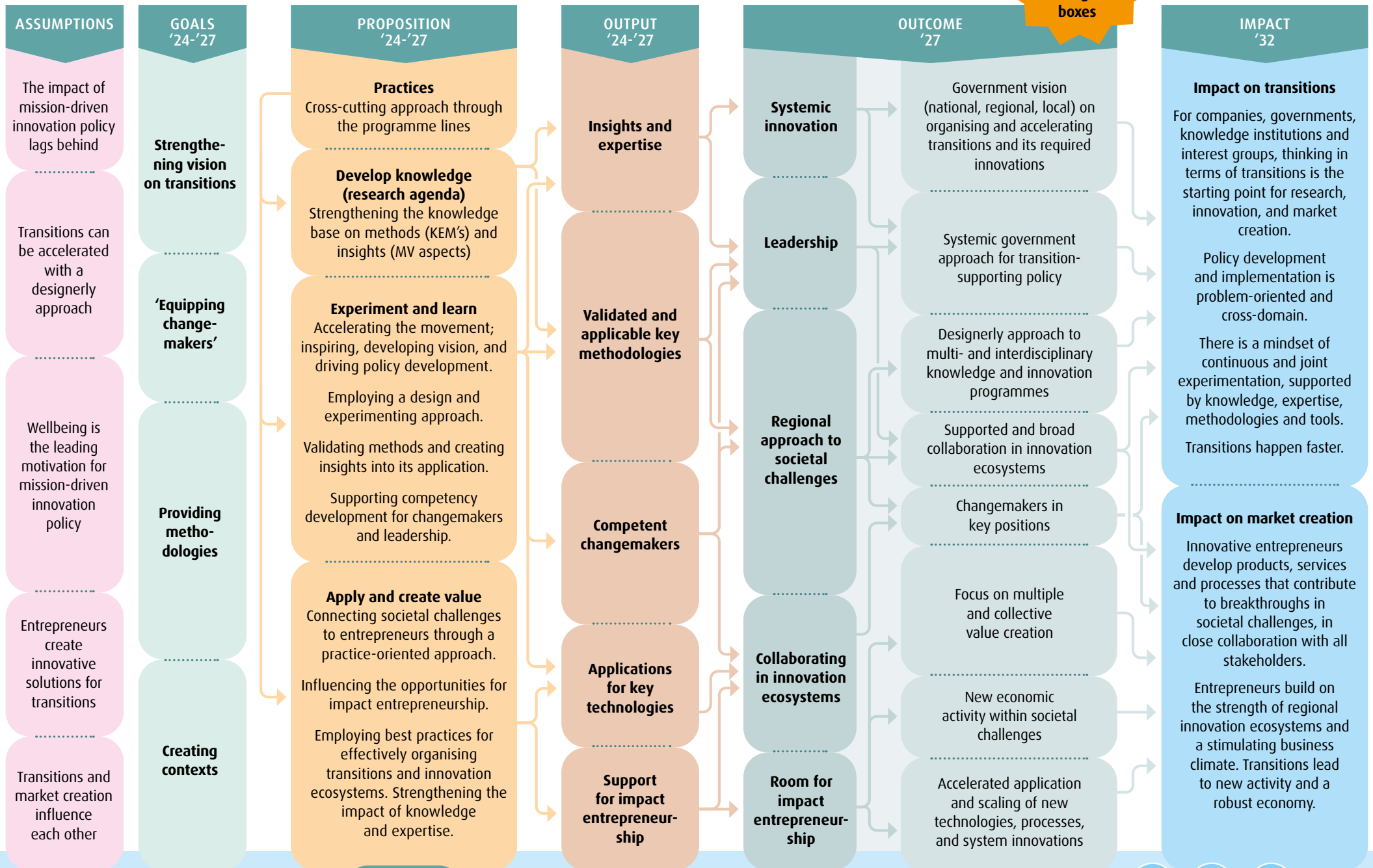
### Reading guide

The KIA Mission-Driven Innovation (KIA MV) 2024-2027 is based on the Theory of Change. The Impact Pathway which further builds on this, presents the assumptions, goals, and proposition, and the intended output, outcome, and impact in a step-by-step manner. This model can be read both from left to right and from right to left. Because of this, we present it not as a chronological text but offer the possibility to deep-dive into the different parts of the model in a 'browsing' fashion.

# KIA MISSION-DRIVEN INNOVATION (KIA MV) | Impact Pathway



Navigate through the document by clicking the boxes



# 1 Motivation for the KIA MV 2024-2027

Global urgent societal challenges call for new approaches and mission-driven innovation. The complex issues prevalent in areas such as sustainability, broad and inclusive wellbeing, health care, agriculture, and security are challenging, often disruptive, but also offer opportunities. They require an inter- and transdisciplinary approach, connection, and collaboration. At the same time, they call for change in behaviour and actions to new situations. However, companies, governments, societal organisations, and citizens often find it difficult to change. Systems and processes are still insufficiently equipped to properly respond to new ways of organising and collaborating. There is a need for an action perspective that translates long-term goals into concrete tasks that can be worked on, with proven new methodologies, models, working methods, tools, interventions, and practices. This is not a new realisation; we have known this for years. However, it is becoming clear that we must make choices. And when choices are made, something always is lost. Yet with what we

can gain in return, we are increasingly able to shape ourselves. If we are willing to do so.

The KIA MV 2024-2027 has emerged from several relevant developments outlined below. Together with the experiences and research from previous years, they form the basis for the new programme.

## Urgency in global challenges

Global developments call for faster innovation and implementation in areas such as new technology, business models, multiple value creation, governance and policy, financing, legislation and regulation, education and training, participation and support, ethical aspects, and privacy.

“The future calls for [engineering] professionals who use their [technical] talent **for innovative solutions** for major transitions in healthcare, climate, digitisation for everyone, and demographic challenges. Solutions that lead to **a better society, a better future for everyone, and the reduction of divides**. This way, future generations also have a realistic perspective on wellbeing, welfare and equal opportunities.”

Karien van Gennip, Deputy Prime Minister and Acting Minister of Social Affairs and Employment

Societal challenges are starting to take on an unprecedented scale. There is a persistent shortage of professionals in all kinds of crucial occupations; we are generating an excess of CO<sub>2</sub>, nitrogen, and other greenhouse gases that threaten to bring the country to a standstill; there are not enough affordable homes; the overall health of the population is declining due to poor eating habits and unhealthy food; we are dealing with longer dry periods followed by short intense rainfalls causing much damage; our privacy is under pressure, as our data is used and processed outside our sphere of influence or simply not well protected; and crime has gripped societies around the world. These challenges can no longer be addressed with familiar ways of innovating, business development, and policy development. These kinds of ‘wicked problems’ require a completely different, non-traditional approach: creative methods, unconventional ideas, systemic changes, and innovative forms of learning, organising, and living together.<sup>3</sup>

## Economic autonomy

Recently, the Minister of Economic Affairs and Climate Policy (EZK) presented the following vision: “We are aiming for a Dutch economy in the future with four dominant characteristics (pillars). This economy is (1) innovative, (2) sustainable, (3) holds a strong position in a resilient Europe, and allows the Dutch society to (4) participate in and benefit from the wellbeing that is created.

An innovative economy primarily entails stimulating economic growth and wellbeing by optimally utilising our excellent knowledge; in this context, sustainability means striving for wellbeing; the Netherlands is strong in a resilient Europe where we pursue strategic autonomy by setting joint interests against other major powers; and people and society benefit from economic growth.



“More focus and more funding yield more innovation. This cannot wait. Innovation is needed now to tackle challenges like reducing our dependence, addressing resource scarcity and security, and accelerating both sustainability and digitalisation.”

Micky Adriaansens, Minister of Economic Affairs and Climate Policy

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<sup>3</sup> [Green paper of the Round table MV](#), 2 December 2022.

“Wellbeing concerns the quality of life here and now and the extent to which this comes at the expense of the wellbeing of future generations or of people elsewhere in the world. When all people sufficiently benefit from these developments, regardless of, for example, their place of residence or education, this will have a positive effect on the various aspects of wellbeing.”

Definition of wellbeing by CBS (Statistics Netherlands)

## Wellbeing

Wellbeing, linked to economic autonomy in the ministry’s policy letter, encompasses a broader spectrum than just economic growth. It also looks at the development of education, health, the environment, the balance between work and private life, and subjective wellbeing. The Netherlands Environmental Assessment Agency (PBL) defines wellbeing as ‘everything people value’ (PBL, n.d.). Besides material wellbeing, it

also includes aspects such as health, housing, environment and living conditions, work and learning, subjective wellbeing, equal opportunities, education, social cohesion, personal development, and (in)security. The Round Table MV of the Universities of Applied Sciences connects wellbeing, multiple value creation, and mission-driven innovation with each other and states that a shift is taking place in our perspective on the economy and earning capacity. The thinking about

our economy and society, about growth and transition, about welfare and wellbeing, is taking shape, among other things, in the development of these concepts.

