VInnovate Call 2025 – Guide for Applicants

This Guide for Applicants is the main practical reference document for preparing and submitting VInnovate 2025 proposals.

N.B: Persons with reading disabilities can contact the VInnovate Secretariat (vinnovate@s3vanguardinitiative.eu)

Table of Content

1. Intro and background- Grants available for supporting interregional projects

VInnovate Call 2025 will support the implementation of **interregional collaboration projects (TRL6-TRL8[1])** through the issuing of grants. The call aims at enabling the development and deployment of SMEs-led solutions, directly contributing to the transitions towards a more sustainable, a smarter or a less dependent industry. Interregional cooperation is very often instrumental in developing such complex solutions, connecting expertise and technologies across borders.

As detailed in chapter 2, projects consortia will be composed of at least one **SME cooperating** with either other SMEs, Large Companies, Universities, Research/Facility centres or Research and Technology infrastructures. The scope of the supported projects will be thematically linked to at least one of the current **8 pilots of the Vanguard Initiative** (see chapter 2 for more information).

VInnovate Call 2025 is the second Call issued through the VInnovate Mechanism. The VInnovate mechanism has been developed[2] by the Vanguard Initiative (VI) and its participating regions. The strategic objective is to offer appropriate and timely funding opportunities for the implementation of industry-led and strategic interregional projects, therefore fully realising VI ambition.

As detailed in chapter 4, the **following key milestones characterise the submission process**:

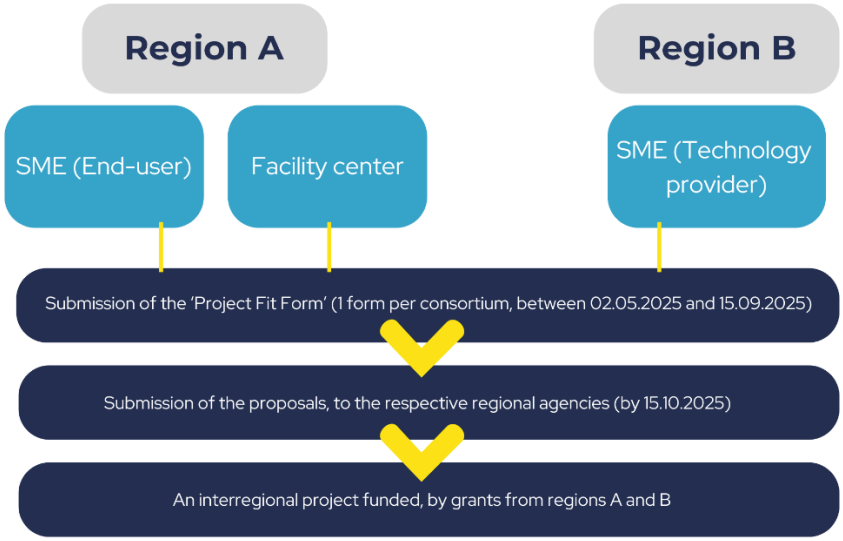
- First, an interregional consortium must elaborate and submit a **'Project Fit Form'** (during the period 02.05.2025-15.09.2025).
- Then, pending a positive assessment made by the VInnovate Secretariat, each applicant from the consortium will submit, by no later than 15.10.2025, the project **proposal to its respective regional agency, and following the corresponding regional instrument's requirements**.
- The project is **selected for funding if all regions involved do select the project for funding** (see chapter 4).

The figure below illustrates the submission process and associated funding logic, based on a **purely illustrative (!) example**. Note that such an example does not provide any indications in terms of e.g. types and optimal number of participating partners, nor in terms of optimal number of regions. See chapter 2 for more information regarding the projects requirements and eligibility criteria.

[1] See here for a definition of Technology Readiness Levels (TRLs).

[2] Following a project coordinated by IDEA Consult, which included the following analyses: funding needs of VI pilots, current interregional funding landscape (including review of initiatives like from IRA-SME, ERA-Learn, etc.), preferences and ambitions of regions in terms of mechanisms, operationalisation of preferred option.

