In4Art
guiding curiosity....

PESETABS

How to analyse and create value from the outcomes of art-driven experiments

Developing art-driven innovation spill-overs with PESETABS

WRITTEN BY

Lija & Rodolfo
Groenewoud van Vliet

Founders of In4Art

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Art-driven innovation is a way of thinking and working, where reflecting on what future(s) we want, challenges we address, and values we anchor are the ingredients to realize **responsible innovation through artistic experimentation.**

Innovation is the act of creating **something new which has value.** It is how value is perceived that defines how the widely used and misused term ***innovation*** is understood.

The past decades can be defined as decades in which, due to different forces, the time horizons of markets as well as governments, have shrunk. Companies have become used to focusing on the next reporting period, and governments have become used to concentrating on the next election. It has shaped the way in which value, coming from innovation, has been defined in a short-term, incremental approach.

Longer-term consequences and ripple effects are often non-existent in decision-making, while it is this type of innovation, in a responsible way, that has our interest and focus when we work with art-driven innovation.

We have conceived the Art-driven innovation method to **guide the set-up of art-driven experiments**, analyse the outcomes and **diffuse the responsible innovation value** that resides within. It is based on the notion that art-driven experiments are a rich source for responsible innovations and that experimentation with diverse ideas and actors makes sense when the aim is to make innovation **decisions that involve high uncertainty**.

Art-driven experiments are characterised by the open-ended nature of artistic projects, since the question raised is about **what futures we can create**. To analyse, create value, and identify outcomes of art-driven experiments, we have created **PESETABS**; a diffusion model. Through guided analysis, it explores eight directions for **spill-over potential**, where value and future impact can be created, and matches them to an ambition.

Art-driven innovation (or ADI) is a methodology, that we developed in 2019 and that will help anyone to successfully:

UNDERSTAND
how artistic experimentation can create value

STRATEGIZE
for the diffusion of knowledge, ideas, and propositions

FIND AND PURSUE
surprising, creative ideas

Towards long-term focus, lasting impact.

Many past civilisations have collapsed because they could not prevent destroying the natural environment on which their progress was based. After thriving for centuries, the Sumerian civilisation disappeared around 2000 BCE because crop yields drastically dropped as a result of sophisticated irrigation techniques, which had unintentionally led to mass salt deposits in the soil. Similar stories of **environmental degradation led to the collapse of other civilisations**.

Fast forward to today: in many ways, **we are currently destroying the natural environment on which our progress has been based**. Extractive mining of minerals, metals, or natural resources, biodiversity loss through deforestation or mono-agriculture, air pollution from industrial and daily activities, waste mountains due to overproduction, overconsumption, and linear chains. Defining value on short-term performance indicators will not change this.

We need ways to incorporate long-term visions on how to restore balance into present-day strategic decision-making.

We are facing the need for sustainable transitions which restore biodiversity through CO2 reductions, replace intensive with regenerative farming, lower the pressure on resources through recycling and reusing, and in many other ways.

Through artistic experimentation futures can be thought of, envisioned and built.

It can be a way to define the futures we aspire to and bring them into being. To explore across time. Knowing that futures are uncertain, there are different approaches to predicting paths for the future and shed a light on the implications and requirements a possible path would entail. In this, artistic experimentation sets itself apart from other forms of experimentation.

The Third Source of Experimentation

The Third Source of Experimentation

Compared to other types of experimentation, **artistic experimentation is different in that it is about the future**. It raises questions about the choices we can make, and the possibilities we can create.

We call this the third source of experimentation and **it supports radical, system-changing perspectives and ideas, needed for responsible and sustainable futures.**

In comparison, scientific experimentation is essentially about looking back and testing a hypothesis. It raises questions like: '*what can be learned from what has already happened?*' Business experimentation is mostly about the here and now, raising questions like: *'how can we validate assumptions for a product, for e.g to achieve a product-market fit?*'

Paths to future progress

The GREEN path proposes to rethink how we create products for consumption (biological cycle) or as a service (technical cycle).

The CARE path reincorporates important activities in the realm of the productive economy which are typically excluded by traditional approaches to innovation. These include education, healthcare, and biodiversity, amongst others.

