Berry+ partnership: Value chain analysis for increasing regional economic resilience, identification of interregional complementarities, and more effective RIS3 implementation

Jouni Ponnikas, Regional Development Director, Regional Council of Kainuu

Purest and safest food in the world! - Sustainable food production in East and North Finland

Webinar 26th May 2021, at 12 CEST

A collaboration between BERRY and the BRIDGES Interreg Europe project

BERRY

REGIONAL COUNCIL OF KAINUU

Helsinki-Uusimaa Regional Council

REGIONE AUTONOMA FRIULI VENEZIA GIULIA

REI 1995-2020 25 Reindustria Innovazione

POLITECNICO MILANO 1863

AFIL Lombardia

Regione Lombardia

ACCIÓ

Generalitat de Catalunya
Government of Catalonia

Beauty Cluster® BARCELONA

ccdrc
comissão de coordenação e desenvolvimento regional do centro

ANKO

HELLENIC REPUBLIC
REGION OF WEST MACEDONIA

Regional Development Fund of WESTERN MACEDONIA

agrifood fvg
A BIOECONOMY CLUSTER AGENCY

IO SONO FRIULI VENEZIA GIULIA

REGIONAL COUNCIL OF KAINUU

AGRIFOOD PARTNERSHIP
Western Greece Region

REGION OF WESTERN GREECE
full of contrast!

Focus of presentation

- We would like to introduce our approach from benefitting from value chain analysis.

- We developed this methodology through two initiatives: the BERRY+ S3 industrial modernisation partnership and the BRIDGES project (Interreg Europe).

- BERRY+ is crucial because we are bringing together value chain analysis and interregional complementarities, in order to reach interregional innovation investments.

What is BERRY+?

- BERRY+ is a smart specialisation, industrial modernisation partnership. It was approved on 17.11.2020, following a two-stage approval process, based on the expression of interest applied on 31.3.2020. The Regional Council of Kainuu is the administrative coordinator.

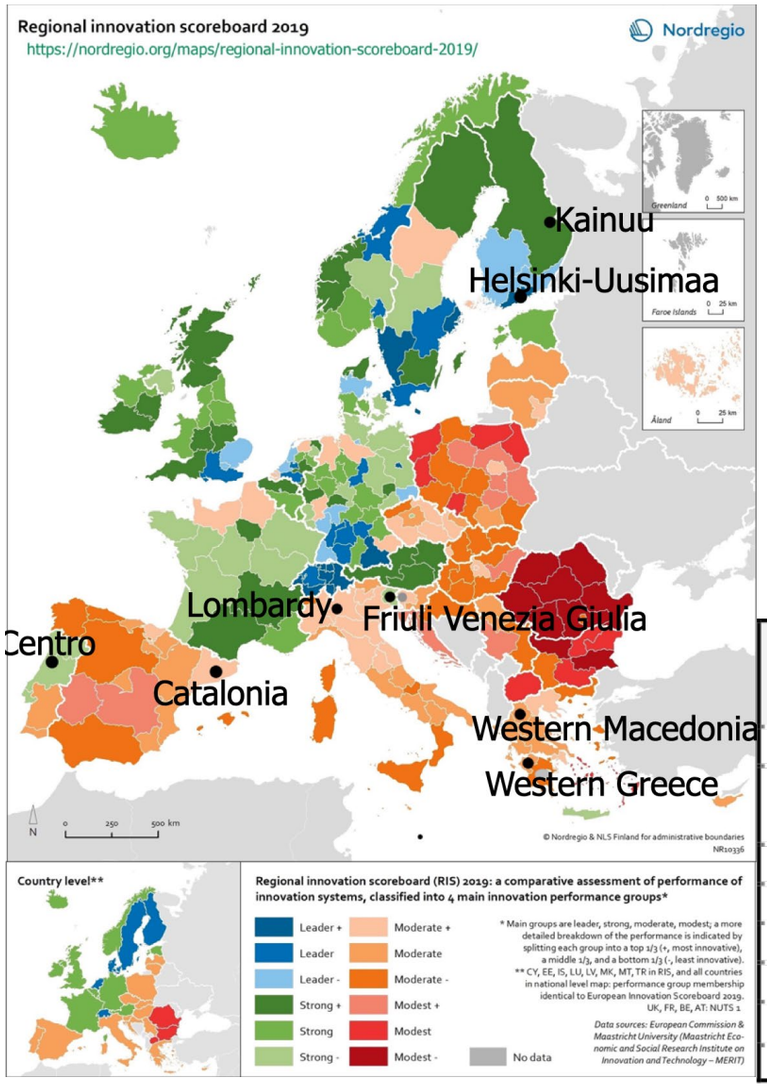
- BERRY+ is dealing with the processing of renewable natural resources, ingredients and side-flows towards high added value products. It is addressed to regions with relevant RIS3, existing or emerging innovation interests & to regions with significant market segments in the relevant domains.