An illustrative (!) VInnovate 2025 project generation



2. VInnovate Call 2025 Projects requirements

2.1. Targeted beneficiaries

The following eligibility criteria will hold for VInnovate Call 2025 projects:

- The VInnovate beneficiaries must be located in a VInnovate call 2025 member region/country (*namely East NL (Gelderland and Overijssel provinces), Norte, Lombardy, Noord Brabant, North East Romania, Galicia, Lower Saxony, Emilia-Romagna, Lower Austria, Wales, Basque Country*). Every VInnovate applicant will have to comply with requirements of the regional/national instrument to which the beneficiary is applying (available here), as well as with the VInnovate criteria described below.
- The project consortium can be eventually complemented with additional partners ("associated partners"); not funded through instruments activated in VInnovate 2025. Such associated partners should therefore secure other funding sources (private, regional, etc.).
- Each project consortium will be composed of VInnovate beneficiaries (excl. "associated partners") complying with the following criteria:
    - at least 2 organisations located in 1) at least 2 distinct VInnovate Call 2025 member regions/states (see list above) AND 2) at least 2 distinct countries (namely Italy, Austria, Germany, Spain, the Netherlands, Wales, Romania, Portugal). This implies that, beyond 'interregional cooperation' (i.e. every project must be composed of at least two organisations located in at least two different regions), each project must promote 'international cooperation' (i.e. every project must be composed of at least two organisations located in at least two different countries);
    - at least one SME (following EC definition available here).

In addition to one or several SMEs, a VInnovate consortium can potentially be composed of Large Companies, Universities, Research/Facility centres or Research and Technology infrastructures. **Applicants are requested to consult the description of their respective regional/national instrument (see instruments descriptions here) in order to be informed about the specific regional/national eligibility criteria in terms of the types of possible beneficiaries**. In general, and in addition the criteria above, every VInnovate applicant will have to comply with requirements of the regional/national instrument to which the beneficiary is applying. Below, you will find a general overview regarding the type of actors eligible per region.

Type of organisations eligible for funding, per region

SMEs	Large companies	Universities	Research / facility centers
• East NL (Gelderland and Overijssel provinces) • Noord Brabant • Basque Country • North East Romania • Norte • Lower Austria • Emilia-Romagna • Lower Saxony • Galicia • Wales • Lombardy	• East NL (Gelderland and Overijssel provinces)* • Noord Brabant * • Lower Austria • Galicia* • Wales • Lower Saxony*	• East NL (Gelderland and Overijssel provinces)* • Noord Brabant* • Norte* • Emilia-Romagna • Lower Saxony* • Galicia* • Wales • Lower Austria • Lombardy* (TBC)	• East NL (Gelderland and Overijssel provinces)* • Noord Brabant* • Norte* • Emilia-Romagna • Lower Saxony* • Galicia* • Wales • Lower Austria • Lombardy* (TBC)

*** In cooperation with at least one SME from the region**

For an overview of the instruments please visit the instruments descriptions here.

2.2. Supported activities: types, costs and duration

- VInnovate Call 2025 will support activities at TRL6, TRL7 and/or TRL8, i.e. VInnovate will support post-prototyping activities[3].
- The total project costs will be of minimum 100.000 € project cost per project (i.e. the sum of total costs of all partners in the project must be higher than 100.000 €, for the entire project).
- The project duration will be of maximum 36 months.

In addition to such criteria, every VInnovate candidate will have to comply with requirements (for example, regarding a maximum grant amount possibly set at regional level or regarding a maximum project duration possibly shorter than the general rule above) of the regional/national instrument to which the beneficiary is applying. For an overview of the instruments please visit the instruments descriptions here.

In general, the following types of costs can potentially be eligible for funding: Personnel costs, Subcontracting costs, Purchase costs (travel, equipment, consumables), indirect costs. Applicants are requested to check the regional instrument descriptions here for a confirmation of eligible costs.

[3] While this is not the core target, activities at TRL5 can be potentially eligible for funding in a VInnovate project if a substantial part of the project activities (more that 50% of the project costs) are associated to activities at higher (post TRL6) TRL levels.

2.3. Scope

Each project will aim at developing solution(s) that will support at least one of the following transitions:

- 1) a smarter industry (*namely, the process of integrating advanced technologies, particularly digital technologies, into various industrial processes and value chains, leading to improved efficiency, productivity, and innovation)*
- 2) a more sustainable industry *(namely, the move towards a climate-neutral industry, esp. energy efficiency)*
- 3) a more autonomous/less dependent industry (*namely, reducing the European dependency on other regions for deep-tech innovations as well as for services of strategic interest)*.