## Regional innovation strength

In addressing major transitions to an autonomous, sustainable, digital, and inclusive economy, innovation is crucial. Innovating and applying new findings happens regionally. Here, societal challenges manifest themselves, but above all, there are the infrastructure, resources, and manpower to tackle these challenges. Companies, scientists, talent, and social organisations find each other and create inspiring initiatives and opportunities for innovation. Each region faces specific challenges to strengthen its economy, drive wellbeing, and contribute to transition challenges. Wellbeing and progress in transitions depend on the transition and innovation power of the regions<sup>4</sup>.

<sup>4</sup> AWTI ‘Raising the bar together’

## Entrepreneurship in a broader perspective

Now that transitions and the concept of wellbeing are gaining more ground in policy, roles are being allocated differently. We expect the government to provide direction, citizens to change their attitude or behaviour, and entrepreneurs to develop new products and services. The role of the entrepreneur is particularly interesting here. We speak of 'Mission-driven innovation for economic and societal impact' as the ability to engage in entrepreneurship together, in service of society. Impact entrepreneurs explicitly pursue a societal goal. An enterprise cannot focus on all aspects of wellbeing but contributes powerfully through specialisation and focus. The societal contribution of the enterprise and entrepreneur, however, is broader than just product development. For example, by developing the capabilities of its employees, the entrepreneur contributes to other pillars of wellbeing. On the dimensions where the enterprise does not contribute, there is (within

an ecosystem) room for other enterprises to identify and take advantage of opportunities or for governments to take action. This is a dynamic approach to wellbeing that explicitly positions entrepreneurs as partners<sup>5</sup>.

### Mission-driven innovation policy

The letter to Parliament of November 11, 2022, emphasises the valorisation of knowledge to increase societal and economic impact and describes a role for the government in (better) facilitating the acceleration of application and up-scaling of innovations, under the motto 'from the lab to the shelf'. On May 30, 2023, the letter to Parliament was published with the goals for the reassessment of the mission-driven KIAs. In this letter, the Ministry of Economic Affairs and Climate Policy indicates that it will place more emphasis on market creation and an international perspective, giving more attention to preconditions, and the development of a National Technology Strategy. In this setting, the KIA MV positions itself as crosscutting and supporting the mission-

KIAs and the KIA Key Enabling Technologies (Sleuteltechnologieën). The KIA MV is also open to consortia and innovation ecosystems that focus on the same objectives.

### Need for action perspective

Various organisations indicate a need for an action perspective for entrepreneurs, policy-makers, and innovation advisors in regional innovation ecosystems. This need forms an important reason for the KIA MV to conduct further research and initiate experiments to enrich the repertoire of actions.

TNO Vector sees the necessity for the development, refinement, and implementation of methodologies for societal innovation. This includes methods, models, strategies, tools for interpreting societal problems, and developing interventions, thereby directing and accelerating transitions and transformations. Decision-makers (and other stakeholders) lack an action perspective, and transdisciplinary collaboration is difficult to organise<sup>6</sup>.

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<sup>5</sup> WRR 'Theories of enterprise. The benefits of a dynamic wellbeing approach'. Erik Stam.

<sup>6</sup> Social Innovation Agenda, TNO Vector, June 2023.



The Rathenau Institute published a position paper<sup>7</sup> in May 2023 in response to the letter to Parliament of November 2022, offering several starting points for an action perspective. It states that in the conditions for the valorisation of knowledge and transition policy it should be clear which value is created for whom and that not only commercial value, but also the contribution to a transition should take centre stage. A vision on socially responsible up-scaling should serve as a guideline.

In its essay ‘Experimenting and Scaling’ (2020), The Netherlands School of Public Administration<sup>8</sup> provides several pragmatic guidelines. The essay discusses the dynamics of experimenting and scaling in the context of societal issues. However, in many societal issues, the government is not the only player. Very often, ‘others’ are already engaged in their own experiments and attempts to find solutions. Sometimes the government leads the way: as initiator, executor, scaler, and champion. Often, it is about a different kind of

role: enabling, stimulating, provoking, guiding, and protecting. It is always important that the government consciously takes a role and

position, in a deliberate strategy to further solve societal issues through experimenting and up-scaling.

### Lessons from four years of KIA MV

Four years of KIA Mission-driven innovation (KIA MV) have yielded many insights into mission-driven innovation, transitions, and wellbeing. The analysis of ongoing KIA MV research at NWO (Netherlands Organisation for Scientific Research) shows a need to further strengthen the MV knowledge base. The KEM (Key Enabling Methodologies) agenda is a logical part of the KIA MV and forms an important part of the knowledge base and research agenda. The use of findings from the PONT programme should also leverage the designerly approach.

We also see the KIA MV as supporting the mission-driven KIAs in various areas, for example, with insights into governance and monitoring, how to employ the designerly approach, or knowledge about scaling mechanisms. Knowledge about the use of (key) technologies in a societal context is part of this.

<sup>7</sup> Valorisation for transitions, Rathenau, May 2023

<sup>8</sup> NSOB [Experimenting and Scaling](#), 2020



## 2 Assumptions

The following assumptions underlie the KIA MV 2024-2027:

### **Impact of mission-driven innovation policy falls short**

Four years of KIC and 10 years of Top Sectors have not yet accelerated the approach to transitions sufficiently. Mission-driven innovation policy fails to adequately lead to implementation and scaling. As a result, the impact on societal challenges and the economy falls short in its ambitions and goals.

### **Transitions can be accelerated with a designerly approach**

Transitions can be influenced and thus accelerated. With the KIA MV, this vision on transitions and mission-driven innovation has been made manageable in a set of methodologies, models, working methods, interventions, practices, and tools. Combined with design thinking and action, acceleration and scaling can be achieved.

### **Wellbeing is the leading motivation for mission-driven innovation policy**

Wellbeing has now become a leading motive in organising transitions and mission-driven innovation policy. Other perspectives, alongside the economic perspective, are given significant roles. This is a paradigm shift. As a concept, wellbeing is evolving; indicator sets are being developed, and monitoring is gradually being established. The KIA MV particularly encourages thinking about and researching wellbeing. With a paradigm shift, ultimately, a new vision also emerges.

### **Entrepreneurs provide innovative solutions for transitions**

Ondernemers spelen een belangrijke rol in het Entrepreneurs play a significant role in accelerating transitions with the applications they develop. In transitions, it is imperative that entrepreneurs address and tackle bottlenecks in non-technological aspects.

### **Transitions and market creation influence each other**

Transitions and market creation are intertwined. Entrepreneurs work in regional innovation ecosystems with other public and private stakeholders on their innovations. Thus, they are part of the transition at hand. The two levels of impact reinforce each other. If transition thinking and action serve as the starting point, entrepreneurs will benefit. And if entrepreneurs experience powerful and impactful growth with products, services, or processes, this fuels the transition.



## 3 Goals 2024 - 2027

The KIA MV differs from the mission-driven KIAs in that it is cross-cutting and deals with societal challenges where social, economic, and technological growth must be aligned. In this sense, the KIA MV is a movement. In various places, ideas are emerging about the relationship between (economic) growth and societal benefit, about the relationship between prosperity and wellbeing, and about the joint approach to societal challenges. The scientific insights into the complexity of these challenges and the uncertainty they bring must find their way into an administrative reality and procedural application. Connecting outcomes from science and practical research is the *raison d'être* for the KIA MV: forming a coherent thought about transition challenges and a guiding perspective on their organisation and approach. For the second KIC period, the KIA MV introduces a layered approach in its proposition. These are derived from the intended impact, required knowledge and results, and the related activities.

### Strengthening the vision on transition

Much remains to be learned and practically experienced about the approach and handling of transitions, societal challenges, and mission-driven innovation. The KIA MV brings coherence to the various perspectives, research, and methods that have already been developed and are still being developed. This creates a clear and coherent framework for administrators and policymakers for organising transitions and understanding the nature and complexity of societal challenges that the Netherlands faces. The goal is to better recognise the cohesion and interrelatedness, to be able to steer towards early collaboration, and to remove systemic barriers.

### Equipping 'Changemakers'

The KIA MV supports the development of policies, strategies, and implementation programmes for addressing transitions, mission-driven innovation, and market creation at local, regional, and national levels. A significant role is reserved for

'changemakers'. The 'changemaker' operates in the domain of professional design, creation, and change capacity. This domain is new and still searching for its own, fitting vocabulary. Hence, we temporarily place this role in quotation marks. By 'changemakers', we mean professionals who are formally involved in societal challenges and transitions with the aim of effecting desired change. 'Changemakers' are not only individuals but also groups, organisations, and networks that collectively work on solving societal challenges. The 'changemaker' knows how to navigate in their work between conflicting powers and interests, between different ecosystems, and between conflicting speeds and priorities. The 'changemaker' does this, for example, in its role as a designer, innovator, consultant, artist, innovation broker, transition professional, or change expert. They can be project leaders in business, policy officers in government, programme managers of regional innovation ecosystems, innovation brokers at the Regional Development Agencies (ROMs), experts from

consultancies, and other professionals involved in organising and accelerating transitions. The KIA MV encourages and supports the development and growth of this role in education and specialisation for professionals.

