

Smart specialisation and regional innovation policies

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Two levels of technology policy - 1

- Moderate intervention – level 1
 - Fixing ‘usual’ market failures
 - Providing generic public goods
 - Framework conditions
 - Sector neutral
 - Coordination failures are mostly sector specific – not addressed at this level
 - The instruments are neutral *by design*
 - Countries’ variations at level 1

Two levels of technology policy - 2

- Shifting to a higher level of intervention – level 2
 - The system needs to change more radically, moving towards new fields, industries, specializations – *the rate AND the direction* - and this will not happen spontaneously (i.e. just supported by level 1 policies)
 - Typically energy & environment Grand Challenge
 - A high tech (GPT) strategy
 - A place-based strategy to develop activities with agglomeration economies and coordination failures
- A major difference is a higher degree of intentionality, centralization, prioritization, engagement towards ‘specialization’ –
 - At level 2, policies are sector-non-neutral
 - Policy level 2 does not substitute to level 1 but provides for additional options
- Scepticism in the mainstream
 - Distortions
 - Can Governments understand coordination problems in specific activities?
 - How to measure effectiveness and efficiency?

- **« The idea that the government can disengage from specific policies and just focus on general framework conditions in a sector neutral way is an illusion based on the disregard for the specificity and complexity of the requisite publicly provided inputs and capabilities » Hausmann and Rodrik, 2006**
- However..not clear that all countries (regions) need this (*suivez mon regard*) - they are good in solving coordination and agglomeration problems through spontaneous collective actions (Coasean institutions)
- When it is needed the design of the policy is central

3 - Smart Specialisation: The Concept

Dominique Foray¹⁵, Paul A. David¹⁶ and Bronwyn Hall¹⁷

This brief introduces the basic concept of "Smart Specialisation" (SS) which has been a leading idea of the Knowledge for Growth expert group (K4G). The concept is spelled out in more detail in Policy Brief N° 1¹⁸ in relation to globalisation. Other K4G Policy Briefs that refer to the concept are those on Catching-up Member States (N° 5) and on technology and specialisation (N° 8).

Rationale for invigorating the R&D specialisation policy discussion

Addressing the issue of specialisation in the R&D and innovation is particularly crucial for regions/countries that are not leaders in any of the major science or technology domains. Many would argue that these regions/countries need to increase the intensity of knowledge investments in the form of high education and vocational training, public and private R&D, and other innovation-related activities. The question is whether there is a better alternative to a policy that spreads that investment thinly across several frontier technology research fields, some in biotechnology, some in information technology, some in the several branches of nanotechnology, and, as a consequence, not making much of an impact in any one area. A more promising strategy appears to be to encourage investment in programs that will complement the country's other productive assets to create future domestic capability and interregional comparative advantage. We have termed this strategy "smart specialisation."

Smart specialisation is expected to create more diversity among regions than a regime in which each region tries to create more or less the same in an imitative manner. The latter would almost certainly result in excess correlation and duplication of R&D and educational investment programs, which in turn would diminish the potential for complementarities within the European knowledge base. It is both an idea and a tool to help regions or countries to answer this critical question about their respective (and unique) positions in the knowledge economy.