In addition to the previous criteria, each project must be linked (thematically) to at least one of the 8 VI pilots: *1) Nano-/Microsystems and High-Tech Materials for Industrial Transformation; 2) Bio-Economy; 3) Efficient Sustainable Manufacturing; 4) High-Performance Production through 3D Printing; 5) Advanced Manufacturing for Energy-related Applications in Harsh Environments; 6) Smart Health; 7) Artificial Intelligence; 8) Hydrogen*. More information about **the scope of each pilot can be found in the Annex of the present document**. N.B.: should applicants have any questions or concerns regarding the linkages between their project idea and the pilots scope, they are invited to first consult the Annex of the present document and then, if needed, contact the pilots leads, whose contact details are indicated on the respective webpages.

In addition to such criteria, every VInnovate candidate will have to comply with requirements of the regional/national instrument to which the beneficiary is applying. For an overview of the instruments please visit the instruments descriptions here.

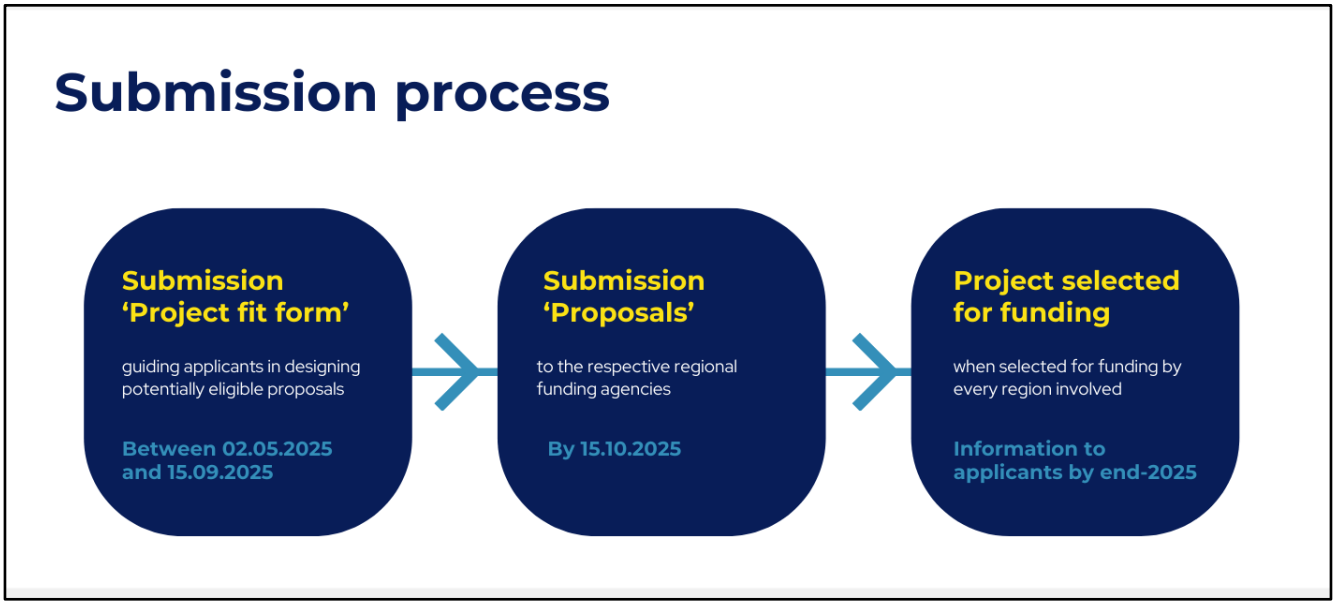
3. Timeline VInnovate Call 2025

Below, the timeline is presented. Please consult chapter 4 for information about processes and requirements at every main step.

- 2nd of May 2025 (17:00 CET): Opening of the Call
- 15th of September 2025 (23:59 CET): Closing of the submission of the "project fit form"
- 15th of October 2025 (23:59 CET): Closing of the submission of "full" proposals
- 18th of December 2025: Communication results to applicants
- December 2025/February 2026: Signing of consortium agreement and funding negotiations, according to the respective regional/national rules, if necessary.

4. Application Procedure and Funding

The figure below provides a description of the main application steps. Prior to these steps, VI Pilots activities will facilitate the generation of project ideas. All relevant steps are then being described more in details.



4.1. Step 1 – Being supported in designing a project idea and consortium (optional)

Potential applicants (especially SMEs) will receive supports towards elaborating possible proposals in the form of activities organised by VI Pilots and the VInnovate Secretariat.