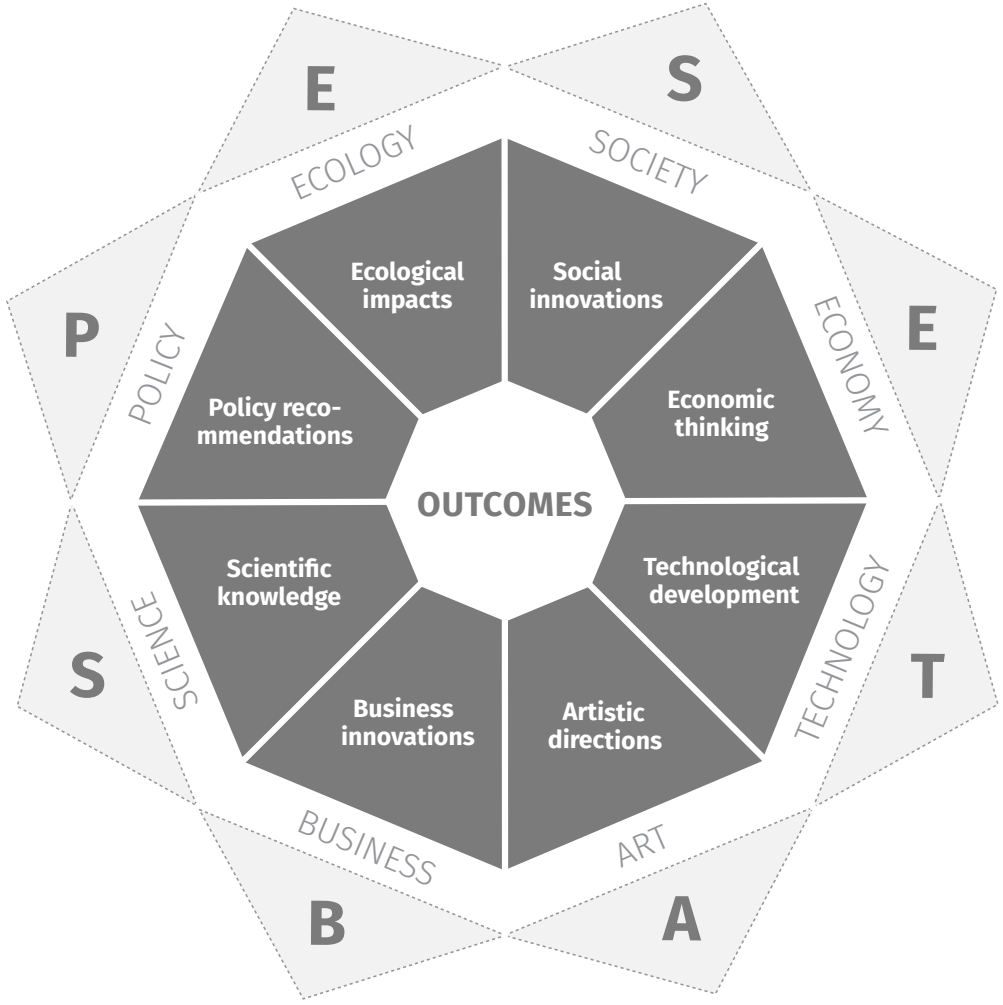
Introducing PESETABS

Experiments are the beginning: value comes from analysing and diffusing the outcomes. To do so, we have developed a structured approach.

The **PESETABS diffusion model** is based on several key stages to explore after a collaborative art- driven innovation experiment has taken place and the time has come to translate the outcomes and difusse the learnings.

To understand the reach of these experiments and translate them into potential impactful responsible innovation spill-overs, it is useful to search for diffusion into **eight different directions**: policy, ecology, society, economy, technology, art, business, and science. This way, the path to create value can be made explicit.

PESETABS is the acronym, based on the first letter of each direction.



PESETABS diffusion model

The method consists of **3 stages**, or steps, to go from art-driven experimental project outcomes to an action plan for value creation and capturing.

The **stage 1** is to analyse **the underlying focus** of the art-driven experimental project. By analysing the project along two lines, the purpose of the project is articulated. Throughout the art-driven project, many different experiments might occur.

To analyse the impact, in **stage 2**, each experiment should be evaluated on its merit. As a result, all experiments conducted in the project should be described one by one, explaining the technical, social and material dimensions of the experiment. The **experiment outcomes** are analysed and result in a list.

Stage 3 is the heart of the method, the PESETABS analysis to **create value propositions in eight possible directions**. To capture the value, the potential within the direction should be tied to an actor and a corresponding form. For each PESETABS outcome, the layers have been identified of those that should/ could become involved. Additionally, suggestions are made on which type of output form might support such action. Sometimes it is already part of the art-driven experiment, but often it is the start of a follow-up action. This requires an action plan and dedication to ownership.