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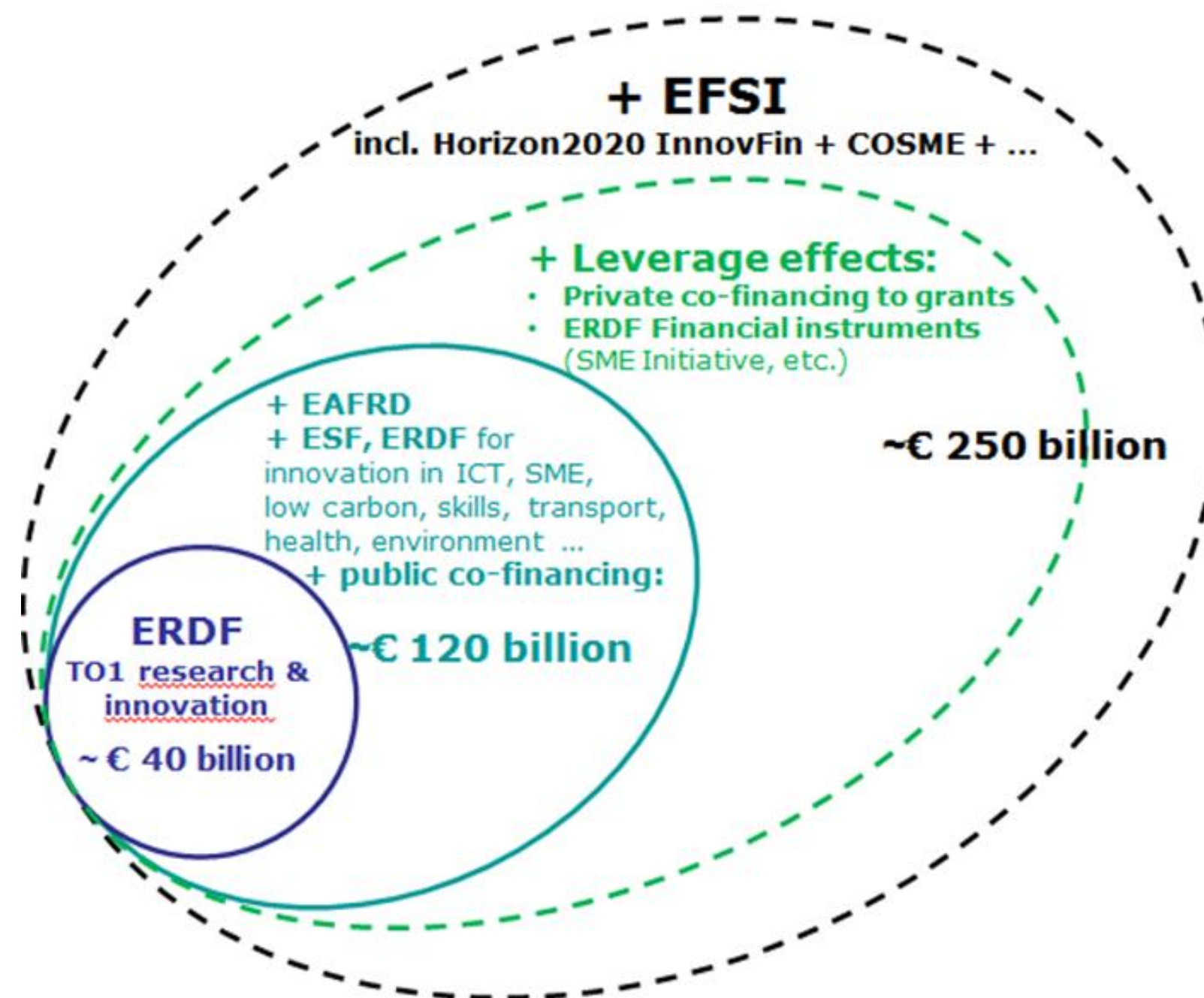
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¹⁸ Reports and Policy Briefs of the K4G expert group are to be found at:
http://ec.europa.eu/invest-in-research/monitoring/knowledge_en.htm

..to implementation



A massive allocation mechanism through the regional/cohesion policy of the EU



Research and Innovation funding is directly subject to RIS3: € 41 billion

Indirectly RIS3 priorities lever over € 250 billion for economic transformation in the regions

ESIF seeks synergies with H 2020 (Seal of Excellence) and EIB-EFSI

- **R1 - Critical mass!**

- Scale and agglomeration : essential determinants of R&D productivity, creativity, innovation
- Most regions cannot reach critical mass in all industries
- Instead of *doing a little bit of everything*, let's specialise