More specifically, the following activities and tools are made available:

- VInnovate Call 2025 Projects Generations Webinars are organised. Please note that the dates of the first two "**VInnovate Projects Generations" webinars** are fixed:
    - VInnovate Call 2025 Projects Generation Webinar n°1 - May 22, 2025 (11.00-12.30 (CET)). Stakeholders are invited to register here (stakeholders can express their interest in putting forward (during a short presentation) a possible 'VInnovate Call 2025 project idea', in order to identify relevant complementary partners).
    - VInnovate Call 2025 Projects Generation Webinar n°2 - June 17, 2025 (11.00-12.30 (CET)). Stakeholders are invited to register here (stakeholders can express their interest in putting forward (during a short presentation) a possible 'VInnovate Call 2025 project idea', in order to identify relevant complementary partners).
- An **online matchmaking tool** is made available and will enable stakeholders to express interest and publish possible project ideas, towards identifying relevant partners or ideas. See here. Any organisation active in one of the 8 pilots' scope can create a profile, express interest in the VInnovate Call 2025 (incl. detailing type of partners they are looking for) and/or contact organisations already having expressed interest on the page.
- **Projects generation-activities will be organised by VI Pilots**. More information about each pilot can be found in the Annex and here. In every of the 8-pilots dedicated webpages, possible applicants will find the contact details of the pilot lead: applicants are invited to contact targeted pilots leads in order to 1) receive more information about upcoming projects generation activities and 2) eventually ask further information about the thematic focus of a given pilot, to guarantee alignment between a project idea and a pilot's scope.
- Finally, applicants can **contact the VInnovate Secretariat** (vinnovate@s3vanguardinitiative.eu), acting as helpdesk. Applicants can also directly consult the FAQ document available here.

4.2. Step 2 – Submission of VInnovate 'Project Fit Form', between 02.05.2025 and 15.09.2025

The 'Project Fit Form' template is available here. This short form must be filled-out (1 form per consortium), signed by the consortium partners, and sent as an attachment to the following email address vinnovate@s3vanguardinitiative.eu, by the interregional project coordinator[4] of the project. Any project fit form (dully completed and signed) must be submitted before 15.09.2025 (23:59 CET). We **encourage applicants to submit their 'Project Fit Form' as soon as possible**: this will give them more time to prepare the actual proposals (see step 4 below).

This is a compulsory step aimed at facilitating the generation of potentially eligible project ideas. In particular, the form will guide applicants in fulfilling the VInnovate Call 2025 eligibility criteria (through 'self-declaration statements') and in establishing potentially eligible international consortium.

4.3. Step 3 – Assessment Project Fit Form, in no more than 10 working days

During the period 02.05.2025-15.09.2025, any submitted Project Fit Form will be assessed, by the VInnovate Secretariat, in no more than 10 working days. This assessment will focus on the VInnovate eligibility criteria and on ensuring that there is no major inadequacy identified between the partners, their activities and the targeted regional funding instruments. Such assessment does not encompass an evaluation of the quality of the proposed project nor a proper and binding regional eligibility check, which will be performed in steps 4 and 5.

Following the assessment, the applicants will receive an email from the VInnovate secretariat informing them about the outcome:

- In case of positive assessment, 'regional' proposals (see step 4) can be submitted (of course, the preparation of those proposals can start earlier). A positive assessment should not be considered as an indication of a selection for funding (see steps 4 and 5).
- In case of a negative assessment, modifications to and resubmission of project fit forms are possible (before 15.09.2025 (23:59 CET).

4.4. Step 4 - Submission of proposals to the respective regional funding agencies

Once the 'project fit form' was positively assessed, applicants can proceed with the submission of 'regional proposals' (i.e. full proposals to be submitted, by every partner, to their corresponding regional/national agencies). The key features (content-wise) from full/regional proposals must remain stable/identical compared to the content from the Project Fit Form. In particular:

- The scope/topic (technologies, application areas) and general objectives/ expected impacts of the project must remain identical.
- The selected 'international' coordinator must remain in the consortium.
- The key characteristics of the project that enabled its 'positive assessment', at 'project fit form' level, in terms of alignment with the VInnovate Call 2025 criteria (international dimension, consortium characteristics, etc.) must

[4] The interregional project coordinator will be the main contact point between the VInnovate Secretariat and the interregional consortium. The coordinator must submit the signed 'project fit form' to the VInnovate secretariat. Each VInnovate Call 2025 consortium is requested to select one coordinator.

remain unchanged[5]. This implies that there must be a stable basis, which will not be subject to changes, and which guarantees to comply with VInnovate call 2025 criteria[6].

Each applicant will provide the information requested by the corresponding regional instrument, following the requests and procedures at regional/national level (which can be consulted online here and on the respective instruments webpages).