### Methodieken aandragen

The KIA MV develops knowledge and tools based on the [six aspects of MV](#), the [Key Enabling Methodologies](#) (KEM's), and a [designerly approach \(ontwerpde aanpak\)](#), as a guide for facilitating and accelerating transition challenges. We offer validated methodologies, models, working methods, tools, interventions, and [practices](#) to work in regional innovation ecosystems, consortia,

and individual companies and organisations in a new way on transitions and mission-driven innovation.

Our ambition is that the KIA MV provides the repertoire of actions for 'changemakers': project leaders in business, policy officers in government, programme managers of regional innovation ecosystems, innovation brokers at the ROMs, consultants, and other professionals involved in organising and accelerating transitions.

### Creating contexts

The KIA MV stimulates the creation of contexts within which 'changemakers' can test the

integrated approach to transitions and mission-driven innovation. This means setting up practices where stakeholders work on solutions for local societal challenges. These contexts or practices are a necessary 'niche' approach to the major challenges. All these smaller steps lead to insights and, most importantly, to conviction, behaviour, and emulation that are urgently needed. The goal is for many local practices to result in a continuous movement of change. The mindset of short-term solutions and four-year pilots change into an attitude of continuous renewal and adaptation. This is what the current challenges demand of us: endurance.

## 4 Proposition 2024 - 2027

The KIA MV facilitates the development, testing, validation, and dissemination of knowledge regarding effective ingredients for transitions, mission-driven innovation, and market creation, strategies, and methodologies. The KIA MV compiles and unlocks knowledge, expertise, and tools for accelerating transitions and market creation. This is achieved through inter- and multidisciplinary research, experiments in regional innovation ecosystems, and support for companies, governments, and intermediaries in using methodologies (KEM's) and instruments.

The KIA MV adopts an approach where (regional) practices are pivotal in the search for approaches and solutions to complex societal transition challenges. Specifically, the niches - the local experiences and solutions - contribute to addressing national and often transnational issues. The process approach (design-oriented, systemic, and

future-focused) brings together various disciplines in the search for sustainable and supported solutions. This includes social disciplines, creative interventions, economic models, legal constructions, and technological innovations.

In line with the KIA Mission-Driven Innovation in the first KIC period, the KIA MV 2024-2027 adopts three programme lines:

- 1 Develop knowledge (research agenda)
- 2 Experiment and learn
- 3 Apply and create value

In practice, there is overlap between these three lines. In the research projects of NWO and the Organisation for applied Research SIA (Regieorgaan SIA), the development of a knowledge base goes hand-in-hand with insights from research experiments. These experiments utilise practices from programme line 3 to achieve impact. The use of validated methodologies, models, working

methods, tools, and practices contributes to value creation and the application of technology. Human Capital as an integral part of the KIC programming of SIA contributes to innovating-learning-working and competence development.

These programme lines stem from the first KIC period and form the basis of the KIA MV. In fact, they feed all practices and are part of them.

### Practices are at the centre

The proposition of the KIA MV as a movement leads to activities that connect, mobilise, and excite. Knowledge development remains an important component of this KIA. This must always take place in the reality of the issues and challenges; in practices where work is being done on societal change. These are pivotal in this KIA, as a focus and as a working method for developing new knowledge, testing and experimenting, and concrete

innovation and value creation. The KIA MV places emphasis on: region, application, and entrepreneurship.

This approach leads to collaboration in transition challenges, with systemic innovation, sustainable solutions, and practical applications as a result. These collaborations are a catalyst for innovation and create traction for the application of new technology. Market creation occurs where new demand arises, where unexpected insights emerge, and innovation ecosystems manifest themselves.

In practices, a mix of activities on research, experiments, and application is carried out, guided by experienced 'changemakers'. The KIA MV thus demonstrates the functioning of interventions with methodologies, models, working methods, tools, and practices. The integrated approach yields new insights and knowledge questions.

### Practices in the region

Transition challenges are large, complex, and have many interdependencies. There

is no such thing as a singular approach or directed solution. Here, the KIA works with, among others, universities of applied sciences. They are rooted in the region and tackle specific local problems within transition challenges. Interventions are made with new working methods that strengthen local innovation ecosystems. New forms of policymaking are tested. Obstacles around financing, organisation, governance, and participation are uncovered. Changemakers develop expertise based on concrete situations in regional innovation ecosystems. Lessons are drawn about 'what works and what doesn't', and new knowledge questions arise. The local practice provides insight into the task and makes progress in the local context. The ROMs are a connecting link between regional and national policy, regional innovation ecosystems, and innovative entrepreneurs.

### Practices with mission-KIAs

For specific substantive topics, the KIA MV works with mission-KIAs on a transition approach. In this context, the KIA MV

formulates challenges together with a mission-KIA. Within these collaborations, mission-KIAs gain experience with trans- and interdisciplinary working, the design and systemic process approach, and positioning in new forms of collaboration in these practices.

### Complex practices

In the ambition of the KIA MV to also connect governmental parties, the KIA initiates a joint approach for various departments on complex issues. How can we bring together the approach to social, economic, and technological aspects within societal issues? The challenges are complex and qualify as 'wicked'; they are multisectoral, involve questions at the system level, or have multiple owners (and thus different interests). The focus in these issues is on societal benefits; the innovation issues are subordinate to these tasks.

## Principles

In shaping the programme, the KIA MV therefore adopts these principles:

- Integral innovation; utilising both technology and knowledge and expertise from social sciences and humanities, business administration, public administration, communication, transition science, and systems thinking.
- Design-oriented approaches; step by step, iterative, re-framing, and visualising, simultaneously better understanding the challenge and developing solutions in a process allowing for continuous improvement.
- Methodologically substantiated; professionals utilise validated knowledge and tools (KEM's, practices) and apply them.
- Organising regionally, locally, context-specifically; effective interventions where societal challenges are tangible and thus affect society and the economy.
- Nationally coordinating and learning; experimenting locally and analysing and sharing nationally.
- Improving preconditions; addressing barriers that impact entrepreneurship.
- Placing innovation ecosystems of companies, governments, social organisations, and knowledge institutions at the centre. Organising strong involvement of end-users and citizens.

## Programme lines

### Programme line 1:

#### Develop knowledge (research agenda)

The KIA MV facilitates the development, testing, and validation of knowledge about i. effective ingredients for transitions, mission-driven innovation, and market creation (including the six aspects of MV) and ii. methodologies (including the KEM's and a designerly approach).

Research is conducted integrally, connected to practice, with input from experts in, among others, transition and systemic change science, behavioural sciences, public administration, economics, law, and communication. The KIA MV assists the mission-KIAs, for example, with knowledge development around governance, monitoring, financing, participation, and dismantling old systems.

The portfolio of NWO-funded research from the first KIC period continues for several years into the KIA MV-2024-2027; new calls provide an addition to knowledge development around the [six aspects of MV](#).

With practice-oriented research, the applicability of KEM's is studied and strengthened. The KIA MV assists the mission-KIAs, for example, with knowledge development around governance, monitoring, financing, participation, and dismantling old systems. The KIA MV 2020-2023 started with developing and facilitating research experiments. This continues in the coming KIC period, under the flag of the KIEM MV grant scheme of SIA. The KIA MV utilises knowledge and expertise from applied research such as TNO Vector, among others.

### **Programme line 2: Experiment and learn**

With an iterative approach, knowledge from research programming is tested and validated in practical experiments. Conversely, these experiments provide data and new knowledge questions for developing new research projects.

### **Testing and disseminating a designerly approach**

The research and experiments programmed by CLICKNL in The Power of Design Agenda (Agenda Ontwerpkracht) are utilised

to broadly develop skills for transition management. Specifically, The Power of Design Agenda delves deeper into the use of the designerly approach for complex societal issues. This programming is primarily carried out through the PPS-i commitment by the top sector Creative Industries. It is strongly embedded in the practices and activities conducted in the [PONT programme](#), serving as a testbed. This programme line yields (research) results, experiences, and leads to new knowledge questions.

### **Programme line 3: Apply and create value**

To actually realise value (accelerating transitions and market creation), this programme line ensures that the knowledge base and competencies of 'changemakers' in the broadest sense of the word are strengthened and then utilised. Furthermore, barriers for entrepreneurs are recognised and removed through systemic and programmatic interventions. This takes place at the local and regional level, where ROMs play a connecting and stimulating role, designers and developers look at possible solutions in an application-oriented way, and entrepreneurs innovate. The

activities in this programme line are divided over several focal points:

### **Unlocking methodologies, models, working methods, tools, and practices**

The KIA MV creates a fertile context to develop applications, utilise knowledge, expertise, and tools, and stimulate market creation (locally, regionally, and nationally). To develop an action repertoire for entrepreneurs, policymakers, and experts, the KIA works along multiple lines and unlocks validated tools from NWO research, KIEM projects, the [KEM agenda](#), and the PONT programme; validated knowledge and expertise from TNO Vector; and validated [practices](#) from the TKIs. This provides practical tools for changemakers and other professionals who are or will be working on transitions, in regional innovation ecosystems, and with mission-driven innovation.