- BERRY+ has two key objectives:

  (1) to reach interregional investments & integrate partner regions' innovations into existing and / or emerging European Value Chains (EVC)

  (2) to establish an interregional cluster as a way for constructing added value at regional and interregional levels in the long run.

Current partnership



Organisation	MS	NUTS
Regional Council of Kainuu	FI	NUTS3: FI1D4
Helsinki – Uusimaa Regional Council	FI	NUTS2: FI1B NUTS3: FI1B1
Region of Western Greece	GR	NUTS2: EL63
Regional of Western Macedonia	GR	NUTS2: EL53
Region of Friuli Venezia Giulia	IT	NUTS2: ITH4
Lombardy Region	IT	NUTS2: ITC4
Centro Region	PT	NUTS2: PT16
ACCIO on behalf of the Region of Catalonia	ES	NUTS2: ES51

Interested regions & organisations to join

- Athens University of Agriculture (GR)
- Malopolska Region (PL)
- Vidzeme Region (LT)

Prioritised value chains

- Dairy products diversification
- Vegetable-based proteins
- Berry industry for innovative applications such as functional foods, regenerative cosmetics, ….
- Forest industry side streams
- Bio-based textiles
- Regenerative cosmetics
- ….the above list is evolutionary

- (1) What are the interregional complementarities that we seek through the value chain approach?

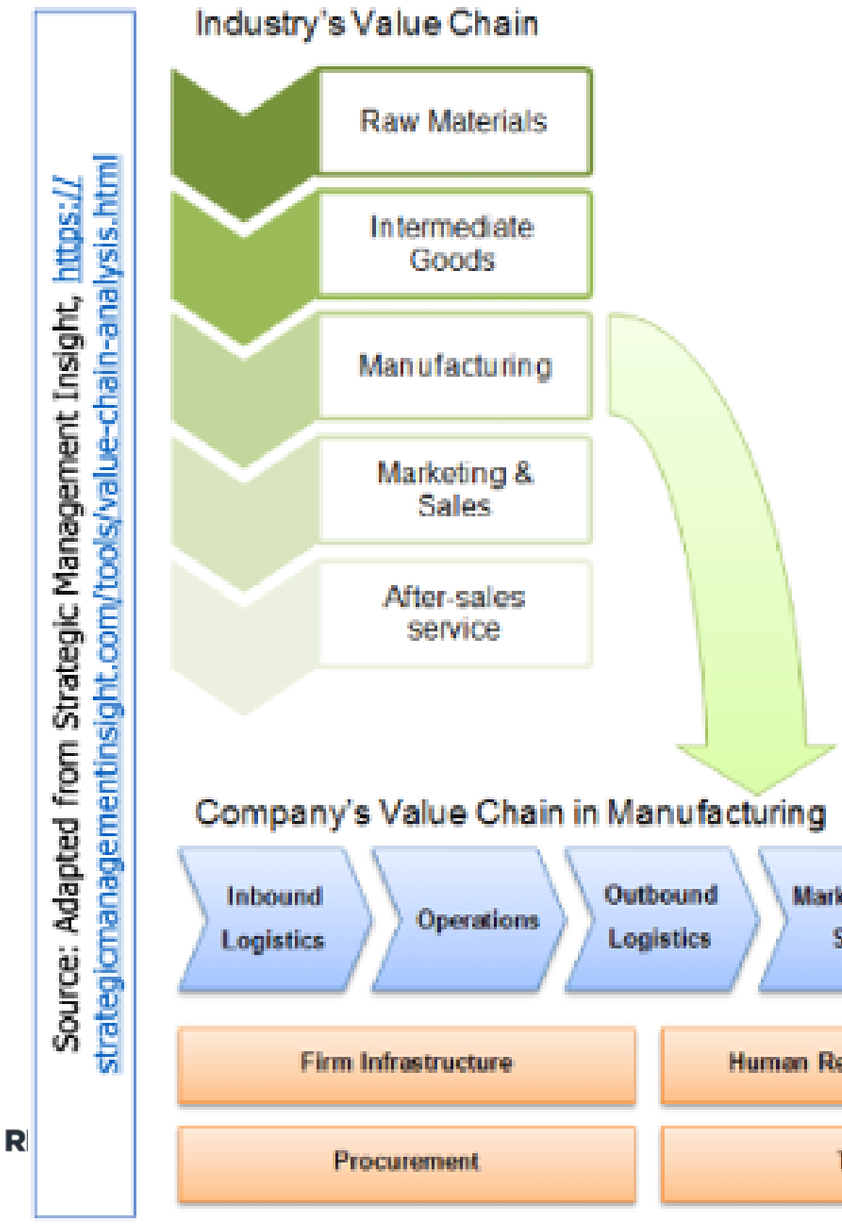
- (2) How do we reach, how do we achieve these complementarities, these priorities?