This implies that the distinct 'full proposals' (submitted, by partners of a single VInnovate candidate project, to distinct regional agencies) will be based on a similar/shared 'interregional' content: e.g. the description of the project's scope and main activities, the set of partners, the overall impacts, etc. In addition to this, partners might be requested to provide (to their funding agency) additional specific information, taking into account possible specific regional requirements.

Regional proposals will have to be submitted by 15.10.2025 (23:59 CET) at the latest.

Each applicant must attach to the regional proposal, a draft consortium agreement (unsigned). A template of consortium agreement is available here and must be adapted.

4.5. Step 5 – Evaluation, decision and communication

Following the implementation of the evaluation processes in place at regional level, a project is selected for funding when all regions involved in the project had selected the project for funding.

Information about the list of projects selected for funding will be communicated in the second half of December 2025.

4.6. Step 6 – Agreements, Contracts, Funding and Monitoring

Selected consortia will then have to **sign the consortium agreement**. The consortium agreement will regulate aspect such as the 1) identity of the partners, 2) contract period, 3) IPR ownership, IPR use and exploitation of the project results, 4) subcontracting to third parties, 5) contributions of each partner to the project, 6) confidentiality notes and freedom of publications rights. The consortium agreement is to be signed after the project has been selected for funding, and before applicants sign their actual contracts with the respective funding agencies. The complete set of signatures on the consortium agreement is a prerequisite for funding.

Funding will be provided to each partner/beneficiary by their corresponding national/regional funding agency according to its respective rules. Matters related to funding will be handled according to the respective national/regional agencies 'rules. Projects will be monitored according to the rules of the respective country/region. Hence, technical as well as financial reporting will be required according to national/regional rules as well. Arrangements will be made during the funding negotiation process. Projects selected for funding are expected to **start their activities no later than 3 months** after the funding decision was confirmed.

[5] Should a consortium face a situation where changes to consortium composition is needed (such as adding or removing one consortium partner, without affecting main eligibility criteria), such changes will only be possible if: 1) A communication is sent to inform the VInnovate Secretariat and their corresponding regional agencies before the submission of the full proposals to corresponding regional agencies. AND 2) The regional instrument/call guidelines (for step 2) are not hampering such changes. In particular, some regions would make the addition/withdrawal of one partner from the consortium impossible. Such constraints will be indicated in the 'Regional Instrument Description' and will be reminded to applicants where necessary.

[6] For illustrative purposes, a situation where only one organisation would remain identical between Project Fit Form level and Full proposal level would be rejected, since there is in that context no 'stable' basis that enables to comply with the criteria of 'international cooperation'. Such minimum basis, which guarantees alignment with VInnovate Criteria 2025, cannot be modified.

5. Annex – The description of the VI Pilots scope

1. Bioeconomy Pilot - Interregional cooperation on innovative use of non-food biomass

Thematic coverage of the pilot

The bioeconomy pilot project aims to create transregional value chains through the innovative and sustainable use of renewable resources to produce high-value-added organic products and food, feed, and fibre. The second-generation biorefineries, involving a mix of cutting-edge technologies with a high potential for innovation and added value, constitute one of the strategic pillars of the Pilot demo cases. The long-term bioeconomy pilot project aims to stimulate innovation in the Vanguard Initiative regions, leverage their bioeconomy industrial ecosystem, trigger new business opportunities, attract private investment, and improve adoption by part of the market for sustainable business models. The **thematic priorities** of the Pilot concern the following areas:

1. CIRCULAR BIOECONOMY AND BIOECONOMY MANAGEMENT. Promote the market diffusion of organic products and regional implementation policy tools, and develop value chains capable of overcoming regulatory barriers and technologies to increase the value and presence of bioproducts in the market.
2. GREEN CHEMISTRY. Products and processes for the replacement and/or reduction of the use of rare, toxic and polluting substances and reducing energy consumption.
3. BIOREFINERY AND ADVANCED BIOFUELS. Creation of biorefineries for the integrated production of value-added products from no-food crops and waste biomass

Current focal points

1. lignin-based aromatic molecules aimed at creating interregional value chains to produce innovative materials
2. lignocellulose bulk and fine chemicals based on the biorefinery concept
3. liquified natural gas for sustainable mobility
4. biopolymers/bioplastics materials based on a market pull approach

Possible VInnovate projects beyond the 'current focal points'?