### **Activating Stakeholders**

The approach of the KIA MV is twofold. Firstly, we stimulate collaboration between universities of applied sciences and the ROMs to come to a regional approach for societal (transition) challenges. Here, innovation ecosystems emerge where entrepreneurs,



governments, interest organisations, citizens, and researchers work on societal challenges with new, often creative, interventions.

### **Guiding impact entrepreneurs**

Additionally, we organise coaching and guidance for impact entrepreneurs to help accelerate the implementation and scaling of innovations. In this way, an exchange of perspectives and needs is established that increases understanding and support. And more importantly: contributes to systemic changes in policy, legislation and regulation, organisation of innovation, consumer behaviour, and new economic value creation.

## 5 Output 2024 - 2027

This approach leads to collaboration in innovation ecosystems with systemic renewal, sustainable solutions, and practical applications as a result. These multi-stakeholder collaborations are a catalyst for innovation and create a pull for the application of new technology. Market creation occurs where new demand arises, where unexpected insights emerge, and where innovation ecosystems manifest themselves.

The activities in the programme lines will deliver a range of results over the coming years, ranging from (codified) knowledge and insights to tools and interventions.

### Insights and expertise

Transition challenges are large, complex, and have many interdependencies. There is no such thing as a single approach or solution. The KIA MV facilitates and stimulates the

emergence of practices in the form of local collaborations, such as field labs or soft spaces, novel innovation ecosystems, and knowledge infrastructures that, together with new solutions or business models, contribute to the missions. Knowledge and methods delivered by KIA MV partners, such as TNO Vector, are expressly included. In its connecting role, the KIA MV collects and bundles these outputs.

By 2027, there will be a knowledge infrastructure with communities of policymakers and administrators who feel the urgency and want to create space for transitions. They work on possibilities to streamline regulation and allocate financing to facilitate transitions. There is a continuous process of mapping latent questions, practices, and urgencies to generate input for policy. Demonstrable progress has been made on obstructive issues.

### Output:

- Accessible publications on organising transitions and market creation.
- Unlocking and connecting knowledge and expertise, through a knowledge infrastructure of networks, communities, and 'changemakers'.

### Validated and applicable key enabling methodologies

Through practical applications and research, we work on practical and usable methods and working forms for 'changemakers' working in or on transitions and mission-driven innovation. The [National KEM strategy](#) focuses on strengthening the knowledge base.

### Output:

- Validated Key Enabling Methodologies in the form of guides and directly usable tools.

## Competent 'changemakers'

The societal challenges that arise require a different mindset and skills. Together with researchers and other experts, the KIA MV realises a programme that addresses both theoretical and practical skills. 'Changemakers' in the broadest sense of the definition, including administrators, policy and programme makers, and designers, are the target audience. Additionally, the KIA MV promotes training modules at universities of applied sciences for 'transition management' or 'changemaker'.

### Output:

- By 2027, curricula and training opportunities have been realised for both students, young entrants, and professional education and life-long learning, resulting in a strong contingent of competent 'changemakers'.

## Applications for key enabling technologies

The approach of the KIA MV is twofold. Addressing societal issues in the region leads to a demand for technology that supports, strengthens, and accelerates the initiated transition. On the other hand, the KIA MV,

together with partners, organises a connection of the mission-KIAs with entrepreneurs and developers so that technology is quickly understood, processed, and applied.

The investments of the government in key enabling technologies in the coming KIC period will be ineffective without (widespread) application. To emerge as important drivers for our economy, it is necessary that key enabling technologies are properly translated into practical solutions that contribute to both economic growth and societal challenges. This takes place in the practices developed with universities of applied sciences, mission-KIAs, and other autonomous initiatives. Here, entrepreneurs develop applications for specific transition challenges. Additionally, the KIA organises meetings for the early exchange between specialist knowledge and the needs of entrepreneurs.

### Output:

- Action toolbox for entrepreneurs in the form of clearly described practices and interventions that contribute to accelerating innovation, implementation, market creation, and return.

- Overview and insight into market opportunities for applications of key enabling technologies.

## Support for impact entrepreneurship

The development, refinement, and implementation of methodologies for societal issues is a continuous process. Practical tools in the form of [practices](#) are and continue to be inventoried. More specifically, it is necessary to continuously recognise, analyse, and influence the conditions for impact entrepreneurship. The Acceleration Programme must take care of both the conditions and the perseverance for specific cases. The approach in practices ensures that impact entrepreneurship is positioned and supported in the right context.

### Output:

- Setup and execution of the [Acceleration Programme for impact entrepreneurship](#).
- Collection, sorting, and unlocking of practices for realising societal and economic impact.



## 6 Outcome 2027

The intended output contributes to several overarching, desired themes (outcomes) that we name and explain here. Looking at developments and discourse around transitions and wellbeing, the KIA MV aims for several effects. The output influences the steering, policy formation, and implementation of societal challenges. The themes are described below in the outcome at these levels: at the system and leadership level; in the local approach; in the implementation through collaboration and the linking of technology and entrepreneurship to societal challenges.

### Systemic renewal

Many of the transition challenges get stuck at a systemic level. The transitions that need to be mobilised require a different vision in their approach. Existing structures for financing, regulation, and consultations need an impulse that allows them to facilitate the acceleration of transitions. We seek changes at the systemic level that counteract sectoral

compartmentalization and are based on the coherence and commonality of these types of questions. Legislation and financing should create space for new initiatives and encourage local responsibility.

By 2027, we aim for the (national) government to have a coherent vision on how transitions - and the necessary innovation for them - can be organised and accelerated, with various ministries actively involved in the steering of the KIA MV and in specific cases with the mission-KIAs. A systemic change has been initiated in the government - nationally, regionally, and locally - in developing and realising policy, legislation, and instruments that support transitions. Public values such as trust, privacy, or safety are concretised and incorporated in this.

### Leadership

Addressing the transition challenges that we face in the Netherlands requires leadership that can handle the uncertainty of these complex

questions, dares to steer towards long-term effects, and bases decision-making on broad involvement.

By 2027, we aim for a holistic approach and flexibility at the policy and administrative level regarding the process and outcomes of transitions. Policymakers, administrators, programme and project managers recognize complexity and resist oversimplification. They are trained in applying methodologies, models, working methods, and tools for transition. Universities and universities of applied sciences offer curricula that educate students to become changemakers for transitions and mission-driven innovation. These agents are active in all sectors of society.

### Regional approach to societal challenges

Start locally, think big: impact begins at the local level. Structural changes take place

there at the cultural, institutional, and systemic level. The context in which these changes occur varies by region.

By 2027, we aim for transition challenges to be tackled locally and for an infrastructure to exist where insights and results can be compared. The shared vision and available knowledge and methods ensure a streamlined approach. Systemic thinking connects policy and legislation with technological and societal innovation. Mission-driven and transition-oriented knowledge and innovation programs (national, provincial/regional, municipal, organisational) are by design enriched with a trans- and interdisciplinary approach and with a design and systemic thinking and doing. The strongly regionally oriented (area-focused) approach to societal challenges connects stakeholders at public, private, and personal levels and leads to a strong regional knowledge infrastructure, with transferable learning experiences to other regions, nationally and internationally.

## Collaborating in innovation ecosystems

To address challenges at the local level, diverse interests must be tackled in collaboration and balanced from a collective interest.

By 2027, we aim for diverse disciplines to stand side by side in designing new solutions, together with entrepreneurs, citizens, or institutions. Innovation ecosystems arise in mutual dependency or around a shared goal. That goal is larger than the interest of the individual participant. And only by being part of an ecosystem does each participant achieve their own goal. Collectively, social enterprises, impact investors, the business world, the funding market, the government, and the education and research world, are a driving force behind the transitions taking place in our society.

This way of working (together) initiates a change in all participants: there is a focus on multiple and collective value creation in (new) business models, aimed at feasible and scalable solutions for societal challenges. It is an impulse for new products and services

and for a renewed view of roles, positions, and value in a system. ‘Changemakers’ from various backgrounds play a key role here. Local organisations support them and the entrepreneurs in this.

## Clear path for impact entrepreneurship

Mission-driven innovation is aimed at entrepreneurship in service of society and not solely for financial gain. This means that all facets of the economic and societal impact of entrepreneurship must be considered. Societal challenges in regional ecosystems offer opportunities for (impact) entrepreneurship and the application of new technologies.

By 2027, we aim to have mapped out, simplified, or removed the barriers that entrepreneurs experience. This provides entrepreneurs with space for new economic activity. New technologies will find application and utilisation faster than before. The region and societal challenges will form a pull factor for (technological) innovations and the use of (key) technologies.



## 7 Impact 2032

In the KIC period 2024-2027, the KIA MV expands its current focus on mission-driven innovation to include both the domain of **transitions and their acceleration**, as well as the concrete obstacles that innovative entrepreneurs encounter in **market creation and scaling**. Looking towards a ten-year term, we aim for a paradigm shift in thinking about solutions for transitions, serving as a catalyst for innovations and leading to wellbeing and economic autonomy.