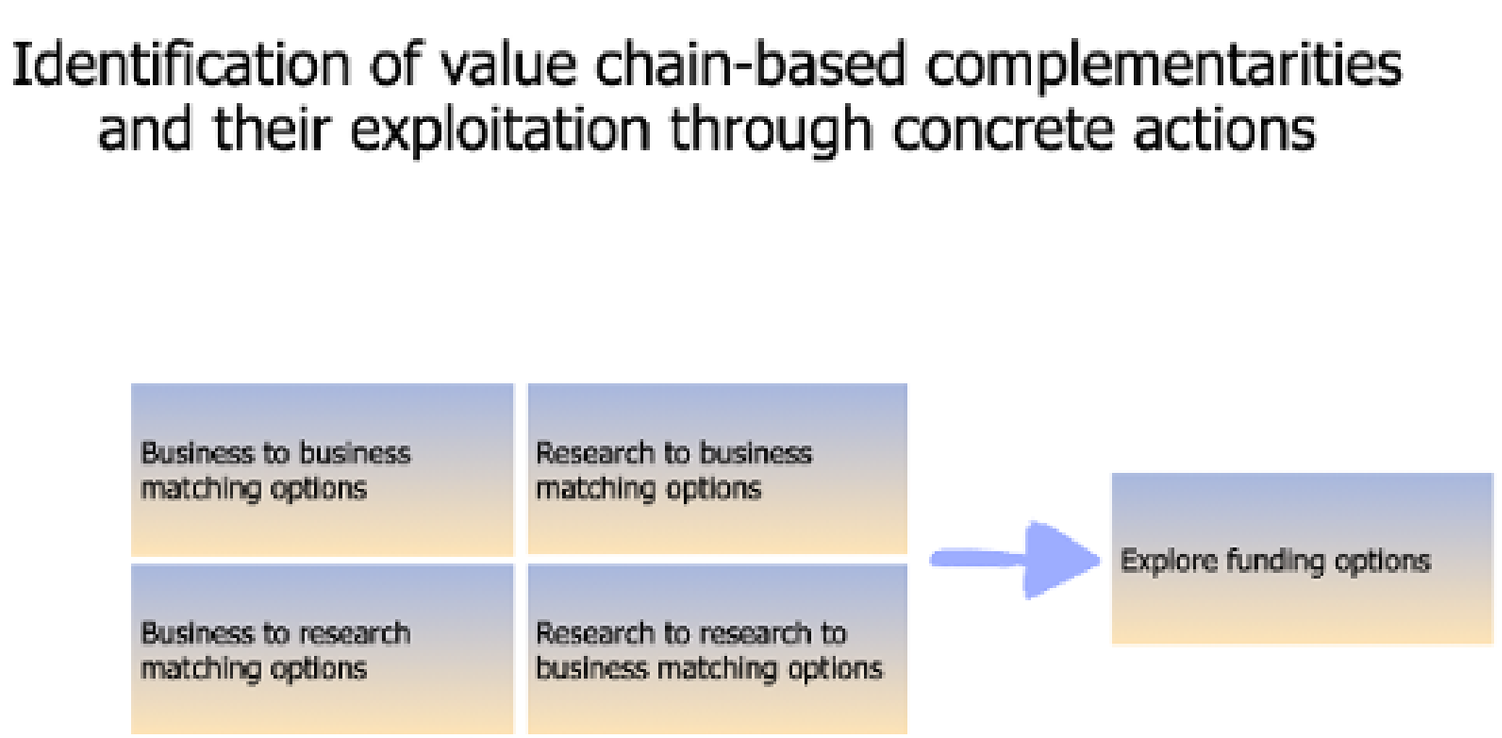
Next slide

Value chain theme	Industrial modernisation relevance	Examples	Interregional added value
(1) Grasping immediate commercial opportunities (Existing or new value chain)		E.g. raw material to consumer market; existing product to market.	Increased exports; profits
(2) Substitution of value chain elements with better products (Existing value chain)	Circular economy solutions applications; digital transformation	Business-to-business -to research (maybe) options	Profits & productivity; SME upgrading; competence building of the cluster management unit
(3) Design, development and testing (DDT) investments (Existing value chain or new branch of existing value chain)	Circular economy solutions development & applications; circular economy excellence	Adapting products and processes to host country conditions and help expansions in foreign markets (DDT investments) and creating new technologies	New applied research lines; SME upgrading; diversification of applied research services; competence building of the cluster management unit Research-to-research projects
(4) Anticipatory, research-based product & product line development/ additional research priorities (where relevant research "is going" in the next 5 years) (New value chain)	Circular economy solutions development & applications; circular economy excellence	Joint research-to-research and research-to-business programmes	Knowledge-based diversification and extension of the research and knowledge base; win-win interactions between and among research units; access to state-of-the-art research; access of research units to new end -users.