Yes, any VInnovate 2025 projects linked to the Bioeconomy Pilot may be, thematically, outside the scope of the "current focal points", but must therefore be aligned with the overall "thematic coverage**"**

2. VI 3DP Pilot - HIGH PERFORMANCE PRODUCTION THROUGH 3D-PRINTING

Thematic coverage of the pilot

The pilot focuses on the development and deployment of 3D printing (or Additive Manufacturing)-related solutions. The pilot covers all available printing technologies(powder bed fusion, etc.) and materials. The pilot covers all segments of the value chain: modelling and design, materials, machinery & equipment, process, post-processing, etc.

Overall, the pilot covers, thematically and potentially, any project directly contributing to improving (productivity, sustainability, quality, etc.) industrial printing processes/solutions/parts.

Current focal points

Currently (May 2025), the following structural areas of cooperation are being addressed. While it will be easier to find collaboration partners within our community on these areas of cooperation, do note however that, in the context of VInnovate 2025, the pilot is open to any project possibly not fitting with the areas below, but aligned with the description under section 'thematic coverage of the pilot':

<u>Specific Industrial challenges structurally addressed (for all application areas):</u>

- Increasing life of parts (repairing, maintenance)
- Lighter components (hybrid components)
- Smart AM for sustainable production
- Improving finishing (Automated removal and smoothing parts)
- Automatization of AM factories

<u>Specific application areas structurally addressed:</u>

- Materials: Ceramics; Bio-based; Multi-materials
- Sectors: Healthcare, Robotics
- Parts: Large parts, Parts with integrated electronics

Possible VInnovate projects beyond the 'current focal points'?

Yes, possible 3DP-related VInnovate 2025 projects can be, thematically, outside the scope of the "current focal points", but need then to be aligned with the general "thematic coverage".

3. ADMA Energy - Advanced Manufacturing for Energy-Related Applications in Harsh Environments

Thematic coverage of the pilot

The Pilot focuses on promoting the development and creation of new value chains in the growing renewable offshore energy and subsea industry. The pilot covers all advanced manufacturing technologies across traditional and emerging sectors and technologies – as well as disruptive innovations related to design, functionality, integration, automation, material, data transmission, in the renewable offshore energy and subsea industry. Overall, the pilot covers, thematically and potentially, any project directly contributing to improving manufacturing of components, application, product and services in the renewable offshore energy.

Current focal points

Currently (April 2025), the following structural areas of cooperation are being addressed:

Power transfer in the Sea.

- Integration of power sources – Linking offshore oil and gas operations to offshore renewable energy sources. Specifically, general powering of platforms, local powering of small sub-sea units and local power and process modules for sub-sea operation.
- Use of offshore energy to produce alternative energy vectors (eg hydrogen, ammonia, etc) – Offshore production and storage. Specifically Offshore Green Hydrogen & e-fuels.

Critical technologies to improve the lifetime, operation and maintenance, efficient decommissioning and increase the circularity of offshore energy system:

- Improving and optimisation of anchors and moorings (eg. anchor mutualisation, mooring redundancy)
- Joining of large component in harsh environment (bolted connections, composite/steel joint, adhesive joining
- Development of improved and more damage-tolerant materials (eg composites, bio-based fibres and resins)

Integrated digital tools for extended lifetime and profitability of offshore wind farms

Possible VInnovate projects beyond the 'current focal points'?

Yes, the pilot covers, thematically and potentially, any project directly contributing to improving manufacturing of components, application, product and services in the renewable offshore energy.

4. VI Artificial Intelligence Pilot - Advanced Manufacturing for Energy-Related Applications in Harsh Environments

Thematic coverage of the pilot

The Pilot focuses on the development of joint solutions in the broader field of Artificial Intelligence, and the deployment of solutions, services and products across the different industrial ecosystems of the Pilot's participating regions.

While focusing on industrial application of AI, the AI Pilot is open to demo cases and projects covering the whole (industrial) AI value chain, including data, resource and processes optimization, HMI etc.

Current focal points

Currently, the AI Pilot has three on going Demo Cases.

1. AI DEMO LAB GRID

The Demo case focuses on the establishment of an interregional Grid of laboratories providing last-mile services to industry and SMEs in the field of AI.

2. AI for Resource Efficiency

The objective of this demo case is an AI-bases process optimization with regard to energy and resource efficiency. The main goals are: (1) optimisation of process ramp-up (technical development) of new products and after changes in production stream and (2) monitoring and optimization of the running production processes.