- **R2 – Building critical mass involves supporting or providing the whole set of capabilities required to innovate in specific sectors (non neutral policy)**

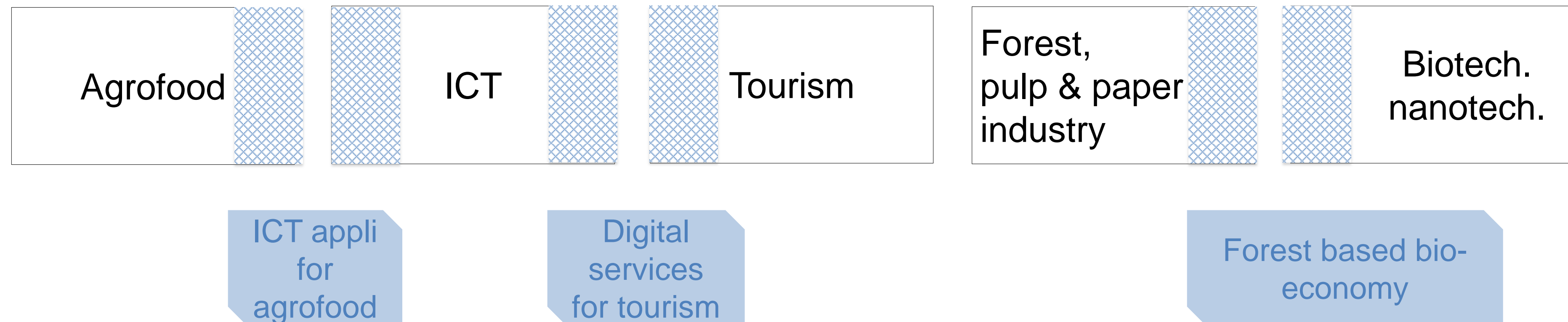
- This is *haute couture* not ready to wear
- Policy feasibility ...The local government cannot address all specific capabilities and infrastructure needs in all sectors : « *doomed to chose* »

- But the point is not to make another biotech cluster!
 - Too many regions launch a strategy based on *undifferentiated* recommendations of *undifferentiated* 'best policy practices' - encouraging local government authorities to set their sights on doing the *same* 'good things' to foster the *same* forms of innovation
- « *Regions need to particularize themselves!* » (Paul A. David)
 - This is about *combining* unique distinctive capacities, and potentials with new (technological) opportunities
- Identifying and leveraging such combinations between unique assets, capacities and opportunities is a costly and challenging *discovery process*

- RIS3 – identifying unique and distinctive combinations between existing capacities & potentials and new (technological) opportunities
- In these selected domains : support firms and other actors to engage in collective actions to develop new activities
- Two qualifications
 - Not a substitute for standard policy but an additionnal option
 - Not just a high tech strategy – priorities selected are not limited to a certain part of the economy
- **Specialisation** : many benefits...
 - To form critical mass and address specific capabilities and infrastructure for innovation in the strategic domains
- ... but a delicate game

On what?

- RIS3 is not about sectoral prioritisation
 - Why?
- Specialisation is on **modes of transformation of sectors and ways to establish new ones**
- Priorities are *transformative activities*