### Transitions

Regional issues and developments that are observable and now also palpable on a global scale manifest simultaneously and amplify the urgency to act. Domain- or sector-specific approaches and short-term solutions prove insufficient to turn the tide. We increasingly recognise that for major challenges, we need an approach that deviates from our familiar arsenal.

By 2030, a change in mindset from administrators to entrepreneurs and citizens is noticeable in how we view transition challenges. Short-term feasibility gives way to adaptation and collaboration for long-term change; thinking in transitions becomes the norm. Policymakers allow for the unexpected and organise active participation of citizens and businesses in measures for (major) societal issues. Since no outcome can be predicted in advance, they learn to deal with design-oriented, iterative, and exploratory ways of working.

Transitions accelerate as businesses, governments, knowledge institutions, and interest organisations take ‘thinking in transitions’ as the starting point for research, innovation, and growth. They recognise that the necessary structural changes must occur in interacting and mutually reinforcing (systemic) mechanisms in areas such as

financing, organisation, legislation and regulation, support, technology, institutions, and behaviour. Policy development and implementation, including the government’s role in public-private partnerships, have changed, and are driven by a mindset in which we continuously seek new approaches, perspectives, and solutions. Knowledge, expertise, methodologies, and tools are used for a process-oriented approach to arrive at widely supported solutions for complex transition challenges.

### Market Creation

Developments at a European and global level require the Netherlands to have a resilient economy: sustainable, innovative, with stronger autonomy, and contributing to wellbeing. Thinking in terms of wellbeing in this context means that growth must be seen and developed in a larger and societal perspective. The linking of major challenges

to economic growth leads to interdependence and ultimately mutual reinforcement. Focussing solely on economic growth and strengthening the industry does not automatically lead to increased wellbeing. And allocating more funds to 'soft' sectors, without attention to the interweaving of all aspects of wellbeing, also does not necessarily justify that investment. The robustness of the Netherlands can only

be strengthened if the major challenges (transitions) are viewed in conjunction and growth is defined broadly.

By 2030, a development is noticeable in how entrepreneurs are part of and contribute to societal issues. Entrepreneurs are more often part of regional, national, and international ecosystems that, in their quest for solutions,

are also a market for the products and services that entrepreneurs develop. This collaboration generates opportunities for entrepreneurs and strengthens our society broadly, allowing the Netherlands to position and maintain itself more autonomously in a broad international constellation.

# Partners, organisation, and commitment

## Partners and collaborating parties

The KIA MV connects the interests of a wide range of parties under the coordination of TKI CLICKNL. The concrete implementation of activities is spread across the involved partners and collaborating parties, where they can contribute both financially and in kind:

- NWO for foundational research on the organisation of transitions, the functioning of mission-driven innovation, and KEM's. Building on ongoing research programming and the National KEM strategy.
- SIA for practice-oriented research with multi-stakeholder consortia. Building infrastructure and developing and validating knowledge in practice. For insights from the end-user and impact on professional practice, educational practice, and the research field, such as input on curricula for the transition professional of tomorrow. SIA, in this role, also has strong relationships with, among others, VNG and IPO.
- With its most recent agenda, TNO Vector focuses on giving substance to the concept of Societal Innovation and develops knowledge that is applied in practice to direct and accelerate multi-transitions and transformations.
- The Round table MV (from the Association of Universities of Applied Sciences) has proven to be a thought leader in the first KIC period regarding the definitions of mission-driven innovation and societal and economic impact. Moreover, the Round table and SIA are active in mobilising and connecting research groups and practice partners with networks and research around MV, including SPRONG groups and research groups working from the KIA MV philosophy.
- The ROMs form the connecting link between regional innovation ecosystems and innovative entrepreneurs. They also connect the region to national policy and organisations in mission-driven innovation policy. They play an important role in translating action perspectives to entrepreneurs in the region. The ROMs also connect the instruments of the provinces (e.g., EFRO, INTERREG, MIT).
- The 10 Top Sectors, collaborating in the various KIAs, form the breeding ground for applying and learning methodical knowledge and skills, utilising knowledge, and accelerating innovations for transitions.
- The Ministries of Education, Culture and Science (OCW), and Economic Affairs and Climate Policy (EZK) are the bearers of this philosophy, with OCW specifically focusing on the use of the power of design (such as in the PONT programme). The Ministry of Infrastructure and Water Management (I&W) is responsible for the circular economy and supports, among other things, methodological knowledge development and application (such as in the NWA KEM programme).
- TKI CLICKNL represents the interests of the methodological knowledge base with the National KEM strategy and the utilisation and strengthening of the power of design for societal issues through its own programming and collaboration. TKI CLICKNL will take on the coordination of the programme.



## Governance

To coordinate the KIA MV, monitor progress, and steer policy, governance is structured as follows:

- 1** The Steering group with executive representation from about 8 parties that provide influence, decision-making, and direction. Meeting frequency 3 times a year. Additionally, an annual specific programming meeting takes place with the management of agenda members NWO, SIA, and TNO. The Steering group ensures the executive anchoring and continuation of the KIA MV strategy to the stakeholder organisations in the broad field. It is also the decision-making body on the course and content of the activities.
- 2** An efficient Programme Team, responsible for (the coordination of) the execution of the programme and connection with the activities of affiliated partners. This team prepares decision-making documents for the Steering group and uses input from the Advisory Board. Meeting frequency every 6 weeks.
- 3** An Advisory Board (formerly Core Team) with involved stakeholders from, among others, sectoral departments, provinces, mission-KIAs and Top Sectors, and civil society organisations. This board provides requested

and unsolicited advice and input on the programme lines, activities, and results of the KIA MV. Meeting frequency 3 times a year (prior to the Theme Team).

The staffing of this will be determined before the start of the KIC period and will be evaluated annually and adjusted if necessary.

## Commitment

### NWO

Through the Knowledge and Innovation Covenant (KIC), NWO actively contributes to Dutch innovation policy. Since 2020, this programming is based on the Mission-Driven Top Sectors and Innovation Policy (MTIB) of the national government, aimed at solving major societal challenges and established in the KIC.

The NWO-KIC programme 2024-2027 has four main lines. Within the MISSION main line, NWO develops several large thematic research programmes annually, in which public and private parties collaborate on societal challenges: the mission-driven programs. Researchers (across the boundaries of disciplines, knowledge institutions, regions, and countries) work together with companies, entrepreneurs, and civil society

organisations on knowledge and innovation for the future. In each research project, one or more private parties act as co-financiers. This leads to innovative research where the commitment of all parties ensures knowledge, innovation, economic opportunities, and wellbeing with societal impact.

Each mission-KIA can annually suggest topics to NWO that are relevant to the respective KIA. Additionally, there is a budget available for the development of cross-over programmes on a joint topic from two or more KIAs.

### SIA

To achieve the goals of societal challenges and concrete missions, the innovative forces of companies, civil society organisations, and researchers are combined. In this, practice-oriented research from universities of applied sciences plays a prominent role. Therefore, SIA uses part of its instrumentation for the development of practice-oriented research within the Mission-Driven Top Sectors and Innovation Policy (MTIB). This is done through instruments like SPRONG, L.INT, and KIEM, and by connecting networks (such as Research Group Platforms, Centres of Expertise, and the

Round table) to the topic of mission-driven innovation for societal and economic impact.

In the period of this new KIC, SIA collectively commits approximately 12.5 million euros per year for SPRONG, 3 million euros for L.INT, and 2.5 million euros for KIEM. The funded SPRONG groups are estimated to be 50% focused on the KIA MV, thus providing strong continuity to practice-oriented research around mission-driven innovation for societal and economic impact. Moreover, SIA, in collaboration with TKI CLICKNL, has opened a specific KIEM grant scheme with a budget of 3 million euros (50/50 financed) for research experiments.

### **TNO Vector**

TNO Vector develops knowledge that is applied in practice to direct and accelerate multi-transitions and transformations. The world faces large, interconnected challenges that put wellbeing under pressure. TNO Vector offers perspectives for action, as a force for good decision-making, to increase wellbeing. TNO Vector works on directing and accelerating transitions and transformations under its own Roadmap for Transitions and Transformations and the Demand-Driven Programme (VP) P901

Transitions and Transformations. Research investments in the VP are coordinated with the lead agency, the Ministry of Economic Affairs and Climate Policy.

TNO Vector works on directing and accelerating transitions and transformations under the flag of its own Roadmap for Transitions and Transformations and VP P901 Transitions and Transformations. Research investments in the VP are coordinated with the lead agency, the Ministry of Economic Affairs and Climate Policy. Indications of investments in VP P901 for 2024 are more than 1 million euros in Collaborative Research Funds.

### **Universities of Applied Sciences**

All 36 universities of applied sciences in the Netherlands have committed to the SDGs and thus to societal missions and wellbeing. Each region in the Netherlands has a university of applied sciences. Due to their close contacts with practice, both in practice-oriented research and education, universities of applied sciences play a key role in regional innovation ecosystems. They aim to strengthen this role in the coming years, partly because the report 'Every Region Counts' highlights the

importance of these ecosystems for innovation. The Association of Universities of Applied Sciences signed a covenant with ROMs to strengthen the innovation power of the regional innovative SMEs. They also seek additional resources for practice-oriented research and strengthening the regional role. The Round table MV specifically oversees practice-oriented research and education that strengthens societal and economic impact. This includes a focus on people, missions, and transitions, attention to methods like co-creation, and the design of an area-focused approach, where impact is central. The estimated contribution of universities of applied sciences to practice-oriented research relevant to the KIA MV is 18 million euros.