3. AI Reference Use Cases Across EU Regions

An inter-regional catalog of AI assets, solutions and use cases is proposed to highlight existing European AI initiatives in the regions involved. It is proposed that the use cases that integrate it are classified in relation to their functional approach (Optimization, Prediction, Quality, Assistance, Generative AI) and provide relevant information on the objectives, Business Case, Use Case, infrastructure, technologies used, data, resources, challenges, business KPIs, funding and collaborations. The ambition is to include use cases of high TRL and oriented to industrial agents in sectors prioritized by the European initiative National and Regional Strategies for Smart Specialization (RIS3), advanced manufacturing, energy and health.

Note however that, in the context of VInnovate 2025, the pilot is open to any project possibly not fitting with the areas below, but aligned with the description under section 'thematic coverage of the pilot" and – given the transversal nature of the technology - also aligned with other Pilots such as 3DP, HMI, Smart Health etc.

Possible VInnovate projects beyond the 'current focal points'?

Yes, possible AI-related VInnovate 2025 projects can be, thematically, outside the scope of the "current focal points", but need then to be aligned with the general "thematic coverage".

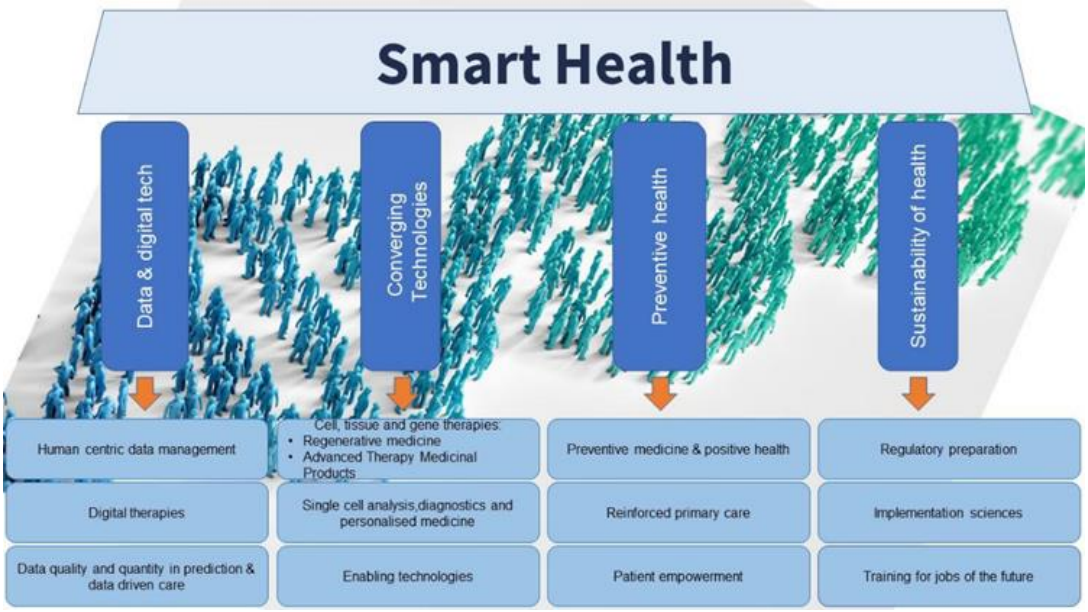
5. VI SMART HEALTH PILOT

Thematic coverage of the pilot

The development of personalised medicine (PM), stratified or precision medicine is an evolution that cannot be stopped anymore. PM is strongly technological driven and will induce a transformation of how health and wellbeing are approached, and medicine is being implemented. The convergence of knowledge on what determines health and disease or how the process of ageing is determined, with digital technologies and access to data opens a huge potential to develop new applications to improve general health, wellbeing, and will make preventive medicine reality.

Current focal points

The figure below outlines the priority areas of the Smart Health pilot and the topics of interest where new project ideas are welcome. The pillars highlight the broad topics of interest for the Smart Health pilot while the boxes below indicate more concrete ideas for new demo case projects.



The first pillar – data and digital technologies – is largely about observation, measurement, data collection, data capture, analysis and most importantly synthesis leading towards decisions. These decisions have to be precise and effective.

The second pillar – convergence of technologies – is about adding and combining state-of-the-art technologies, using them to create more insights as well as new therapies or diagnostics.

The third pillar – preventive health – is stemming from the understanding that it's better to keep people healthy than to restore health. Health is not solely an aspect of the body, but also of the mind.

All of these factors need to converge in order to maintain health. The patient needs to be empowered, aware of the importance of prevention, have easy access to primary care, and have tools that will support his own desire to stay healthy, which leads to the fourth pillar – sustainability of health.