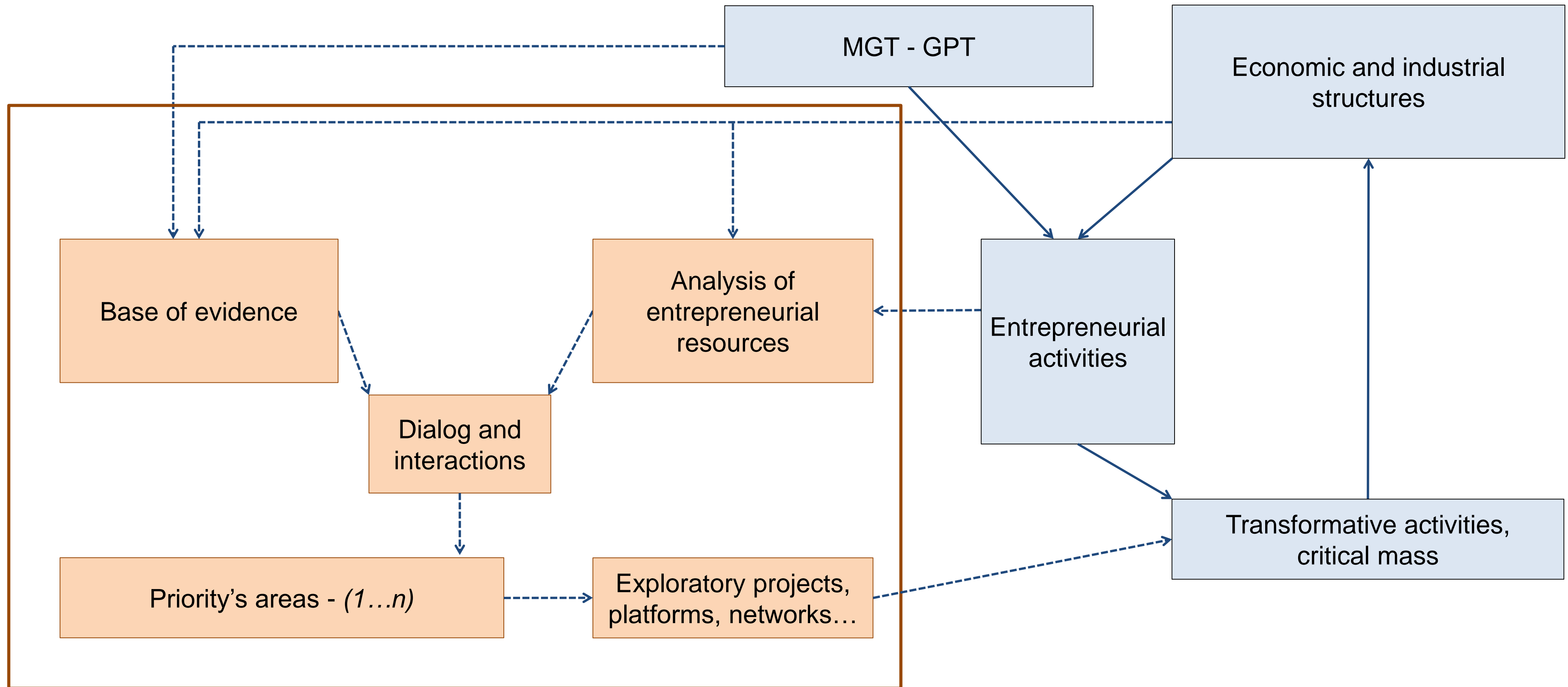
- Avoiding the Gosplan!
- The illusion of the omniscient State which believes in its capacity to acquire all the required information *ex ante*
 - ‘Principal – agent Governance’
- « *What if, as I and many others assume, there are no principals...with the robust and panoramic knowledge needed for this directive role?* » (Sabel)
- ‘Self-discovery’ : the experimental dimension of industrial policy # 2
- S3 is experimental in nature : a few bets are placed in various domains : success, failure, surprise and feedback
- This is different from policy # 1 where the bets are safe – and the omniscient planner solution can work well
- Organizing the discovery process

- A living document!
 - Monitoring capacities to discontinue some projects/priorities; address new opportunities
 - One simple argument : after a certain time, activities should exit from the RIS3 just because at some points there are no longer 'new' (automatic clause of exit, self-destruction mechanism)
- Monitoring and evaluation