STAGE 1 Setting the stage: Domain & theme

DOMAIN

What domain(s) of this world does the project address? Domains include areas of society such as manufacturing, health, mobility, biodiversity, food, etc. Clarifying the domain is the **first step** in bringing focus to the analysis of the experiment.

THEME

Within the addressed domain(s), what are the theme(s) the project addresses? Themes can be described as subtitles to the domain. It is part of the initial project brief and **could be aligned with societal goals** as described in the *Sustainable Development Goals* or *European Green Deal*.

For instance, if the domain is health, the theme could be healthy ageing / health technologies / healthcare / a specific health technology etc. Similarly, if the domain is biodiversity, the theme addresses what aspect or topic of biodiversity is concerned. For instance biodiversity in cities or a specific species. Analysing the theme(s) steers towards a focused area.

STAGE 2 Listing the experiment outcomes

The next unit of analysis is the **unravelling of the conducted experiments thoughout the process**. Art-driven experimental projects hardly ever evolve around a well-described, single experiment with a structured approach. On the contrary, these types of projects have conducted multiple, diverse, experiments. In art-driven experimentation, the process of development is often **fuzzy and unpredictable.** Experiments intended beforehand may not have been done or changed along the way and new experiments may have been unexplicitly added.

Experiments are questions to nature and/or the natural world which have been explored. What questions to nature have been asked in the project and what outcomes and insight does this give is our next question to answer.

The experiments identified in stage 2 are qualitatively assessed. **We focus on those experiments, that have surprising outcomes.** List all of these outcomes and write down a short description of the specific experimentation result.

Type of experiment outcomes

NEW END

Surprising or new end outcomes are experimentation outcomes that demonstrate new insight, knowledge, or unexpected uses for technology or material in the addressed domain(s) and theme(s). They reach conclusive outcomes on which further nurturing of the idea can be based. They could lead to a new start, and hence, a future new end.

Therefore, outcomes in the surprising category are the **outcomes that we seek to realize art-driven innovation and that are further explored through the PESETABS difussion model**.

DEAD END

Dead end outcomes come in many forms. It can be the case that the outcome is unrealistic to further pursue because of, amongst other possible reasons: high required investments, underdeveloped technology (speculative), legal barriers, new knowledge or unintended possible negative consequences when deployed.

Outcomes that lead to a dead end are **valuable for learning** and should make us think how we could use this knowledge going forward, but it won't lead to art-driven innovation proposals.

OPEN-ENDED

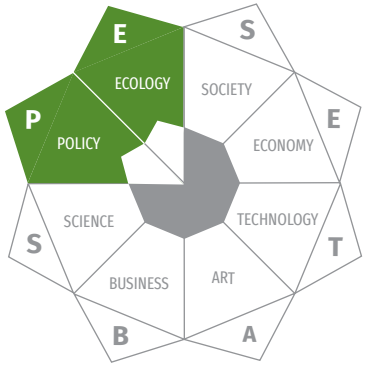
Inconclusive, or open-ended outcomes are the type of experiments which are, in essence, not finalised. There is no outcome yet, therefore, nothing reasonable can be said about the quality and potential of it. In the art-driven innovation methodology, we call these outcomes ***failures***. They were either based on the wrong igniting questions to nature at the very start or they were unrealistic to pursue within the given timeframe, budget, and/or available competencies set for the project.
They should feed a **learning feedback loop** within the project team, asking the questions: can we figure out what was wrong with the question or the setup? Can we fix this and redo the experiment in another way? Hence, the level of uncertainty stays high.

STAGE 3 PESETABS ANALYSIS

Now that the stage is set and we know which experiment we are going to analyse, since we have identified the surprising ones, it is time to search for the value within the experiment.

To **guide this analysis of the experiment outcomes**, we use the PESETABS analysis; an approach that takes **8 different points of analysis** to explore in which direction spill-overs can occur.