Possible VInnovate projects beyond the 'current focal points'?
Yes, possible Smart Health/PM-related VInnovate 2025 projects can be, thematically, outside the scope of the "current focal points", but need then to be aligned one of the four pillars of the pilot.

6. VI Hydrogen Pilot (H2)

Thematic coverage of the pilot
The Hydrogen Pilot aims to strengthen all segments of the European hydrogen value chain by promoting interregional collaboration among industrial actors, academia, and research and technology organisations (RTOs). It focuses particularly on fostering new business relationships, with an emphasis on SMEs and startups.

Current focal points
The following structural areas of cooperation are currently being addressed. In the context of VInnovate 2025, the Hydrogen Pilot remains open to projects that may not fall directly within the areas listed below, provided they are aligned with the thematic coverage described above:

- **H_2 for Decarbonising Carbon-Intensive Industries** (e.g., innovative H2 applications across various sectors)
- **Logistics, Storage, and H_2 Transportation** (e.g., new technologies for H2 transportation and dispensing, high-pressure composite storage and tanks, hydrogen compression technologies)
- **Interregional Collaboration for H_2 Development** (e.g., one-stop-shop platforms, matchmaking activities, online collaboration platforms)
- **H_2 for Mobility Applications** (e.g., advanced H2 refuelling technologies, portable and flexible solutions, fuel HRS - Hydrogen Refuelling Stations – development, cryogenic and compressed storage, certification processes)
- **Technologies for Clean H_2 Production** (e.g., cost reduction, increased efficiency and flexibility in hydrogen production through electrolysis and other renewable-based technologies)

Possible VInnovate projects beyond the 'current focal points'?
VInnovate 2025 projects can be, thematically, outside the scope of the "current focal points", but need to be aligned with the general "thematic coverage" as:

- Development of more affordable fuel cells
- Biohydrogen production technologies
- Applications for energy, steel, cement, refinery, chemicals sectors, including CCU/CCS solutions
- Hydrogen for aviation applications

7. EFFICIENT AND SUSTAINABLE MANUFACTURING

Thematic coverage of the pilot
The pilot focuses to integrate a multidisciplinary set of advanced and innovative enabling technologies and digital innovations (TRL7/8) and to exploit the regional Smart Specialization sinsynergic way to offer services to European end-users, mainly manufacturing companies, to solve specific industrial challenges related to their products.

Current focal points
Currently (April 2025), the following demo cases are running:

- De- and Remanufacturing: Technologies and business models for circular economy to re-use, remanufacture and recycle products and materials in all sectors.
- Polymer-based functional products: Advanced sustainable surface treatments and material technologies for functional polymer components in various applications.
- Digital Transformation: “Industry 4.0” technologies applied to manufacturing environments to realisehighly performing and human-centreddigital/virtual factories.
- Energy-flexible and resource-efficient factory operation: Technologies and methods to optimize energy/materials consumption in manufacturing processes and to realize emission-neutral factories.

Possible VInnovate projects beyond the ‘current focal points’?

Yes, possible ESM-related VInnovate 2025 projects can be, thematically, outside the scope of the “current focal points”, but need then to be aligned with the general “thematic coverage”.

8. Nano-/Microsystems and High-Tech Materials for Industrial Transformation

Thematic coverage of the pilot

The pilot wants to connect and support stakeholders of the key enabling technologies (KETs) in the area of nanotechnology, microsystems and high-tech materials.
The pilot wants to take on an wholistic approach and covers all aspects of these technology fields. Equipment and enabling technology for nanoscale technology as well as for microsystems. Also materials enabled and/or enhanced by usage of micro- and nanotechnology are covered.
The pilot links these KETs to the sustainable transformation of technology to boost the innovativeness and long term competitiveness of its regions.

Current focal points

Currently, the pilot has three active demo cases that cover the following thematic areas:

- NeMs4BIO (Nano-enabled Microsystems for Bioanalysis) wants to support bio-medical applications by providing cost-efficient and standardised micro- and nanosystems for lab on a chip and further use cases of MEMS devices
- SHM Structural Health Monitoring. This demo case brings flexible printed microelectronics into application. The technology is scalable and promising for industrial scale application on modern composite systems. The demo case is also open for further collaborations on printed electronic sensing devices
- MEMS for nano-analytiX. The demo case utilizes many nanotechnology competencies to advance chemical sensing to mobile and/or miniaturized applications

Possible VInnovate projects beyond the ‘current focal points’?

Yes, the Nano-pilot is open to new projects that match the general thematic coverage.
As the pilot is undertaking a restructuring process new projects and stakeholders are most welcome!