(5) Optimal localisation of industries aiming at added value components reshoring of value chains in the regions (reshoring) (Existing or new value chain)	Circular economy solutions development & applications; circular economy excellence	Assessment of the regional resources for added value localisation and development projects in that direction.	Better populating the regional and national economic base, optimising value chains; SME upgrading
(6) Ensuring horizontal compliance to related recent Directives and adoption of standards (Existing or new value chain)	Circular economy solutions development & applications	Quality assurance for individual products and production processed accepted as part of the clustering and subsequently applied	Uptake of voluntary standards (required ones are enforced); competitiveness of clusters, SME upgrading; innovation systems scaling up; sustainable development impact reinforced
(7) Learning and scaling up interregionally the production process, joint applications of data analytics and Industry 4.0 solutions when needed (Existing or new value chain)	Digital transformation	Data analytics applications; Industry 4.0 programmes for upstream and downstream comprehensive value chain or value chain segments solutions	Uptake of digital transformation solutions; data analytics solutions to primary and secodnary sector businesses; competitiveness of clusters, SME upgrading; innovation systems reinforced with data analytics applications uptake, development and interactions

Methodology

- How we apply the value chain approach: through a 2-stage value chain analysis





EXAMPLE

- This is R&D - based value chain analysis for the berry industry in Kainuu.
- It represents stage 1 of value chain analysis.
- We need to position our regions, i.e. those for who the VC analysis is relevant to them, within this map.

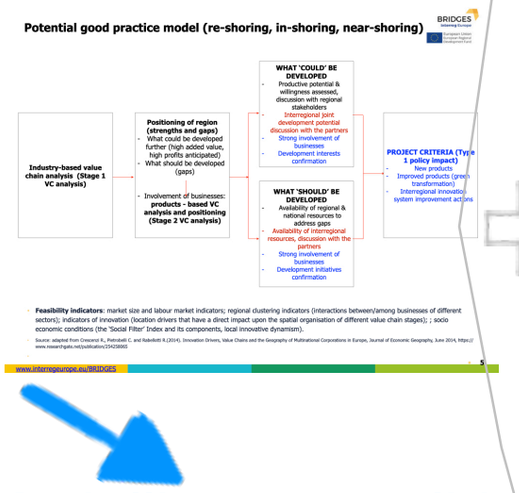
Proposal for Berry+3s companies – proposal to be further developed with partner entrepreneurs