PESETABS	VALUE POTENTIAL:	IMPACT PARTNERS:
POLICY RECOMMENDATIONS	*Implications for laws and policies*	THINK-TANK | POLITICAL PARTY | POLICY ADVISOR
ECOLOGICAL IMPACT	*Lowering emissions or increasing biodiversity*	NGOS | NATURE PRESERVATION ORGANIZATIONS
SOCIAL INNOVATIONS	*Empowering people or contributing to social wellbeing*	MUNICIPALITIES | NGOS | COMMUNITY HUBS
ECONOMICAL THINKING	*Enriching non-neoclassical economic thinking*	WRITERS | PUBLISHERS | NEW ECONOMIC THINKERS
TECHNOLOGICAL DEVELOPMENT	*New, responsible uses of technologies*	OPEN SOURCE COMMUNITIES | TECHNOLOGY SUPPLIERS OR INTEGRATORS | TTO
ARTISTIC DIRECTIONS	*Translation into a presentable, artistic outcome*	CURATORS | GALLERIES | FESTIVALS | CULTURAL ORGANIZATIONS | MUSEUMS
BUSINESS INNOVATIONS	*New products, services or business models*	COMPANIES | START-UPS | NETWORK ORGANISATIONS | VC´S | INVESTORS
SCIENTIFIC KNOWLEDGE	*Scientific discoveries or new routes to conduct science*	ACADEMIC RESEARCHERS | RESEARCH AND TECHNOLOGY ORGANIZATIONS (RTOs)



PESTABS

POLICY RECOMMENDATIONS

Implications for laws and policies

Think-tank | Political party | Policy advisor

Policy Recommendation spill-overs are surprising experiment outcomes that can inform people who are in the position to make policy choices on particular issues of which they are currently unaware or which are overlooked.

THE OUTCOME:

- *.. can contribute to the knowledge position of policymakers and/or public representatives on the theme.*
- *.. relates to current actual affairs with a new approach/argument to improve the debate.*

THE FORM MIGHT BE:

- .. an opinion article, a documentary, a policy brief, or a talk invite for public bodies (e.g. Parlement)...

ECOLOGICAL IMPACT

Lowering emissions or increasing biodiversity

NGOs | Nature preservation organizations

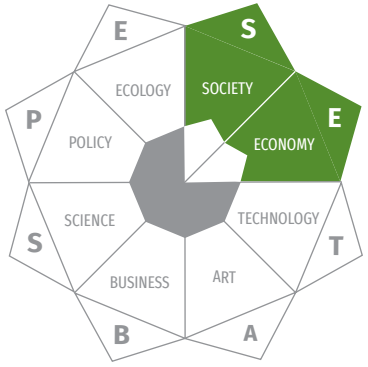
Ecological Impact spill-overs are surprising project outcomes that can contribute to lowering carbon emissions or increasing biodiversity in the project domain through, for instance, awareness-raising, dissemination, or education.

THE OUTCOME:

- *.. contributes to the known facts around the ecological impact of current practices in the theme and the effects of proposed interventions.*
- *.. leads to ecological repair or reinforcement.*
- *.. might use fewer materials, produces fewer emissions or uses less energy than the current alternative.*

THE FORM MIGHT BE:

- ... a product or process tool, changing a variable that has a direct positive ecological impact...



PESTABS

SOCIETAL CONTRIBUTION

Empowering people or contributing to social wellbeing

Municipalities | NGOs | Community hubs

Societal Contribution spill-overs are surprising project outcomes that can contribute to people empowerment *(e.g. freedom to choose, privacy, data ownership, access to technologies)* or to social well-being *(e.g. improved transparency, increased trust, increased safety).*

THE OUTCOME CAN LEAD TO:

- *.. a change in behaviour and thinking of the wider public concerning a topic where empowerment is under pressure.*
- *.. increased trust and acceptance of digital technologies or new materials in society*
- *.. increased democracy on the topic through principles of openness, sharing, and transparency.*

THE FORM MIGHT BE:

- .. an educational program, an open source tool, a manifest, a blueprint, a community project...

ECONOMICAL THINKING

Enriching non-neoclassical economic thinking

Writers | Publishers | New economic thinkers

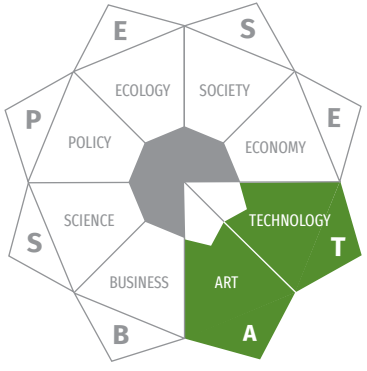
Economical Thinking spill-overs are surprising project outcomes that hold an idea that can enrich diverse and plural long-term economic thinking, either because it contributes to an existing economic idea outside of mainstream economics *(e.g. circular economics, universal basic income)* or it addresses a flaw in economic thinking in a new way *(e.g. lack of deep time valuation).*

THE OUTCOME:

- *.. can lead to a new variable in economic thinking which has previously been unknown, overlooked or undervalued.*
- *.. can lead to a new or improved story for 21st century economics*
- *.. humanizes the development and usage of technology*
- *.. questions the intents and motives of technology*
- *.. proposes a tech-fix to a pertinent topic in a responsible way*

THE FORM MIGHT BE:

- .. a manifest, an essay, an opinion article...