### **TKI CLICKNL**

TKI CLICKNL coordinates the KIA MV and largely finances its staffing with the working budget for the TKIs from the Ministry of EZK, combined with in-kind contributions from the members of the Programme Team. From The Power of Design Agenda of the TKI, the available PPS-i budget is allocated to experiments and research and the joint effort of the KIEM grant scheme of SIA. This includes a budget of approximately 4 million euros per year.

### **Ministry of Education, Culture, and Science (OCW)**

The Ministry of OCW contributes significantly to the KIA MV:

- [PONT](#) is financed in the new KIC period with a total budget of 9 million euros.
- The Creative Industries Incentive Fund has several programme lines that contribute to the designerly approach for societal challenges, such as the Action Agenda for Spatial Design.

### **Ministry of Economic Affairs and Climate Policy (EZK)**

The Ministry of Economic Affairs and Climate Policy (EZK) is responsible for the Mission-

Driven Innovation and Top Sectors Policy (MITB) and provides funding for the programme management of this KIA and the PPS-i subsidy for public-private cooperation.

### **ROMs**

The ROMs form a connecting link between regional and national policy, regional innovation ecosystems, and innovative entrepreneurs. They do this with the deployment of nearly 200 business developers on various mission themes, such as energy, circular, food, health, and key technologies. These business developers can build on the knowledge and practices unlocked by the KIA MV. They also share experiences

from their own practice. In the Acceleration Programme for impact entrepreneurship, the ROMs can propose specific pilots as test cases for a smarter way of valorising, market creation, and upscaling.

# Appendix

## 1 Results KIC 2020-2023

The KIA MV focuses on achieving both economic growth and accelerating transitions, looking at the KEM knowledge base and concretizing this philosophy in programs and projects. The key results in collaboration with the breadth of involved partners over the KIC period 2020-2023 are:

- The website [maatschappelijkverdienvermogen.nl](https://maatschappelijkverdienvermogen.nl), which informs and inspires professionals, policymakers, consultants, intermediaries, and changemakers with practical and proven new methodologies, models, and working methods. This site also provides access to several relevant publications, such as a reader with points of reference from existing theory, an overview of aspects important for accelerating mission-driven innovation, and state-of-the-art methodologies, models, and working methods for realising both societal and economic impact.
- Together with several Top Sectors, an initial inventory of practices aimed at strengthening knowledge valorisation, accelerating innovation and transitions, and realising impact has been made. There is a wealth of detailed background information available per practice, such as approaches, manuals, developed courses, formats, and canvases. There is considerable interest among the Top Sectors – and now also the ROMs – to share and use the practices more broadly. Therefore, for the KIA MV 2024-2027, a programme line has been developed with the goal of continuing to keep inventory of practices, unlocking them, and promoting their use with targeted facilitation.
- The KIA MV Steering Group for Acceleration of Mission-Driven Innovation (Stuurgroep Acceleratie Maatschappelijk Verdienvermogen) has been formed, which has taken the initiative to formulate advice for an approach to enable companies that offer solutions for urgent societal challenges to scale up their innovations in the market more quickly. The advice will lead to a programmatic approach in the next KIC period.

- A (growing) series of NWO-funded research projects. Among them is the ESMEE project, which the joint ROMs carry out with Utrecht University. The ROMs' repertoire is strengthened for organising transitions and guiding mission-driven innovation and impact entrepreneurship.
- Of the 31 SIA SPRONG groups awarded, about half focus on the theme of the KIA MV. Of the 35 professorship platforms, seven have an MV profile. The universities of applied sciences establish an important connection with regional challenges and innovation ecosystems with the knowledge, networks, and project results from practice-oriented research.
- The universities of applied sciences have organised themselves in the Round table MV of the Association of Universities of Applied Sciences (Vereniging Hogescholen). Here, universities of applied sciences discuss how they can work with mission-driven innovation for economic and societal impact and organise transitions from their culture, working methods, and structure. Three perspectives form the starting point: people (and society), methods and interventions, and an area-focused approach. These are described in the Green Paper 'Creating Societal Value, How Universities of Applied Sciences Contribute to Societal and Economic Impact'.
- TNO has bundled its knowledge in TNO Vector – Centre for Societal Innovation and Strategy. TNO Vector has drawn up an agenda for action research on societal innovation, published in the summer of 2023.
- A coalition of four departments has committed to an NWA research programme for design research. Four departmental cases are being studied for the usefulness and necessity of using KEM's (4 years, budget 4 million euros).
- The PONT programme, led by Dutch Design Foundation, is supported by OCW with 9 million euros for a period of 3 years. The programme will strengthen the designerly approach for public-private cooperation. The activities focus on the public side with the involvement of design disciplines.
- The NGF programme CIIC (conditional funding of 200 million euros) is about strengthening the methodological knowledge base and capacity in the creative industry to realise public values, societal applications, and earning capacity with immersive experiences.

# Appendix

## 2 Key Enabling Methodologies

### Categories

Key Enabling Methodologies (KEM's) are the toolkit of the change agent. They are indispensable sets of tools for developing, accelerating, and scaling up widely supported interventions and solutions, for optimally utilising new key technologies, and for realising structural systemic changes and breakthroughs for major societal issues. They enable an integrated, design-oriented approach (hence 'key enabling methodologies') in complex contexts with many different stakeholders, interests, and perspectives. They also bridge the gap between technology and its successful acceptance and application in society. However, a key methodology, in itself, is not a guarantee of success. It is an instrument or support for changemakers to give direction and structure to their actions. They clarify which steps must not be forgotten or which actions should not be taken. The methodologies are always subject to (further)

development, sometimes in a generic sense and sometimes to make a methodology fit the context in which it is applied.

In the 2020 KEM research agenda, eight categories of key methodologies were distinguished. As of 2024, three new categories will be added.

### 1 Vision and Imagination

When working on societal missions, it is necessary to know what we are aiming for. Sometimes the goal is obvious, but often it needs to be designed, creating an inspiring vision visible and tangible using imagination, thereby giving direction to change. Key methodologies within the Vision & Imagination category help map the current world, imagine new worlds, and view phenomena and problems differently. This allows us to explore our (desired) future and ultimately direct change. Examples can be found [here](#).

### 2 Participation and Co-creation

Key methodologies within the Participation & Co-creation category provide tools to involve a diversity of people and parties with an (intended) interest in or connection to an issue. This can be due to the knowledge and experience they bring, but also to create support and enable them to take initiative and responsibility. Additionally, KEM's in this category can help streamline the (design) process and complex collaborations, unravel and understand the context of issues (interests and values), and develop new propositions. Examples are listed [here](#).

### 3 Behaviour and Empowerment

The Behaviour & Empowerment category comprises key methodologies that help analyse and/or influence human behaviour. This behavioural change can occur at the individual level (such as a pedometer that makes you aware of how much you move), at the level of social structures (such as

sales sites that point out your peers' preferences), or at the environmental level (such as the design of a city that is geared towards pedestrians and not motorised traffic). Examples can be found [here](#).

#### 4 Experimentation Environments

Key methodologies in this category are focused on setting up and learning from experimental environments. These environments can be both physical and virtual, taking place in everyday life, at a festival, or in a communal workshop. Often the daily environment is used as a test platform, or that a real environment is simulated. [Here](#) are some examples.

#### 5 Value Creation and Upscaling

The Value Creation & Scaling category includes key methodologies intended to make issues about the creation of new value for society transparent and to provide starting points for innovative propositions and their scaling. Value (creation) is understood more broadly than just generating direct economic value. The value that contributes to solving societal challenges as part of mission-driven innovation also falls within the domain of this category. It's about a broad concept of value, including

societal, cultural, and ecological value. Examples are listed [here](#).

#### 6 Institutional Change

Key methodologies within the Institutional Change category provide insights into the effects of institutions and tools to support institutional change processes. Institutions are often seen as the rules of the game. These rules – both formally (laws and regulations) and informally (norms and values) – find meaning in facilitating and coordinating interaction between individuals and organisations. See [here](#) for examples.

#### 7 Systemic Change

Key methodologies for system change are aimed at adjustments to complex societal systems. A societal 'system' is a coherent system of thinking (values and beliefs), organising (structures and networks), and practices (routines and behaviour). Examples of current themes for societal system change include energy, mobility, healthcare, and water management. It can also involve an area (city, neighbourhood, or region) or organisation (university,

company, or government department). [Here](#) are some examples.

#### 8 Monitoring and Effect Measurement

The Monitoring & Impact Measurement category includes key methodologies that contribute to seeing the results, measuring the effects, and monitoring the impact of an intervention on the system. They thus provide important information to evaluate, validate, and adjust the intervention during the process. In addition, transparent methods for monitoring and impact measurement can contribute to maintaining and increasing the support and involvement of stakeholders. Examples are listed [here](#).

