

VANGUARD INITIATIVE

New growth through smart specialisation

Annual Report 2023



Introduction from the Chair

In 2023 Wales have been proud to Chair the network and would like to thank all Vanguard members for the support they have provided throughout the year.

This year the network achieved a major milestone with 16 regions committing to participate in Vanguard's interregional funding mechanism VInnovate. This will provide opportunities to build on the important work our pilots are already delivering and demonstrate the commitment we have to developing interregional value chains.

Alongside the VInnovate fund the formation of a consortia and preparation of a Horizon Europe bid for the Regional Innovation valley funding under significant time pressure was an example of partners pulling together within Vanguard and would not have been possible without the hard work and commitment from our colleagues in Emilia Romagna.

The growth of the network over the last decade is a testament to its excellent reputation and we need to continue to work in partnership to ensure that the network can meet the needs of a diverse membership.

Wales would like to thank Scotland, Flanders and Aragon for the work they have done over the past 3 years as board members and welcome Lombardy back to the board. Wales will step down as Chair this year but remains committed to the network and will take an active role on the board.

Finally, Wales would like to give special thanks to the Secretariat for all the hard work they put in to ensuring the network remains focussed and continues to deliver on our shared objectives across Europe.

Gavin Lewis, Welsh Government - VI Chair 2023



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Task Groups' Activities

Policy Influencing Task Group

The main target of the TG is to influence the EU policy agenda by providing policy input material and organising policy influencing activities in those areas of policy that are most important to creating the conditions that enable our pilot projects to flourish. Several activities were developed along those lines in 2023 that was marked by a growing attention for interregional collaboration.

As member of the **I3 expert group** which assist the EC in the I3 work programme preparation, VI has developed several inputs to feed in the discussion about the work programme preparation and the continuous co-design of the tool. 1 meeting of the expert took place in 2023, and the contributions of the VI were prepared within the PITG subgroup supporting the VI representative in his assignment. Inputs were also elaborated in close coordination with VPM, with the feedback of pilots involved in the first calls.

Several members of the PITG are represented in the **S3 Community of practice** working group on interregional collaboration. A presentation of Vanguard was made at the meeting of the WG in Barcelona in November, where VI was also invited to present at the S3 Forum.

The PITG was also involved in the **PRI project**, participating in the activities organised by the European Commission, contributing to interviews and exchanges with the JRC, but also supporting some activities (e.g acting as rapporteur for the PRI workshop in February). A Vanguard representative was invited to take the floor at the High Level event “From Playbook to Implementation” in March 2023. The VI signed the joined declaration of the PRI territories and contributed to the final Action book published early 2024.

Some position lines were also defined by the PITG regarding **Horizon Europe**, allowing to provide a contribution to the public consultation organised in February 2023. In addition, the PITG participated to a meeting with the CoR rapporteur on FP 10 preparation, as well with consultants mandated by DG RDT for evaluating the European Innovation Ecosystems part of Horizon Europe. A VI speaker was also invited to the matchmaking event organised in relation to the Regional Innovation Valleys calls.

In the context of the EU industrial Strategy, VI is a member of the **Industrial Forum**. Ms. Cristina Oyon from the Basque Country is the VI representative in this expert group. The Policy Influencing TG is supporting the VI representative for its active participation in this Forum. The VI is represented in different the sub-groups, dealing with different topics such as cross-border and cross-ecosystem investment needs, transition pathways, strategic dependencies, or the uptake of advanced manufacturing processes by EU industry. In 2023, the VI representative has pursued the follow-up of the work in this forum.

Finally, the PITG has put forward a VI candidate for the new **expert group on Technology Infrastructures** that will be put in place by the Commission to inform the policy developments on this topic.

Vanguard Pilot Monitoring

The Vanguard Pilot Monitoring (VPM) Task Group acts as a coordination mechanism providing horizontal support and oversight to the ongoing (more vertical) activities of the current VI Pilot Projects.

VPM activities can be distinguished between those having a more internal dimension, and those with a predominantly external orientation.

On the internal side, VPM serves as a “safe space” for trusted mutual learning between co-lead regions who report on the progress of their Pilot Projects and on the difficulties they face in the further development. During 2023, VPM explored a series of topics which are of common interest in the development and management of a Pilot Project. Such issues of mutual learning included “industry friendly language and communication”, “sharing pilot successes”, “integration of new regions and stakeholders in activities”, “collaboration with non-VI partners” and “working with companies”.

Regarding the topic of working with and better servicing companies, VPM has been instrumental in guiding and shaping the process to extend the use of the “Gateway” – the online Business to Business matching platform – beyond the 3D Printing Pilot Project who launched it (and added new functionalities in the course of 2023) to almost all Pilots. 2024 will be the year of actual implementation of this extension.

The Task Group continues to serve as a good platform between the association and the Pilot Projects to ensure all formalities (reporting, payments, etc.) are organized in a smooth way, also and especially for the newer Pilot Projects such as “Hydrogen”.

VPM plays a prominent role in the Vanguard Initiative’s overall activities on funding, both internally (looking at possibilities offered by the VI regions themselves) and externally (looking at possibilities offered by third parties, predominantly the European Institutions). While the external work has continued to get attention (also but not exclusively linked to Vanguard’s membership of the I3-Interregional Innovation Funding Expert Group of the EC), 2023 has been a crucial year in shaping “Vinnovate”, VI’s own interregional funding mechanism. VPM has been actively supporting the work of the Steering Group led by TG Cofunding & Cofinancing.