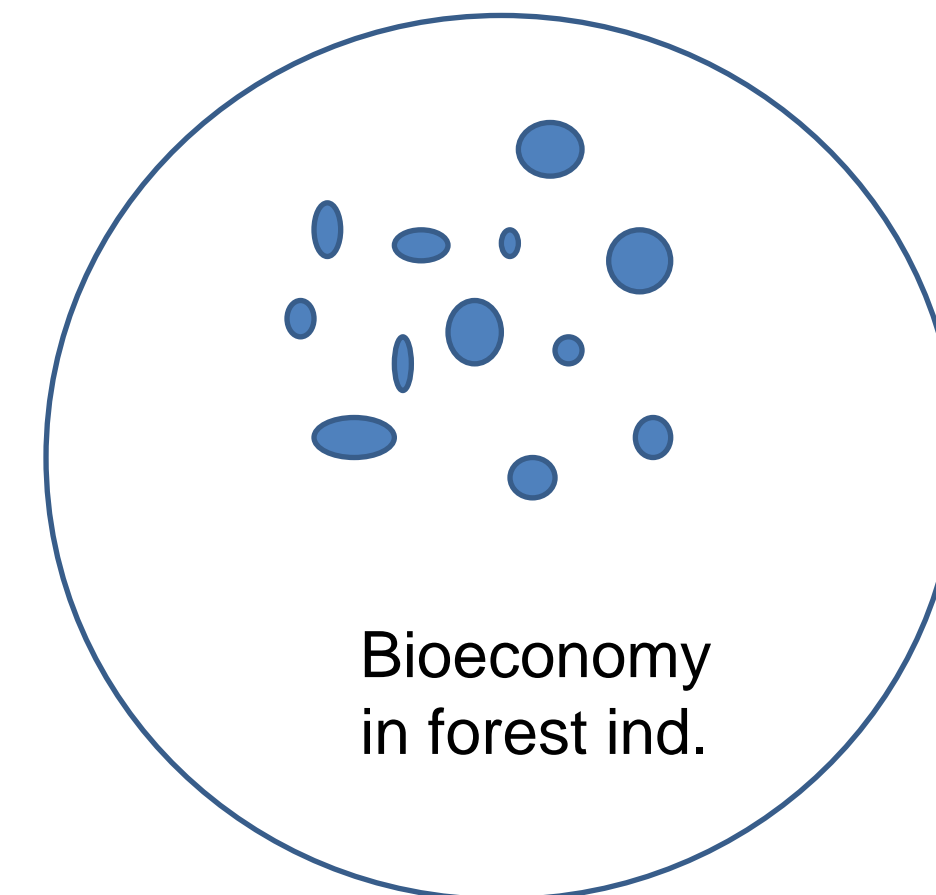