#### 9 Ethics and Responsibility

Especially in societal missions and transitions, ethical and moral questions constantly arise. Therefore, the Ethics & Responsibility category comprises methodologies that promote ethical and responsible research and innovation practices, such as value-sensitive design, care ethics, participatory design, techno-moral scenarios, and socio-technical experiments.

## 10 Meaning and Awareness

Transitions demand a re-evaluation of entrenched values and patterns. We must become aware of the consequences of our actions and realise that a new world calls for different values and meanings. Especially in the artistic domain, methods have been developed to come up with (artistic) interventions that broaden our view, challenge or mirror existing patterns and habits, encourage people to redefine conventional values, and/or criticise systemic discomforts.

## 11 Data for Inquiry and Evidence

Design challenges and societal transitions require constant questioning and substantiation. During transitions, new information becomes available that may lead to a change of direction. Likewise, the extent to which the choices made affect society and individuals demands ongoing substantiation and refinement. This KEM category presents an overview of approaches

from data-inspired to data-driven that provide complex issues with inspiration and evidence.

### National KEM Strategy

Key Enabling Methodologies (KEM's) are developed in a dynamic field where various parties are active. Knowledge institutions play a crucial role in methodological development and in translating scientific insights into (coherent) methods. These methods are not always adopted verbatim in practice but are adapted to the specific context in which they are applied. The resulting variants sometimes find their way to a broader audience, lead to new insights, and ensure that KEM's are constantly evolving. Validation sometimes occurs with close involvement of researchers, sometimes without. It can be part of pre-established programs or happen ad hoc. Sometimes it occurs in learning associations (such as learning communities, consortia, or networks for knowledge exchange), and sometimes in relative isolation.

Therefore, there is a complex dynamic with little central control. However, policy, larger public, private, and public-private research programs, innovation-related funding schemes such as the National Growth Fund, and R&D investments can give clear direction. This is increasingly happening from an integrated perspective on KEM's and the missions formulated in innovation policy. For example, KEM's are explicitly featured in the incentive measures in the National Programme for Circular Economy 2023-2030 of the Ministry of Infrastructure and Water Management<sup>1</sup> (I&W). The Sector Plan Technology II of the (technical) universities is partly programmed around the use of KEM's<sup>2</sup>. I and SIA refer to key methodologies in various calls for research projects<sup>3</sup>. In the fall of 2023, the first NWO mission call specifically focused on a KEM category (experimental environments) opened. From the top sectors, the Exceed program around experimental

<sup>1</sup> [National Circular Economy Programme 2020-2023.](#)

<sup>2</sup> [Sector Plan Technology II, 2023](#), of TU Delft, TU/e, Wageningen University & Research, University of Twente and University of Groningen.

<sup>3</sup> See in particular the 2021 ['Transitions and Behaviour'](#) programme in which 7 top sectors work together



environments has been running since 2023<sup>4</sup>. In a European context, KEM's made their first appearance in a research call from JPI Urban Europe in early 2023, with a total budget of 3.5 million euros<sup>5</sup>.

With increasing attention to KEM's, there is a growing need for a national strategy for public-private commitment to knowledge development and application of key methodologies for mission-driven innovation.

The renewed KEM research agenda of 2024, therefore, is accompanied by a KEM strategy, aimed at strengthening KEM's and directing knowledge development around (the use of) KEM's in the coming years.

The KEM strategy has four main lines and defines requirements for the type of research desired in the coming years. It focuses on knowledge development around:

Main Line	Knowledge Need	Urgency
<b>I. Further development of KEM's for acceleration of missions and transitions</b>	New KEM's and the further development of existing KEM's, particularly to achieve acceleration of missions and transitions. This includes at least KEM's in the categories: (1) value creation and scaling, (2) institutional change, and (3) system change. Both fundamental and applied knowledge are involved.	Four years of mission-driven innovation policy and ten years of Top Sectors have not yet sufficiently accelerated the approach to transitions. Experiments and mission-driven innovation have not sufficiently led to implementation and scaling. In the coming years, acceleration is needed, and therefore there is an urgency to develop (or further develop) KEM's that can contribute to this acceleration.

<sup>4</sup> [Exceed](#) stands for Expert Coalition for Experimental Environment Development.

<sup>5</sup> The text of the call can be found on the JPI Urban Europe [website](#).

## Main Line

## Knowledge Need

## Urgency

### II. Cohesion in the use of KEM's

Understanding how combinations of KEM's contribute to the realisation of missions and transitions, which KEM can be used at what moment/in which phase, and how KEM's are interrelated, reinforce (or weaken) each other, and are compatible/complementary to each other (or not).

For the realisation of missions and transitions, multiple KEM's are always useful or necessary. However, for a strategic choice of the use of certain KEM's, in mutual coherence, knowledge is needed that transcends insights into the functioning and success factors of the individual methodologies.

### III. Preconditions for the use of KEM's

Insight into what is needed to apply KEM's from different KEM categories in a particular context or within a specific application area, for the benefit of missions and transitions. What are generic and context-dependent factors for the deployment of KEM's?

How KEM's are used is often strongly dependent on the context (such as sector, involved partners, funding). Therefore, copying an approach that worked in one context to another is not straightforward. The application of KEM's thus requires knowledge of preconditions for effective use.

### IV. Impact of KEM's on the Realisation of Missions and Transitions

Insight into how the impact of KEM's on the realisation of missions and transitions can be measured, monitored, and made visible.

The contribution of the use of KEM's to defining, accelerating, and realising societal missions and transitions is still not sufficiently articulated. This complicates the choice of KEM's to be deployed.



# Appendix

## 3 PONT - The Public Design Practice

In the coalition agreement *Omzien naar elkaar, vooruitkijken naar de toekomst*, ('looking after each other, looking forward to the future') it is stated that the creative industries will be involved in societal challenges. To bolster this, State Secretary of Culture and Media, Gunay Uslu, has initiated a programme to increase the impact of the designerly approach on societal challenges. As she states in her multi-year letter *De Kracht van Cultuur* ('The Power of Culture,') "we make too little use of creative thinking in solving societal problems." The desire to take concrete and more substantial steps aligns with the advice of the Council for Culture's *Ontwerp voor de toekomst; Pleidooi voor een creatieve reflectie op maatschappelijke vraagstukken* ('Design for the Future; A Plea for Creative Reflection on Societal Issues').

Societal challenges are open, dynamic, networked, and complex, requiring an

integrated approach. However, the designerly approach is often applied one-dimensionally in practice, not fully utilising its potential. Challenges can be used as learning environments to further broaden the design practice. The designerly approach has a role in this, but cannot be impactful outside the public domain.

PONT is developed with a designerly approach. Over six hundred professionals from both the design and public domains were involved in this process. Through dialogue sessions and interviews, it became clear that the programme should (1) focus on further professionalising and emancipating the creative sector and (2) create more space for the designerly approach in the public domain. Interventions that promote these matters help to strengthen the position of design in the public sector and pave the way to increase the visible positive impact on societal issues.

PONT bridges the gap between designers and public organisations. The programme is based on a learning and reflective studio model and consists of five components that complement, inspire, and inform each other: the Practice, the Workshop, the School, the Temple, and the Square. In PONT, innovation through the development of new methods, structures, and interventions goes hand in hand with constant research into (problems and opportunities in) the current collaboration between the design sector and the public sector. At the centre is the Practice. Here, various ongoing design projects for societal issues are closely followed and supported. They form a test environment, within which learning and experimenting with new interventions take place. In the Workshop, research is conducted to better utilise the potential of design for societal issues. Based on this, interventions are developed to structurally improve and support the application of designerly approaches in



the public sector. At the School, designers, civil servants, and policymakers at public organisations can receive further training. In the Temple, activities are undertaken and offered, focused on intervention, contemplation, and reflection. On the Square, there is an exchange between designers, civil servants, and other interested parties. Here, the added value of a designerly approach is contemplated, discussed, and debated.

The components support each other and contribute to the professionalisation of the creative sector and the creation of more space for designerly approaches in the public sector.

# Appendix

## 4 Aspects of MV

Research in more than 60 innovation ecosystems has identified six key aspects that require attention regarding MV. These are common opportunities and challenges that (regional) innovation ecosystems may encounter, influencing the success of their mission-driven innovation. The core aspects are: 1) Ensuring support, 2) Regional Embedding, 3) Organising Collaboration 4) Reflection and Adaptation, 5) Measurements and Financing, 6) Institutions and Governance.

A distinction is made between (1) the innovation process (aspects 1 to 4), which refers to the micro-level, and (2) the innovation system (aspects 5 and 6), which encompasses the overall dynamics of the micro-, meso-, and macro-levels. A more detailed overview of the six aspects and the 28 associated sub-aspects is elaborated in the publication [‘MV: Overview of Aspects for Acceleration’](#).

Below is a brief overview of each aspect.