2023 was the first year of the “S3 Smart Specialisation Community of Practice” (S3 CoP), the support structure for ‘Thematic Smart Specialisation Partnerships’ (in VI terminology : Pilot Projects) to which VI is contributing via the Secretariat and Pilot co-lead region East Netherlands. During the first post-Covid conference in November 2023 in Barcelona, all Pilot Projects have been playing active roles and so have several VI member representatives in several Working Groups (‘interregional collaboration’, ‘industrial transition’ and ‘innovation diffusion’).

Lead: South Netherlands

Pilot Lead Members: Auvergne Rhône-Alpes, Baden-Württemberg, Basque Country, Catalonia, East Netherlands, Emilia Romagna, Flanders, Lombardy, Malopolska, Norte, Randstad Region, Slovenia, South Netherlands

Meetings 2023 : 8

Task Group Funding & Financing

In 2023, the main activities of this Task Group were linked with the development of the Interregional Funding Mechanism (IFM) project, subcontracted to IDEA Consult, aiming at the implementation, in 2024, of a new interregional funding instrument (or instruments) capable of supporting the core activities of VI’s Pilot Projects.

This included the following tasks (among others):

- Characterization of the VI pilots’ main activities and related funding needs.

- Identification and analysis of existing similar interregional funding programmes and instruments.
- Definition and validation, with the core regions, of the most relevant guiding principles applicable to the new funding instrument.
- Definition of 4 main scenarios for the new funding instrument, corresponding to different levels of collaboration and commitment from the participating regions.
- Feasibility study of the funding scenarios with the core regions and definition of a first draft of the new funding instrument.
- Detail discussion of the new funding instrument with the core regions and definition of its terms of reference and name: VINNOVATE.
- Definition of the VINNOVATE implementation roadmap, including the Letter of Intent (LoI) and Memorandum of Understanding (MoU), to be signed by the participating regions.
- Dissemination and mobilization of other (than the core) VI regions, aiming at enlarging the number of participating regions.
- Second round of discussion and validation with the enlarged group of participating regions.
- Signature of the LoI by the 16 participating regions.
- Dissemination of information about the project and its main developments and results, internally and externally.
- General coordination of the project (together with VPM, the Board and the Secretariat).

Using also the work developed under the IFM project, the TG continue developing VI own «Big Picture» concept of the European funding and financing landscape. The creation of new programmes and funding instruments at European and national/regional levels (namely I3 and RIV), brought additional/complementary options to support collaborative research and innovation along the innovation cycle.

Complementary, the TG actively engaged and collaborated with the VI Board and the other TG's, particularly with VPM and PITG, in all areas considered relevant to the VI objectives and action plan.

Pilot activities

ADMA Energy

The long-term goal of the ADMA Energy Pilot remains in the creation of new value chains in the growing offshore energy industry. The ADMA pilot involves the following Regions: Asturias, Basque Country, Dalarna (and Mid North Sweden area), Emilia-Romagna, Flanders, Lombardy, Scotland, Friuli Venezia Giulia and Malopolska. Lombardy and Emilia-Romagna regions are the new co-leaders of the pilot since 2022. For 2023, the financial management of the pilot has been assured by ART-ER. External providers for technical assistance and coordination assistance have been appointed.

2023 was a year dense in activities for ADMA Energy pilot. Coordination meetings have been organised during the year, in addition to the implementation of the three demo-cases (Power transfer in the Sea; Joining of large-scale components; Next generation materials) and the organisation of other activities.

Following the success of 2022, the 2nd ADMA TECHNICAL WEBINAR took place online on February 10th, 2023. Periodic webinars are organised to exchange ideas and foster cross-pollination among involved participants within ADMA but also to open the dialogue and facilitate joint initiatives with new stakeholders within Vanguard Regions and beyond. In particular, the 2nd webinar saw the participation, as speakers, of [Fores Engineering Srl](#), [Techfem](#) and [Solartys](#).

Two study visits have been organised in 2023.

The 1st study visit was organised and hosted by Scottish Enterprise in Aberdeen, Scotland, between May 30th and June 1st June 2023. It saw the participation of around 100 people belonging to ADMA Energy pilot members, staff from Scottish Enterprise, organisations from partner regions, speakers and local participants. The group included a good mix of representatives from business, education and policy, all of them are active in the field of offshore energy. The study visit included moments with technical presentations and on-site visits. Technical presentations of the offshore wind policy and projects in Scotland. of the hydrogen and marine energy policy and projects in Scotland and activities of Scottish offshore energy companies were given. Participants were involved in a Vessel trip to view [Kincardine Offshore Wind Farm](#).

The 2nd study visit was organised in collaboration with the hydrogen pilot and hosted by the Malopolska Region during the Hydrogen Pilot Summit on October 5th, 2023. This study visit is part of a bigger project called Strengthening Hydrogen Ecosystem through Cross-Regional Collaboration and Innovation, which aims to promote interactions and collaboration among the regions involved

in the Pilots within the Vanguard Initiative. The morning of the first day was dedicated to a visit at [Lukasiewicz Research Network - Institute of Ceramics and Building Materials](#). Partners had a chance to visit one of those centres located in Krakow, the Institute of Ceramics and Building Materials. In the afternoon participants visited the [Municipal Transport Company](#) in Krakow. Year by year, there is an increase in modern and zero emission transportation, including a fleet of hydrogen buses along with a charging station located at the company's premises. The visit ended up with a visit at [Krakow Technology Park](#) during which participants were acquainted with the activities and services offered by the park.