Table 6 Proposed development actions

Key technologies			Products	Application	Key in-vestment	Promotion	Policy, 3S, industrial modernisation/ agrifood	Partnership/ Markets
Input /raw material	**Cultivation development in field an forest (wilderness)**	Facilitative: ICT and logistics	Cultivars, lines, material from specified production	Correct raw material to correct process	**Plant breeding**	Economic sustainability	Rural (innovation) policy	Horticulture, agriculture, forestry,
Harvesting	Harvesting technology	**Primary supply networks**	**Harvester: robot or hand-held tools**	Intensification of the harvesting process	**Automatic, robotics**	Sustainability, naturalness	(Rural) innovation policy	Robotic, censor technology markets
Storing	Storage manufacturing	**Logistics**	Optimization	Balancing of the input to processing	**Renewable energy, material efficiency**	Clean technology	Energy and climate policy	Energy technology
Cleaning	**Sorting, cleaning, grading – utilization of side flows**	**Robotics, blockchain technologies**	Fresh products	Food and food ingredients	**Automatization**	Naturalness, organic, freshness, cleanness, health impacts, sustainability	Nature-based innovation, clean investment, competition, health, SDG	Manufacturing
Processing	**Extraction – utilization of side flows, deoil**	Assembling critical masses, stabilizing (drying and freezing)	Berry juice concentrates, berry nfc juices and syrups. Purees with seeds.	Food, feed, end ingredients	**Extraction facilities-concentration –(hot water, ethanol, supercritical- CO2 circulation**	Naturalnes, organic, freshness, cleanness, health impacts, sustainability, techn. quality	Nature-based innovation, clean investment, competition, health, SDG metrics	Food technology
	Dewater, dry, deoil, grinding		Berry powders for feed, food Grinded material for cosmetics compensate plastic beans	Food, feed, cosmetic ingredients	**Mill/grinder, separator, drier, cocentrator SFE**	Naturalness, organic, cleanness, health impacts, sustainability, techn. quality	Innovation (purity), clean investment, competition, transparency, health, SDG metrics	Food technology, cosmetics technology
	Functional food and cosmetic ingredient processing	Critical quality of the raw material, wide spectrum	Aromatic ingredients, functional polyphenolics, seed oil, fibre, stains	Cosmetics	**Extraction facilities-concentration –(hot water, ethanol, supercritical- CO2 circulation**	Naturalness, organic, cleanness, health impacts, sustainability, techn. quality	Innovation (purity), clean investment, nature-based competition, transparency, health, SDG metrics	Cosmetics technology
	Consumer product processing	Encapsulation (micro, nano) fron the extract during the drying process	Consumer product for feed, for food, for cosmetic	Consumer products in combination with oat ingredients (together with Valio and Dermosil etc.)	**Food technology investments**	Taste, applicability, naturalness, organic, health impacts, cleanness, sustainability, image building	Health, food, Innovation (purity), clean investment, nature-based competition, transparency, SDG metrics	Food, feed, heath care, hotel services, sports, fashion and life style enterprises and NGOs

Methodology

- How we benefit comprehensively from the value chain analysis
  - Through the value chain analysis we seek to increase localisation (inshoring) and re-localisation (reshoring) activities and identify sub-contracting (near-shoring) or joint development solutions to explore at interregional level.
  - Near-shoring is equivalent to the identification of interregional complementarities.
  - Inshoring and reshoring relate to regional and national initiatives and development projects.
  - How we identify and select inshoring and reshoring solutions: to select inshoring and reshoring activities we seek the highest value formation modules in the value chain analysis combined with the absorptive capacity of the region's relevant businesses. We view this as an entrepreneurial discovery (EDP) option.