### Ensuring Support

Successful transitions require a shared awareness, understanding and involvement of a multitude of stakeholders; collectively referred to as ‘support’. This is required in companies, governments, knowledge institutions, interest organisations, citizens, and intermediaries, at all levels of the organisation, and for technological, economic, social, and ecological challenges.

### Regional Embedding

Every region has its own characteristics and contextual factors. Therefore, one region, city, neighbourhood, or street may have different strengths, weaknesses, opportunities, and challenges than a nearby location. Scaling innovations, therefore, varies in each region. However, there are common denominators that play a role in successfully scaling innovations and realising societal and economic impact.

### Organising Collaboration

In regional innovation ecosystems, the involvement of all stakeholders is desired. Multi-stakeholder collaboration requires understanding each party’s interests and proactively connecting partners. Developing collaboration and optimally facilitating it also requires attention to potential conflicting interests between established actors and challengers and between local and global players.

### Reflection and Adaptation

The speed of technological and societal changes requires continuous monitoring, analysis, interpretation, reflection, and adaptation, so that the goals, approach, and activities of the collaboration can be flexibly adjusted.

### Measurements and Finance

Financing mission-driven innovation is challenging; innovations with a societal goal

are often only economically viable in the long term. The economic and societal impact cannot always be precisely measured. Financing mission-driven innovation requires new ways and new indicators to value economic, ecological, societal, and social returns. New forms of financing are needed to stimulate the dual objectives.

### **Institutions and Governance**

Mission-driven innovation requires new forms of organisation and governance, both within regional innovation ecosystems and at local, regional, and national government levels.

Moreover, unexpected effects of mission-driven innovation policy require attention.

### **Agenda KIA MV Aspects**

During the KIC period 2020-2023, there have been 3 calls for proposals from NWO for the KIA MV. Based on an inventory of these 3 calls, potential knowledge gaps in MV research in the field of aspects for mission-driven innovation have been identified that have not yet been addressed. This inventory shows that, on the one hand, mainly aspects 1. Ensuring support, 2. regional embedding, and 3. organising collaboration are addressed in the NWO

research projects. On the other hand, aspects 5. measurements and financing and 6. institutions and governance are underrepresented in the projects from the KIC period 2020-2023. Aspect 4. reflection and adaptation has not been addressed. Building on this inventory, the KIA MV is developing an Aspects agenda. This agenda will include a detailed overview of both represented and underrepresented aspects (and the associated knowledge questions). The goal is for the Aspects agenda to serve as a starting point for further research programming in the KIC period 2024-2027.



# Appendix

## 5 Practices for realising impact

### Community of Practices

From late 2022 to early 2023, a significant number of practices were gathered from the Top Sectors, aimed at strengthening knowledge valorisation, accelerating innovation and transitions, and realising economic and societal impact. The Top Sectors and TKIs (Top Consortium for Knowledge and Innovation) were asked about practices applied in their daily operations to enhance the impact of knowledge development and innovation activities; in line with the November 2022 parliamentary letter, which emphatically focuses on valorisation and impact. The purpose of this interview round was to map out what exists, without any value judgement or conclusion. The intention was to inform the Top Sectors and TKIs about their own good work and hopefully to encourage them to do more with it. For each phase of 'organisation of a TKI', 'programming', 'execution' to 'dissemination/implementation', several useful practices are available. There is a wealth of detailed

background information per practice available, such as approaches, manuals, developed courses, formats, and canvases.

There is considerable interest among the Top Sectors – and now also the ROMs – to share and use the practices more broadly, for example, in the programming and execution of the mission-driven KIAs. Therefore, for the KIA MV 2024-2027, a programme line has been developed with the goal of continuing to keep inventory of practices, unlocking them, and to promote their use through targeted facilitation.

This initial exploration yielded 26 interesting practices that could be useful for other TKIs. It's important to realise that this harvest comes from just a handful of TKIs; effectively the proverbial tip of the iceberg. The 26 practices have been described, labelled, sorted, and then plotted in an accompanying infographic. Mapping these practices against each other provides insight into their relevance and

potential further application. Within various TKIs, there is thought and work being done on the application of knowledge and scaling of innovation, with the aim of realising societal and economic impact. There is a growing awareness that due to increasing (systemic) complexity, innovation trajectories are increasingly organic/non-linear. There are many relevant practices that could be useful in other TKIs, especially for system innovation. The TKIs are open to have a peek into each other's kitchens, but this needs to be actively stimulated and organised. The practices vary in maturity. Some have been tested over the years, others have only been used a few times. Nonetheless, they are all useful for other TKIs.

The first overview of practices is not complete; there are many more practices to be found, as not all TKIs have been interviewed, let alone all programme managers. We have not investigated the relationship between scientific research and the practices or which



practice is more effective than another. We have not mapped the need to use others' practices, nor the willingness to work with practices from others. Simply putting tools, manuals, workbooks online and hoping someone will use them is not useful. Each practice requires guidance from an experienced professional. The contact persons of the TKIs at EZK (Ministry of Economic Affairs and Climate Policy) are willing to actively participate in knowledge sharing, aimed at realising societal and economic impact.

## Opportunities

- 1** Knowledge development and innovation stimulation for transitions is people's work; it is inherently organic. Traction is created by intrinsic motivation, ownership, and an experimental mentality, less so by good programme management.
- 2** Persistence pays off exponentially; impact is enhanced with a sustained long-term vision, a fixed TKI team, and structural programme financing. Let those teams that are deeply embedded in the market assess how to invest in the organisation of the TKI, programming, execution, and valorisation.
- 3** Think big and small at the same time; knowledge development and innovation occur in small concrete steps. Define specific and concrete trajectories that participating organisations (e.g., SMEs) really benefit from.
- 4** Start with the end in mind; consider from the beginning what is needed to realise that impact: for example, when setting up the TKI organisation, defining calls, forming consortia, involving end-users or citizens, enthusing early adopters, and structural involvement of education.
- 5** Upscaling requires targeted network development; it doesn't happen by itself. Application/use of innovations (products, services, processes, methods) requires investment in the ecosystem. Branding has proven effective here. Sometimes an adjusted legal framework is necessary to realise sustainable implementation or uptake.



# Appendix

## 6 Acceleration Programme for Impact Entrepreneurship

From the KIA MV, the Steering Group for Acceleration of Mission-Driven Innovation (MV) has been formed. This group has initiated the development of an approach to enable companies that offer solutions for urgent societal challenges to scale up their innovations to the market more quickly. This focuses on (potentially) promising companies that want and can substantially contribute to solving urgent societal challenges that the Netherlands and Europe currently face, and from which the Dutch economy can expect a substantial contribution. The Netherlands has a

great potential of promising entrepreneurs and companies that can offer solutions, but in some cases, their contribution is not fully utilised. This risks the loss of talent and potentially successful entrepreneurs to other countries, reducing our ability to solve societal challenges ourselves, and risking the erosion of our competitive position.

The KIA MV 2024-2027 undertakes activities that offer a more systematic solution from public-private partnerships to eliminate the above barriers and be less dependent on an

ad-hoc approach. The government as a partner of the entrepreneur, without taking over their role. This allows for accelerated growth of companies in promising sectors while simultaneously making a strong contribution to societal challenges. The intended challenges are linked to the established themes of the mission-driven innovation policy such as energy, climate, circularity, and security. It concerns companies that are unable to secure the necessary investments despite substantial growth potential and a bankable and solid business case.

# Appendix

## 7 Action research on societal innovation

TNO Vector – Centre for Societal Innovation and Strategy – has developed an agenda for action research on societal innovation, in conjunction with the launch of TNO Vector in the summer of 2023. TNO Vector is part of the TNO unit ICT, Strategy & Policy (ISP). TNO Vector is the new name for the former TNO unit Strategic Analysis & Policy (SA&P) and has its own external positioning and profiling within TNO.

The agenda for action research begins by emphasising the societal context in which TNO Vector operates, where societal innovation is considered necessary. This innovation is seen as a crucial step in broader societal transitions and transformations. To understand societal innovation, TNO Vector views it in relation to both technological and social innovation. Technological innovation focuses on the

development and implementation of new technologies and improvements in products, services, and processes. Social innovation, on the other hand, focuses on developing and implementing new ideas aimed at changing attitudes and behaviours in people and organisations. Both forms of innovation contribute to the potential for societal change at the system and structural level, accelerating transitions and transformations.

TNO Vector's agenda for action research focuses on three crucial elements. Firstly, providing a perspective for key decision-makers so that they can act concretely and well-founded to stimulate societal innovation. Secondly, promoting transdisciplinary collaborations to overcome the difficulties encountered in this process. Thirdly, the development and

refinement of methodologies for societal innovation, such as system analysis, innovation orchestration, and adaptive governance, to enhance the effectiveness of these processes.

In summary, TNO Vector aims to promote societal innovation by providing concrete tools for key decision-makers, facilitating transdisciplinary collaborations, and improving innovation methods, all within the framework of broader societal transitions. The goal is to achieve systemic and structural societal changes and accelerate the transition to a better future. Reference to TNO Vector website and agenda: Societal innovation: a necessary step to accelerate (tno.nl) – paper available for download [here](#).



## Colophon

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