ADMA pilot partners contributed to the communication initiatives and participated in events organised by the Vanguard Secretariat such as the MTR event 2023 organised in Brussels on September 14th and 15th, 2023. ADMA Energy pilot was presented at the matchmaking event organised during the OMC Fair in Ravenna on October 24-26th, 2023 and at the Ecomondo Fair in Rimini on November 7/10th, 2023. ADMA was invited to the Smart Specialisation (S3) Forum 2023 in Barcelona (November 28th, 2023) to share the pilot experience and discuss the Community of Practice.

Opportunities on funding opportunities were investigated. ADMA Energy Pilot was invited to present a letter of support for the project proposal "I3FLOAT" submitted in the framework of an I3 call by the Basque Energy Cluster in collaboration with SIRRIS. Additionally, synergies have been created with the project Willow in which Basque countries and Flanders are involved. Finally, ADMA partners have started to work on their governance structure.

Artificial Intelligence

The AI Pilot underwent some significant restructuring in year 2023. During 2023, in fact, the Basque Country joined the co-leadership of the Pilot through its regional Artificial Intelligence agency BAIC (Basque Artificial Intelligence Centre).

As stated in the Pilot's Action Plan, year 2023 was key in pivoting toward a more platform-oriented approach, to provide a recognizable, reliable and efficient platform for the participating regions to build interregional value chains around AI champions and (already existing) initiatives within the regions. This is also why the AI Pilot restructured its Demo Cases landscape, with one new demo case established in 2023 by BAIC ("AI Reference Use Cases Across EU Regions").

Opening its activities to the wider public was also one of the focus of the Pilot in 2023, with the participation at a range of regional and international events (such as the Basque Open Industry Days 2023 - Annual Event AI Pilot 2023 and Cluster meet Regions 2023 Düsseldorf, Summit Künstliche Intelligenz 2023, Green AI Day Stuttgart and Regional Innovation and Manufacturing Industry: the role of AI in European SMEs Digital Transformation) and the participation in the next phase of the Gateway, which was started in 2023 and which will be fully implemented in 2024.



The AI Pilot 2023 Annual Event hosted by the Basque Open Industry Days.

There were three Demo Cases operating in 2023. AI DEMO LAB GRID led by ART-ER Emilia-Romagna was put on hold due to internal reorganization and was also acknowledged the (Re)Scoping service from S3 CoP to be implemented in early 2024. The AI for Resource Efficiency Demo Case successfully developed its second demonstrator to classify morphotypes automatically using AI; the third Demo Case “AI Reference Use Cases Across EU Regions” was launched officially in Q4/2023 and presented to the partnership by its leader BAIC.

In terms of outreach and relations with other existing initiatives, the Pilot started the discussion with the AI, Data and Robotics Association (ADRA) to identify possible joint cooperation opportunities. The AI Pilot is currently leading initial talks with ADRA given the thematic proximity, with the objective of scaling next steps at cross-pilot and Association level.

Regarding the participation to call for proposals and other funding opportunities, the AI Pilot partnership was involved in the preparation of one HE proposal through Demo Case 2 leader DITF and an I3 Proposal lead by Oost NL. Initial works for additional HE proposals with deadline 2024 were initiated as well.

Bioeconomy

Since its start in 2014, the Bioeconomy Pilot has engaged in interregional cooperation to develop new value chains, share innovation, and strengthen regional economic opportunities by unlocking the potential of biobased resources.

Led by the Randstad and Lombardy regions, the Pilot promotes the acceleration of demo projects (TRL 7-8) focused on the production and commercialisation of chemicals (e.g. coatings, adhesives, glues, lubricants), biomaterials (e.g. resins, plasticisers, fibres, bitumen, biopolymers) and biofuels (Bio-LNG) from the enhancement of circular bio-based raw materials.

The main achievements of 2023 could be summarised as follows:

- *Building an interregional bioeconomy alliance by promoting stakeholder engagement in the Pilot initiatives, B2B matchmaking events and tools to shape interregional value chains.*

The Pilot organised over **10 B2B and matchmaking events** involving more than **500** experts, policymakers, companies, and investors to facilitate the financial sustainability of demo cases and interactions with initiatives in similar sectors or part of the same industry operating in Vanguard Initiatives Regions. The partnership with the **Value Chain Generator Platform (VCG.AI)**, a tool that supports the creation of entire value chains by transforming industrial biological waste materials into valuable resources, has resulted in two new EU-funded projects. The platform offers industries, research centres, clusters contacts with over **2,000 EU** companies, information on **100 technologies** for the economy, and the possibility of modelling business and commercial relationships at a regional and interregional level. **Two new EU-funded projects** will help strengthen the tool by extending the mapping to **12 new regions** and **100 new technologies**, integrating environmental, economic, and social sustainability indicators to support decision-making in building cross-regional collaborations. The synergy between the Pilot and the VCG.AI is being tested in the context of the Innovation Express Call 2024 financing measure, which mobilises regions to finance TRL 7 demo plants in the Alpine Area.

- *Demonstrate the bioproducts' large-scale feasibility production by raising public and private funds and encouraging the industrial validation of plants, services and products.*

The Pilot supported the industrial-scale validation of **two pilot plants** for the co-production of BTX (benzene, toluene and xylene) through biomass gasification and thermochemical depolymerisation of lignin in combination with a condensation phase, the further upgrading of the pilot plant depolymerisation of lignin (**LignoValue**) as well as collaboration within the **Chaplin** consortium to lead the development of bio-based asphalt. A **new partnership** eligible for the **Interregional Innovation Investment** (I3) scheme is being built to demonstrate

industrial-scale production of sustainable polyurethanes for textile and fashion, insulation, and coating applications.