PESTABS

TECHNOLOGICAL DEVELOPMENT

New, responsible uses of technologies

Open Source communities | Technology suppliers or integrators | TTO

Technology usage spill-overs are surprising project outcomes that develop or apply technology in new and responsible ways, with the potential to be amplified. During the experimentation, these technological insights have been tested and utilised.

THE OUTCOME:

- *.. is a testable prototype*
- *.. leads to technical or process optimizations*
- *.. has progressed the development of a technology to a further readiness level*

THE FORM MIGHT BE:

- .. a prototype, demonstrator, use case scenario...

ARTISTIC DIRECTIONS

Translation into a presentable, artistic outcome

Curators | Galleries | Festivals | Cultural organizations

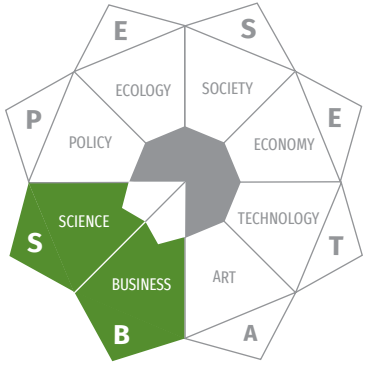
Artistic direction spill-overs are surprising project outcomes that have an artistic value that can reach and inspire a large audience through presentation, exhibition, or commissioning.

THE OUTCOME:

- *.. has the potential to be accepted as an artwork in the context of the topic*
- *.. could generate new artworks based on the insights of the experiment*
- *.. can lead to art derivatives, that could broaden the artistic presentation in different setting, stages and forms.*

THE FORM MIGHT BE:

- ...any type and medium of art form suitable to present in the context of an exhibition/ show. It can be supported by images of actual or mock-up exhibitions, ...



PESTABS

BUSINESS INNOVATIONS

New products, services or business models

Companies | Start-ups | Network organisations

Business Innovation spill-overs are surprising project outcomes that are close to market readiness. They can be launched on the market as a new or improved product, service or process.

THE OUTCOME SHOWS:

- *.. a product-market fit (use-case) with production and distribution potential*
- *.. a new value proposition potential for new or existing clients.*

THE FORM MIGHT BE:

- .. a business plan, product pitch, demostrator...

SCIENTIFIC KNOWLEDGE

Scientific discoveries or new routes to conduct science

Academic researchers | Research and Technology Organizations (RTOs)

Scientific Knowledge spill-overs are surprising project outcomes that can influence science through the discovery of new knowledge (e.g. by taking science out of the lab) or as a new route to conduct science.

THE OUTCOME SHOWS POTENTIAL:

- *.. to inspire science through new ways to conduct science*
- *.. to influence science through the discovery of new knowledge*

THE FORM MIGHT BE:

- .. inclusion in new scientific research proposal, a scientific article, a poster presentation, a symposium, a talk...

Spill-over activation

During the PESETABS analysis, **ambitions** have been set. A direction is coupled to a certain potential, and different types of partners have been evaluated and selected.

To start the trajectory of an art-driven experiment towards a responsible art-driven innovation proposal, the next phase consists of **taking ownership.** Only by appointing the owners for the next phase, diffusion and **spill-over impact** will take place and **follow-up for impact** can be activated. For each direction, the ownership should be discussed.