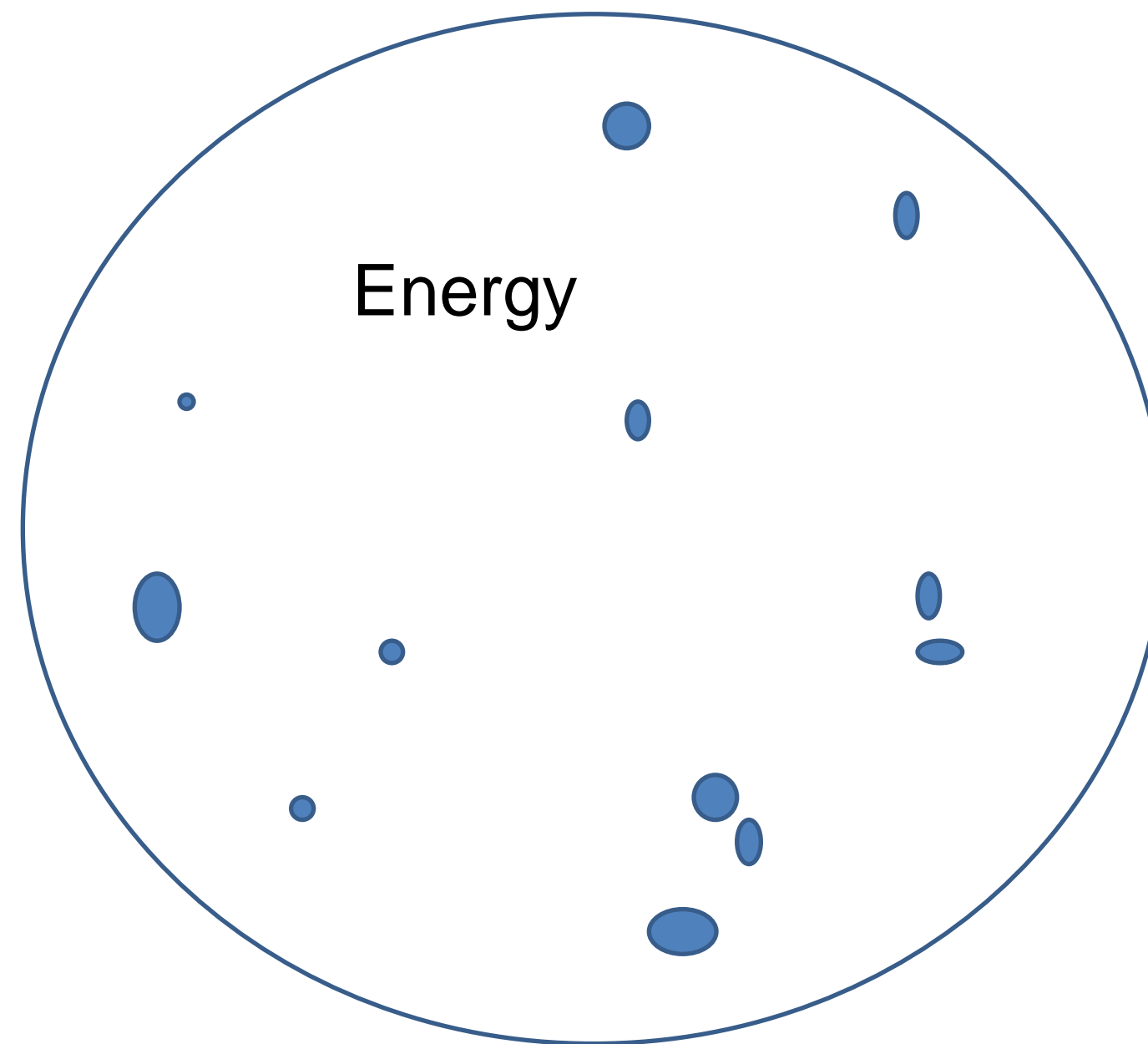
4 key points on RIS3