- *Increase bio-based products on the market by accelerating the development of interregional demonstration projects based on regional investments (ERDF) by providing business development support, business intelligence and investment attractiveness.*

The Pilot collaborates on regional design and mobilisation in accessing the **Innovation Express Call 2024 (IEC2024)** measure, a joint call to submit proposals for cross-border circular bioeconomy projects financed by synchronising existing regional/national funding programs. The structure of the call is based on positive experiences and lessons learned from several previous Innovation Express Calls, such as in 2021, in which regions such as Salzburg (AT), Brandenburg (DE), Baden-Württemberg (DE) and Canton of Freiburg (DE) participated. CH). These Calls created new RDI partnerships between partners who had never collaborated before.

IEC2024 focuses on transregional value chains in circular bioeconomy, resources and key sectors of agriculture, food and drink, chemicals, polymers and energy. The accession of the regions does not require the provision of additional funds but **synchronisation** with existing **financing programs**, resulting in better **cross-regional integration** of the **S3**, an unlocking of the potential of the use of biomass and existing demonstration plants for the input on the market of new bio-products. The Pilot's experience designing IEC24 can represent an example that can be integrated with the **Vinnovate Open Call 2024** measure.

Efficient and Sustainable Manufacturing

Since its start in 2014, ESM Pilot is working on conceiving and developing a European networked infrastructure of pilot plants in key-areas, dedicated to advanced manufacturing. During 2023, ESM activities will be managed in continuity with the previous years, exploiting the results of previous projects to start new ones and consolidating the ongoing activities, enlarging the industrial participation and commitment.

The main achievements of 2023 could be summarized as follow:

- *Consolidation of ESM demo-cases and related use-cases*
De- and Remanufacturing demo-case continued its activities on the granted [DigiPrime](#) project and started the activities of its first I3 [DeremCo](#) project, that exploits the results of H2020 [FiberEUse](#). Another I3 application has been successfully submitted and [BATMASS](#) started in September, capitalizing the results and achievements obtained in these past years (H2020 [CarE-Service](#)) Furthermore, De-and Remanufacturing is applying for I3 call on

the recovery of critical raw materials from chips and microelectronics products. Digital Transformation demo-case, instead, progressed thanks to the activities developed within [AIREGIO](#) project and promoted the related Open Calls. It also started the HE new project [AI REDGIO5.0](#), in collaboration with AI Pilot, and the HE project [Circular TwAIn](#). Finally, Polymer-based functional products demo-case organized the annual [Smart Plastics International Congress](#) and continued the work with the IPC 3D Plastronics Steering Committee to promote inter-regional collaborations. They are successfully submitted the I3 project InCircular and started the HE [Bio-uptake](#) project.

- *Promotion and rationalisation of the participation to other EU initiatives*

ESM continuously monitors EDIH partnerships facilitating the creation of “corridors” and inter-regional collaborations through AI REDGIO 5.0 project. It also presented ESM Pilot achievements and activities as best practice establishing possible collaborations (e.g. BATMASS project with AMBP partnership) during the [S3P Steering Committee](#) of Industrial Modernization Platform. Furthermore, the Pilot exploits synergies and complementarity with other VI Pilots, in particular with AI Pilot network, through AI REDGIO 5.0 project and the inclusion of ESM events concerning AI and digital technologies (e.g. [Summit Symposium](#)) and always monitors other emerging initiatives and opportunities, such as the Regional Innovation Valleys, by establishing a direct link with the European Commission during the ESM Plenary event.

- *Ensure an efficient and effective governance and outreach*

ESM organized its 2023 Pilot event in Brussels, involving the [European Parliament](#) and the European Commission positioning Vanguard as network also at political level. It also actively participate to the VI activities, contributing to the videos, the communication plan, the website and the gateway. Finally, ESM implemented the ESM periodic newsletter (here all the publications till now: [1](#), [2](#), [3](#), [4](#), [5](#), [6](#)) for a regular, transparent, and direct communication with all Pilot stakeholders.

High-Performance Production Through 3D Printing

In 2023, the VI 3DP Pilot confirmed and reinforced its position as the main internationalisation channel for SMEs active in the field of 3DP Printing

Enabling productive and strategic connections between a continuously growing set of SMEs (both technology providers and end users) and research centres

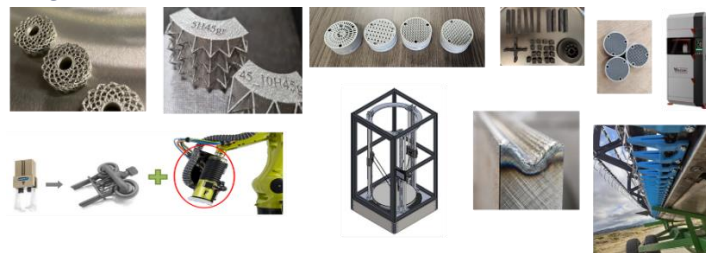
In order to efficiently connect and serve our growing community, we have improved and deployed our structural tools:

- Our increasingly used [Gateway](#) (online matchmaking tool) has been upgraded with new features to promote further needs and expertise from members (project feature, bi-weekly newsletters, etc.);
- In 2023, we have initiated the implementation of our [3DP Business Innovators Meetings](#) (3DP BIM), with 3 meetings organised in 2023: in total, more than 40 SME leaders pitched needs and expertise to a cumulative number of more than 180 participants. More importantly, this led to several cooperation being initiated, leading to new demonstration projects implemented. One of the meeting took place in Vienna / Lower Austria, offering inspiring companies visits.