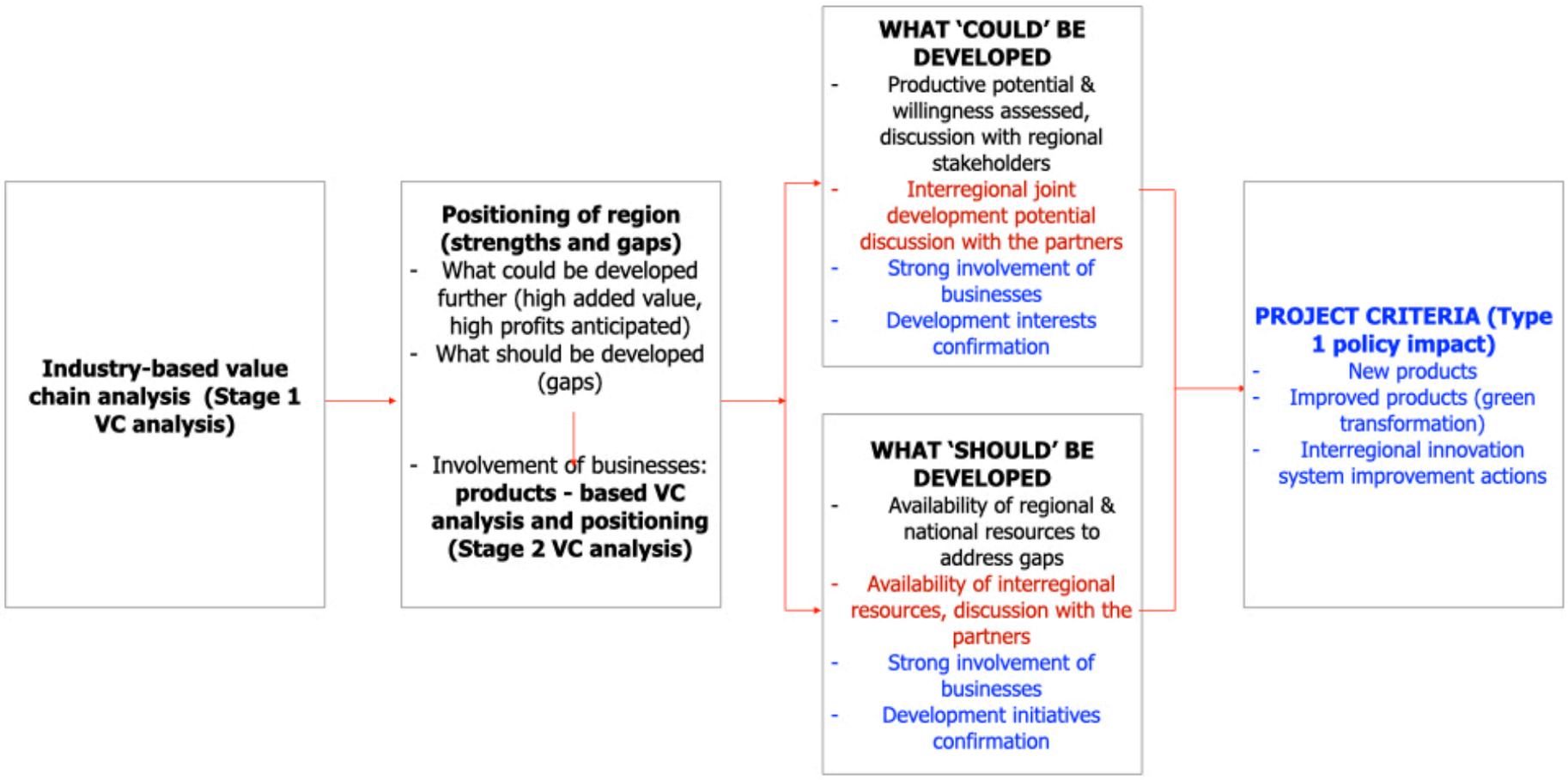


Modelling: next slide

- Potential benefits for enterprises & industries
  - Possibilities for interregional innovation investments and accessing new markets for exports
  - Improved competitiveness through new product development or through localisation of existing products from other regions or to other regions
  - If products are innovative enough, they could compete in the EIC accelerator
  - Projects for digital transformation within a complete or parts of a value chain
  - Projects for improving environmental performance
  - Access to new markets; potential for targeted market studies
  - Possibility to access new funding and co-funding sources
- Potential benefits for research
  - New research projects
  - Joint research projects
  - Technology transfer
  - Strengthening of data management expertise
  - Commercialisation and internationalisation of research results
  - Possibility to access a larger range of funding sources
- Potential benefits for regions
  - Complementarity of regional interests as a long term, non antagonistic and innovation based approach; allows focusing further regional economy and specialising further both research and production
  - Improved competitiveness of local economy improves growth and innovation prospects for regions
  - Possibility to enhance the interactions and value contribution of regional knowledge resources
  - Possibility & probability to combine regional and national funding with more competitive funding sources
  - Development could cost less

Learning and modelling

Potential good practice model (re-shoring, in-shoring, near-shoring)



- **Feasibility indicators**: market size and labour market indicators; regional clustering indicators (interactions between/among businesses of different sectors); indicators of innovation (location drivers that have a direct impact upon the spatial organisation of different value chain stages); ; socio economic conditions (the 'Social Filter' Index and its components, local innovative dynamism).
- Source: adapted from Crescenzi R., Pietrobelli C. and Rabellotti R.(2014). Innovation Drivers, Value Chains and the Geography of Multinational Corporations in Europe, Journal of Economic Geography, June 2014, https://www.researchgate.net/publication/254258065

State of play

- Scoping document is progressing.

- Methodological clarifications made; we dedicated considerable resources to clarify how the VC approach would benefit regions in a step by step way.

- First interregional complementarities identified. They range from direct investment potential, comparable development needs leading to joint development actions, and interregional complementarity-based opportunities.

- In process of setting up new project proposals.

- Value chain analysis to start in autumn 2021.

Thank you and questions welcome