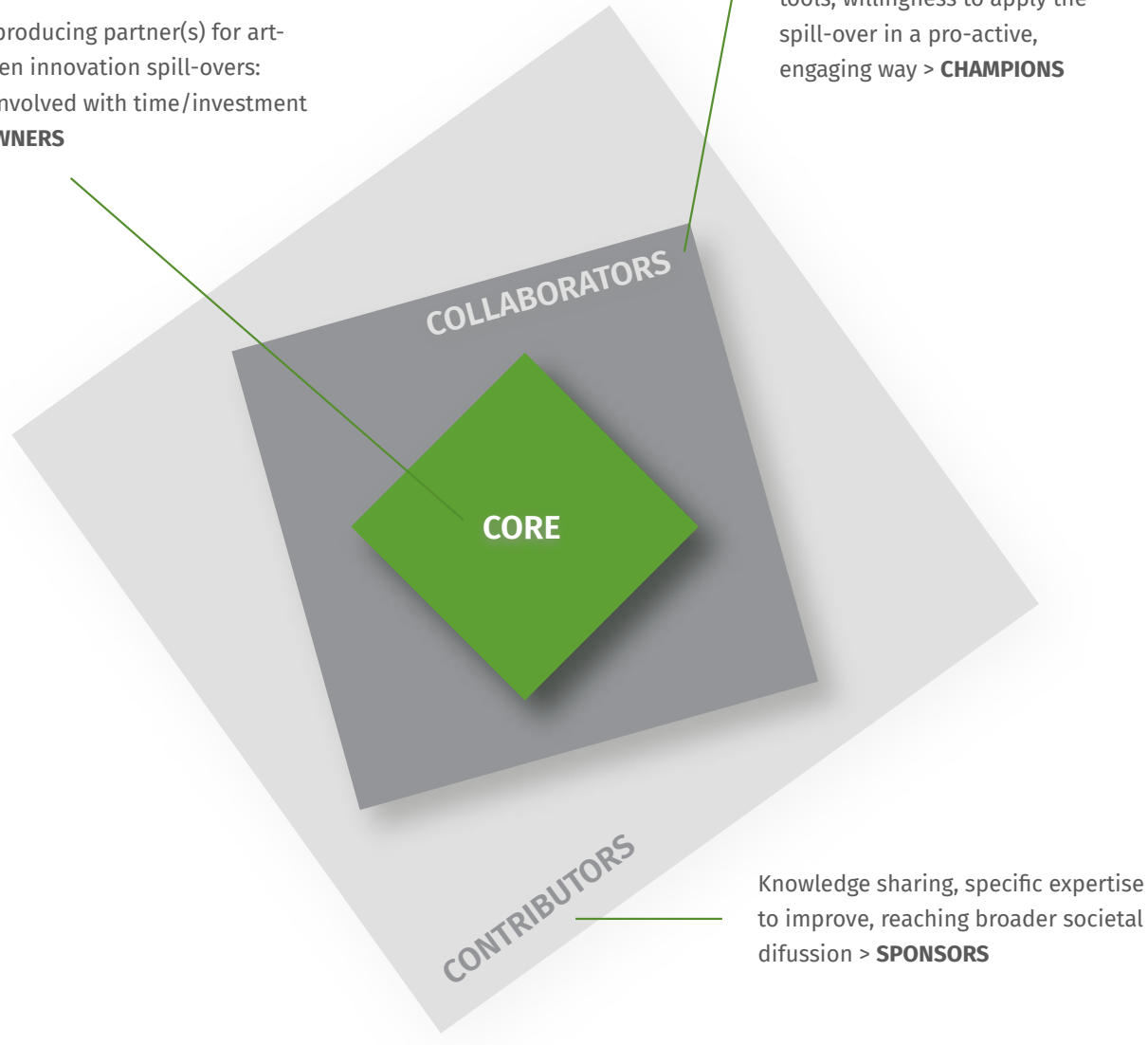
It starts with identifying the core of the ecosystem, the **co-producing partner(s)**, that will be the spill-over idea drivers.

This might be everyone initially involved in the core project team, or a selection within them, and might differ per direction. Already during the experiment, many different types of partners have been involved or consulted.

To involve partners, the natural first step is the network already involved in the second layer of the ecosystem: **the collaborators**.

This is all who are targeted to be directly involved in the diffusion of the spill-over through network, access, influence, participation, investment, or otherwise.

The third layer of the ecosystem are **the contributors**. This is all who are needed to contribute to further developing or diffusing the spill-over through facilitation, support, specific knowledge, investment, or otherwise.



The continuous learning and reflecting part throughout the method requires that someone takes **ownership of the 'bigger' ambition** within the artistic experiment. At **In4Art**, we take this role upon ourselves as co-producer within art-driven experiments to actively push for spill-over impact options. The process requires feedback and discussions with various partners and parties involved in the trajectory, that are part of the supporting ecosystem map.

Innovation cannot be achieved alone.

Or, as Kevin Ashton said:
'the hardest part is not having an idea, but saving it'.

PESETABS shows the areas in which the project experiment outcomes could have an impact. The next step is to **activate the identified spill-over potentials by building the right network** of partners to develop, cultivate and distribute.

In4Art

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In4Art is a European-focused independent organisation for artistic experimentation and responsible innovation in the fields of food, manufacturing, health, and biodiversity.

IN4ART.EU