Enabling the implementation of SMEs-led demonstration projects, towards market deployment

The I3 VI 3DP Pilot project (i.e. the [3DOP](#) project) started in January 2023. With a € 10 million grant (of which 70% is dedicated to investment in SMEs), the VI 3DP Pilot is contributing to lowering cost of metal printing, automate AM factories, electronics printing, improving repairing techniques, etc. We are therefore continuing to directly enable the development and deployment of actual industrial solutions for the EU strategic transitions.



Directly contributing to shaping industry-driven future oriented EU policies

The VI 3DP Pilot has been successful in participating and contributing to the industrial policy debate in 2023. This included the organisation (together with EFFRA and CECIMO) of a high level session during the EU Industry Days as well as the preparation (with CECIMO, AM Platform, EWF, etc) of a strategic document aimed at influencing EU policy for the years to come. We also actively worked on breaking technological silos (e.g. by opening our online tool to other technological fields/VI pilots), to develop the complex solutions needed by the industry.

New Nano-enabled Products

The mission of the Nano Pilot is to build new interregional value chains, as well as strengthening existing ones, that bring nanotechnology-enabled products or manufacturing processes to the market.

The pilot project aims to further develop open research facilities and to connect them with industrial actors for establishing high-TRL pilot production of nano-enabled materials, systems, and products.

In the year 2023, the Nano Pilot strategically focused on two primary objectives: supporting the ongoing demo-cases and revitalizing the overall pilot initiative. To accomplish these goals, a series of activities were undertaken. Notably, a comprehensive scouting analysis of financial opportunities was conducted, resulting in the release of a report comprising two parts. The first part identifies calls beneficial for or linked to the demo cases, while the second lists calls and programs conducive to expanding the pilot network.

Additionally, the Nano Pilot conducted a study aimed at identifying new value chains enabled by nanotechnologies. The work aimed to propose opportunities for the creation of new industrial value chains that could leverage the potential of innovative nanotechnology applications and have a cross-regional nature. The nanotechnology application on which the value chain is built refers to “Surfaces with antimicrobial properties”

A key gathering event organized by the Nano Pilot took place in June in Bologna, held in conjunction with the Research to Business (R2B) exhibition. The primary objective of this event was to showcase the potential of the new nano-enabled products developed by the four demo cases and engage companies and local key actors in innovation ecosystems for industrial applications. The program included a steering committee meeting and a plenary meeting on the first day, featuring presentations on the demo cases, the outcomes of funding opportunity scouting, and a study on identifying new value chains. The second day involved a tour visiting the research laboratories of CNR-IMM and the multinational company Bonfiglioli Spa.

Finally, the Nano Pilot launched an Expression of Interest (Eoi) to renew the pilot's leading regions. After the process concluded, two regions, Navarra and NRW, emerged as the new leaders, set to replace the outgoing Emilia Romagna and East Netherlands starting from 2024.

Hydrogen

The Hydrogen Pilot has been active since mid-2022 and the last year marks its first full year of operation. The number of regions participating in the initiative has not changed and is still 21. The number of demo-cases implemented under the Pilot has also not changed and is 4. Over the last year, the basic tasks related to the development of the Hydrogen Pilot were focused on the full launching of all demo cases, regulating the Pilot's administrative structure and taking actions aimed at better and more effective management.

The first goal was achieved by organizing two kick-off meetings for the **HYDROCOMP** (June 2023) and **H2 in Shipping** (October 2023) demonstration projects. Both meetings were held online and focused on presenting the portfolio of regional companies related to hydrogen, as well as adopting action plans.

With regard to organizational and management issues, Hydrogen Pilot stabilized the frequency of Steering Committee meetings. No decision has been made to create a Technical and Scientific Committee, but there are plans to do so in the future. The most important change included the initiation of a year-long **cooperation with N-ABLE** – a renowned European advisory. The main mission of N-ABLE is to help the Pilot with reaching concrete projects with clear development potential which fit for attracting support from (EU) public funding. It will also focus on building complementarities and synergies with other initiatives promoting cross-regional collaboration in the area of hydrogen.

As was the case last year, in October 2023, Pilot members met in Małopolska during the **Hydrogen Pilot Summit**. It was an excellent opportunity to exchange comments and plan strategic activities in the 2024. Hydrogen Pilot Summit was again held as part of the 12th International Trade Fair of Composite Materials, Technologies and Products KOMPOZYT-EXPO®. The meeting center point was a review of the current state of development of regional hydrogen ecosystems in the three regions co-coordinating the Pilot Project and the review of demo-case activities.

In cooperation with ADMA Pilot, Hydrogen Pilot also obtained funds for the project **“Strengthening Hydrogen Ecosystem through Cross-Regional Collaboration and Innovation”**. Its aim is to promote interaction and collaboration among the regions involved in the Pilots within the Vanguard Initiative in the field of hydrogen-related technologies. The first phase of the project was held in Małopolska during Hydrogen Pilot Summit as participants visited there three centers of hydrogen innovation: the Institute of Ceramics and Building Materials, Krakow Technology Park and Miejskie Przedsiębiorstwo Komunikacyjne S.A. (municipal transport company). The second phase of the project - called "H2 Pitching & Matchmaking" will be held in Rimini during the KE.Y Energy international trade fair on the 1st of March 2024.

In March, members of HYDROCOMP demo-case **submitted to I3 call** a project called *Building the potential of smart composite technologies for use in safe and sustainable hydrogen transport and storage solutions*. The project did not obtain necessary financing, but had very positive overall rating.

Pilot's representatives were also present at several important hydrogen and **hydrogen-related regional/international events** and study visits, including European Hydrogen Week, LightCon or Kincardine Offshore Wind Farm. We also started collaboration with Hydrogen Valleys S3 Partnership.

Smart Health

Rooted in the S3P4PM Partnership- Smart Specialisation Strategies (S3) Modernisation partnership for Personalised Medicine, the VI Smart Health pilot was born in 2021 on the initiative of the three co-leading regions (Flanders, East and South Netherlands) with the ambition to transform the connected European value chains on Personalised Medicine (PM) and Smart Health, by combining biomedical, technological and data-driven expertise. This ambition was pursued in 2023 and trickled down into the following objectives under which a description of the pilot's highlights for 2023 is provided.

Activating additional VI regions for the Smart Health Pilot project.

The Smart Health Pilot brings together 13 European member regions - Trento (IT), Piemonte (IT), Lombardia (IT), Emilia Romagna (IT), East Netherlands (NL), South Netherlands (NL), East and North Finland (FI), Flanders (BE) Wallonia (BE), Northeast Romania (RO), Pays de la Loire (FR), Saxony-Anhalt (DE), and Slovenia (SI) - as well as two observer regions being Marovia Silesia (CZ) and Catalonia (ES). Both Pays de la Loire and Catalonia joined in 2023 and are represented by their regional cluster organisation, respectively Atlanpole Biothérapies and BioCat, while Bolzano-South Tyrol withdrew from the pilot.

Supporting the developments and advancements of the five demo cases.

The pilot support five demo cases - We Are, TRACE-MED, Topfit/ Interdisciplinary Consortium for clinical Movement Sciences & technology', Mobile Health (r)evolution, and RegMed Crossing borders, - which have generated 6 new use cases in 2023 and continued their progress across the different phases of the VI methodology. While the Topfit demo case has shifted gear in 2023 to focus on improving the quality of life and maintaining independence and social participation of people suffering from movement disorders, the We Are demo case has entered into the Demonstration phase with the design of a Proof of Concept for its data management platform for which a demo

version is available and consultations are taking place with various stakeholders in Flanders ranging from health care professionals, government, industry to citizens. For more info about the demo case, visit the [pilot's webpage](#).

Identifying relevant funding programmes and opportunities.

Screening funding opportunities and constantly keeping pilot members up to date with deadlines for calls for proposals is key. Hence, funding opportunities from the following programmes have been identified and shared with pilot members in 2023:

- I3 funding instrument;
- Horizon Europe and in particular EIE – Regional Innovation Valleys;
- EU4Health programme;
- HERA Invest mechanism by the Innovative Health Initiative (IHI);
- EIT Health programmes; and
- COSME/ Interreg programme.

On October 17, one I3 application was prepared on the topic of Digital Health for Prevention (DH4Prevention application) on the initiative of East Netherlands. 8 out of the 9 regions are from Vanguard and 6 are from the Smart Health pilot. In addition, one RIV application (PrecisEU) has been submitted in which Flanders, North-East Romania, Catalonia and Emilia-Romagna participated in. Two new funding instruments will be on the pilot radar from next year. First, the new Vinnovate instrument and the EP PerMed calls which are already ongoing with a final deadline for 20 June 2024.

Facilitating activities and synergies with other pilots and initiatives.

The pilot is committed to create synergies and enhancing its ecosystem's relations. To this end, the project team mapped the EU projects in which pilot members are involved in. A total 62 projects have been listed ranging from: digital health, medtech, network medicine, prevention, homecare & ageing, circular and sustainable health, innovative health procurement, mental health, health and nutrition, and healthcare training, to diabetes and cardiovascular diseases, oncological screening, isotope production, cancer treatment, stem cells, chronic diseases, blood transfusion, antimicrobial resistance and bioprinting. Some of these projects are just starting and offers opportunities for collaboration in the near future. Hence, some follow up discussions with members will take place at the pilot level in order to decide which projects are more aligned with the areas of intervention covered by the pilot's scoping note, and with which specifically, synergies can be made.

Communicating and promoting with impact.

The pilot's webpage has been updated in 2023 to reflect the latest developments of the pilot. Each demo case's description has been renewed and the contact person for each demo case has been

provided. Following the consultancy services from Schuman Associates, key messages have been developed and will be implemented soon by the VI communication team. To grow the visibility of Smart Health, a [LinkedIn showcase page](#) has been created in January 2023 linked to the Vanguard Initiative account. To date, it gathers 85 followers compared to 53 followers in September 2023. In addition, a two-page flyer presenting pilots' main information was designed. Lastly 2 online plenary meetings were organised and 2 were held on-site. On March 10, the second plenary meeting of the year was held in Brussels and was preceded by networking social event the evening before at the Fondation Universitaire Stichting. These two events were the occasion for pilot members to catch up on their latest developments and plans. It was also the occasion to invite representatives from the European Commission (Patric Brenier from DG RTD D2 unit) and the EIT Health (Bart Haex). Additionally, it was the occasion to invite members from other pilot (3DP) as well as Vanguard Initiative members. As a result of this successful event, another plenary meeting was organised on October 18th and 19th in Bologna in ART-ER premises. The format of these 1.5-day events which consisted of a mix of plenary policy sessions, site visits (Rizzoli Institute) and a series of in-person pitches from SMEs and startups was greatly appreciated by pilot members who agreed to replicate it for future events. A post-meeting feedback survey was sent to all pilot members and external participants, and some suggestions for future events mainly included allowing more informal moments (broader social event, more interaction between listeners and presenters, discussion in small groups about future activities).

Ensuring an efficient operational governance and organisation of the pilot.

Lastly, and for the third year in a row, the coordination and management of the pilot has been entrusted to G.A.C. Group (from Sep 2023 to Sep 2024) following a satisfactory evaluation by the three co-leading regions of the pilot. G.A.C Group's team gathers 2 innovation consultants - Marc Pattinson (Director) and Melissa Campagno (Project Manager) - both with more than 10 years of experience working on innovation collaborative projects.

Vanguard Initiative Activities

I3 projects

The Vanguard Initiative pilot projects are currently running 5 i3 projects, following successful applications in the period 2021-2023. In addition, 3 i3 project applications have been submitted by the VI pilots in 2023, with the evaluation results expected.

Vanguard members are involved in many other I3 funded projects not directly generated by Vanguard pilots but somehow connected to the S3 partnerships active on the S3 thematic platforms.

List of Vanguard Regions involved in I3 projects

Aragon: Hy2Market

Asturias: Hy2Market, 3DoP

Autonomous Province of Bolzano/ South Tyrol: Smart Growth

Autonomous Province of Trento / Trentino: 3DoP, Hymantovalley

Auvergne - Rhône-Alpes: RegioGreenTex, Incircular, HIGHFIVE, I4-GREEN, RISE, Hy2Market, Batmass, Smart Growth, Value4Pack,

Baden – Württemberg: 3DoP, Inno4CFIs

Basque Country/Euskadi: Deremco, Biotech4Food

Cantabria

Catalunya: RegioGreenTex, Value4Pack, Inshape, HealthChain, 3DoP, CESAM

Dalarna: 3DoP

Lower Saxony

East and North Finland: RISE, I3-4-Blue-Growth, Inshape, RISE

East & West Slovenia: 3DoP, Deremco, **Incircular**, RISE, LABEL4FUTURE, Greet CE, I3HIES, DIGIT-PRE, HealthChain, Batmass, LABEL4FUTURE

East Netherlands: RegioGreenTex, RISE, HealthChain, 3DoP

Emilia Romagna: 3DoP, Allon_I3, Value4Pack, I3-4-Blue-Growth, Hymantovalley, Ambitious, Biotech4Food, AgriPet-MRI

Flanders: 3DoP, RegioGreenTex, Deremco, Value4Pack, HIGHFIVE, Digi-One I3

Friuli Venezia Giulia

Galicia: HIGHFIVE, Biotech4Food

Gävleborg

Lombardia: Deremco, Incircular, **Batmass**, Smart Growth, RISE, 3DoP, **Hymantovalley**, Ambitious, Inno4CFI, Digi-One I3

Lower Austria (Niederösterreich):

Małopolska: 3DoP

Navarra: HIGHFIVE, Biotech4Food

North East Romania: RegioGreenTex

Nordrhein-Westfalen: STARRISE, HIGHFIVE, 3DoP

Norte: RegioGreenTex, 3doP, I3-4-Blue-Growth, STARRISE, DIGIT-PRE, I4-GREEN, HealthChain, SmartVitiNet

Örebro County

Pays de la Loire

Piemonte: RegioGreenTex

Randstad Region/ South Holland: Soul3-4-Blue-Growth

Saxony: Digi-One I3

Scotland

South-Netherlands: 3DoP, LABEL4FUTURE, HIGHFIVE, DIGIT-PRE, **Inshape**, HealthChain, HealthChain, Ambitious, LABEL4FUTURE, Inno4CFIs, Digi-One I3

Tampere Region: Deremco

Värmland

Wales

Wallonia: HIGHFIVE, Biotech4Food, Inno4CFIs, Digi-One I3

In bold – coordinators of i3 projects

In green – projects coordinated by VI members

Overview of Vanguard currently active i3 projects: 5 successful i3 applications, 4 currently in the pipeline

Pilot	Project name	Status
Efficient and Sustainable Manufacturing	Deremco	successful
	Battmass	successful
	Incircular	successful
Smart health	Healthchain	successful
	DH4prevention	submitted – evaluation results expected
3DP	3DOP	successful
Bio	one I3 partnership on biopolymers currently under construction	
AI	SAMMI	submitted – evaluation results expected
ADMA	I3FLOAT	submitted – evaluation results expected

VInnovate

On 5 December 2023, 16 Vanguard regions - Baden Wuerttemberg, Basque Country, East and North Finland, East Netherlands, Emilia Romagna, Flanders, Galicia, Lombardy, Lower Austria, Lower Saxony, Noord Brabant, Norte, North East Romania, Slovenia, Wales, Wallonia - signed a letter of Intent at the Official Launch Ceremony of VInnovate, confirming their intention of a VI region to support the implementation of “VInnovate”, relying on the characteristics and processes of the mechanism. The signing of a Memorandum of Understanding will formalise the actual participation in a VInnovate Open Call in 2024. This novel interregional funding instrument is aimed at enabling the funding of interregional projects in the context of the VI Pilots activities.

VInnovate is the sole current mechanism in the EU landscape actually combining:

- The possibility for ‘structural’/continuous regionally anchored ‘cross-regional joint-programming’
- A user-friendly provision of Interregional Grants Schemes
- A structural and holistic approach to innovation support

With VInnovate, the Vanguard regions will bridge two (very often fragmented) key pillars in Innovation Support, i.e. the support for projects generations and developments in the VI pilot projects and the actual financial support.

This marks a significant step towards realising VI's goal of fostering industry-led and strategically impactful interregional projects that align with an appropriate funding landscape, facilitating timely implementation.

Transforming interregional funding ambitions into action: the creation of VInnovate

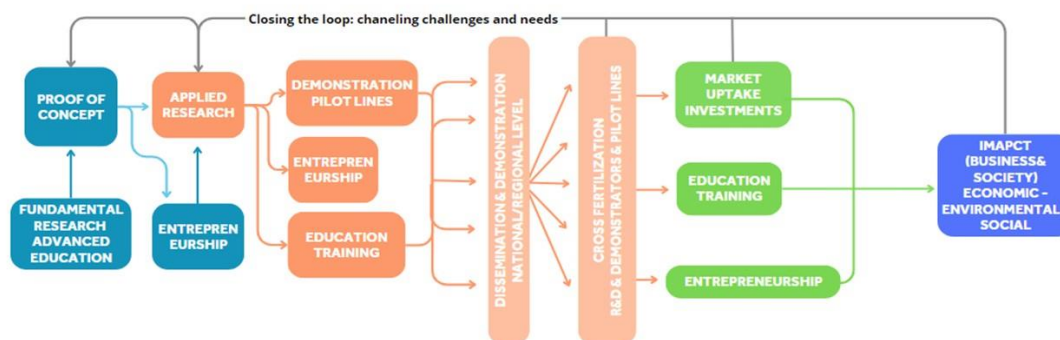
On behalf of the Vanguard, IDEA Consult designed and prepared the implementation of the innovative Interregional Funding Mechanism. Together with a group of 'core regions'. Key guiding principles were agreed upon on the basis of an analysis of Vanguard funding needs, which served as a basis to kick-start a co-design process towards an Interregional Funding Mechanism in line with the conditions, preferences, and ambitions of the IFM core regions.

While IFM core regions were tasked to position themselves regarding four distinct mechanism options, Thorough consultations and interactions among representatives from core regions led to consensus, resulting in the creation of VInnovate.

Presenting the instrument ahead of its official launch ceremony at the VI 10-year anniversary conference, Jose Caldeira, Task Group Lead of the VI co-funding and financing Task Group, offered a roadmap for navigating the complex landscape of funding and financing. He also presented the Vanguard insightful perspectives on how to develop value chains faster and more efficiently, by focusing efforts on enhancing the existing framework through the development of synergies.

Innovation cycle and its main activities

Research and innovation pipeline (simplified)



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Erwin Hoogland, Regional Minister for the Economy and International Affairs of East Netherlands, which past chairmanship was pivotal in launching the creation exercise of VInnovate, delivered a keynote speech at the launch ceremony of VInnovate, highlighting the three fundamental principles that define this innovative financial instrument.

- **Regional ownership:** VInnovate is placing regions in the driver's seat, as they determine the allocation of regional funds, set project scopes, autonomously manage and assess projects.
- **Tailormade:** The instrument will finance SME innovation tailored to the specific needs of one region, while the collaborative nature of VInnovate enables project results to spillover across the network.
- **Leverage:** Recognizing the vital role of innovation for SMEs, VInnovate stands as the next progressive step in the European financing landscape, serving as a model for Europe and the forthcoming multi-annual financial framework post-2027.

Events

VI 10-Year Anniversary Conference

On 5 December, the Vanguard Initiative (VI) organised a 10-year Anniversary conference in Brussels to celebrate a decade of fostering innovation, collaboration, and industrial growth across Europe. The event served as a platform to share VI's insights on its achievements and milestones. It reached greater significance as VI Regional Ministers signed a Letter of Intent to officially launch 'VInnovate'.

As the Vanguard Initiative embarks on this new chapter, it stands as a beacon of collaboration and innovation, poised to make a lasting impact on the European industrial landscape. The launch of VInnovate signifies not only a milestone for VI but also a leap forward for interregional cooperation in driving Europe's industrial renaissance. [Read more](#)

European Week of Regions and Cities (2 seminars)

The European Week of Regions and Cities (EWRC) 2023 took place from 9 to 12 October, and was the opportunity to showcase the achievements of Vanguard Initiative regional ecosystems in various events involving regional stakeholders, industry representatives and the European Commission. The Vanguard Initiative specifically organised two regional partnership panel discussions, on the topics of the local energy shift and the post-industrial transition.

Along with the VI regional partnership events, the Vanguard Initiative regions organised no less than 8 events, policy labs or food tastings throughout European Week 2023, attracting numerous participants, and shedding light on all the positive work accomplished in the regions to foster place based innovation.

VI regions leading by example in the local energy shift

On Wednesday 11 October, the Vanguard Initiative organised a panel discussion on the topic of the local energy shifts, showcasing the successes of decarbonization activities and projects in its regions and within its pilots, with specific examples of successful hydrogen and offshore wind projects from Bolzano, Emilia Romagna, East and North Finland, Lower Austria, Malopolska, Scotland, Slovenia and Wales.

The projects presented by the panelists demonstrated that transitioning to more sustainable energy sources is possible, and the Vanguard Initiative regions are proud to be leading by example in the local energy shift, with its regions at the forefront of the twin transition.

VI regions pilot activities leading by example in the post industrial transition

On Thursday 12 October, the Vanguard Initiative held its second European Week seminar, on the theme of the post-industrial transition. For 10 years, Vanguard Initiative members have been leading by example on fostering the post-industrial transition with strong Regional Smart Specialisation Strategies and innovative cooperations across Europe. Representatives from the VI regions of Asturias, the Basque Country, Norte region, North-East Romania, Slovenia and South-Netherlands exchanged with Mr. Patrick Brenier – Adviser for European Research Area (ERA) and



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Open science at the DG Research and Innovation of the European Commission on the different solutions to overcome the challenges presented by the smart and green transition.

The event was the opportunity to hear from political and industry representatives from the VI regions, providing different examples of best practices from the Vanguard Initiative pilots, specifically in the field of Smart Health and personalised medicine.