- **A)** *A policy characterized by more intentionality, centralization and prioritization – to address the formation of critical mass & agglomeration and the provision of specific capabilities and infrastructures in a few strategic domains*
- **B)** *No sectoral prioritisation but RIS3 is about modes of transformation of existing sectors or creation of new ones (transformative activities)*
- **C)** *Transformative activities are not known ex ante – EDP to identify new combinations between existing potentials and new opportunities*
- **D)** *A living document : flexibility; monitoring and evaluation*

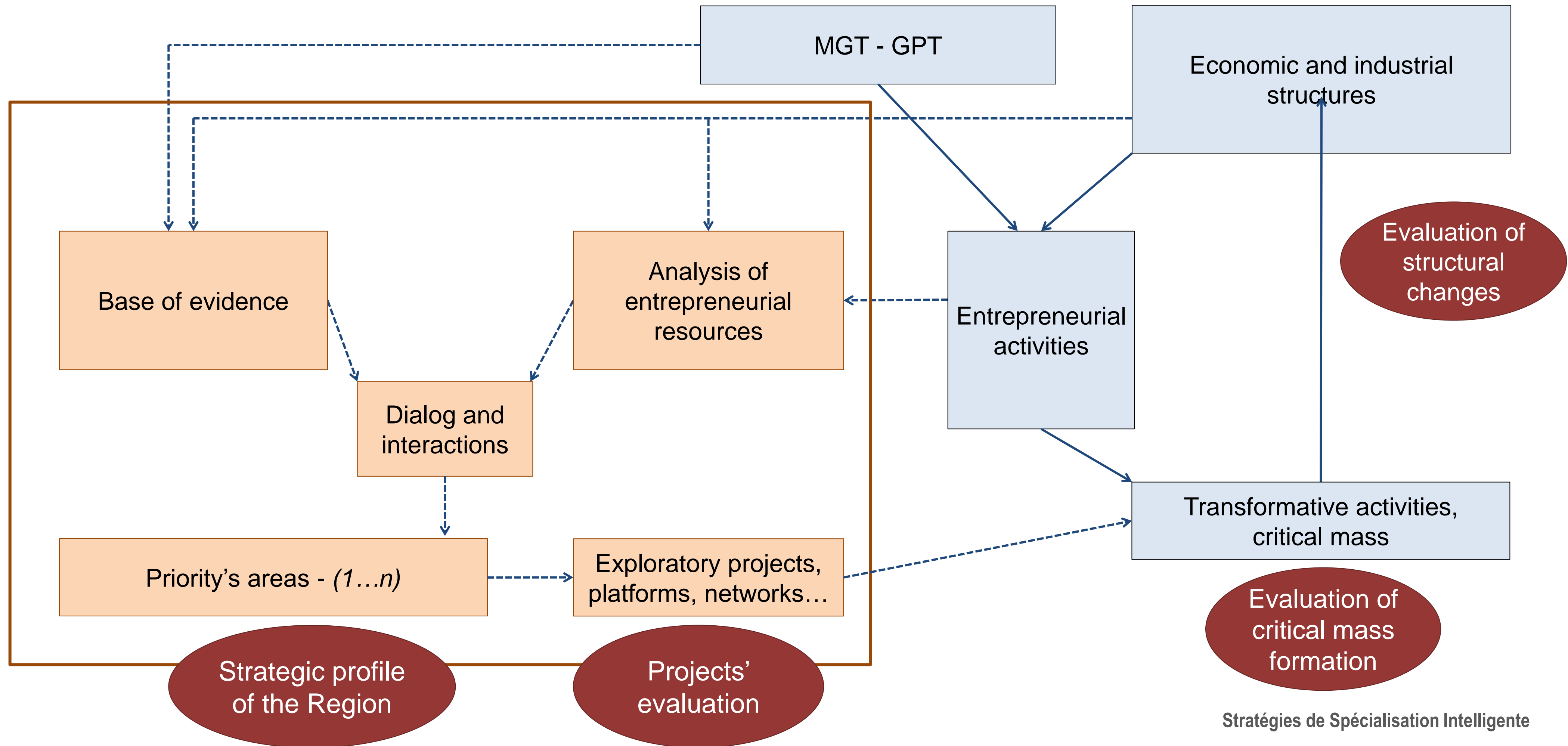
Framework (EPFL & BAK Basel)



Priority's areas should not be too broad



Framework (EPFL & BAK Basel)



- Conditions for strong (academically rigorous) evaluation not fulfilled here
 - No pure treatment effect
 - Complex process
 - Time lag
 - No Regression Discontinuity Design possible
 - Perils of success
- But the assessment of capacity increases and transformation processes is required (EDA – US DoC, 2014)
 - Required : development of metrics that provide data-intensive and timely view of the components of capacity in each strategic domains
 - To be provided : an up-to-the minute barometer of activity's development in a strategic domain that can be used as a starting point for understanding the degree to which there is progress, the direction and magnitude of change, potential failures, etc..

Summary : putting in place a process to..

- Analyse potentials and opportunities to select unique combinations
- Identify priority's areas
- Stimulate projects in each area (R&D, platforms, networks, leaders)
- Help the new activities to grow
- Monitor and evaluate
- Re-start the process at any time

- Market & coordination failures not universal and one-size-fits-all does not work
 - In Switzerland, it seems that spontaneous process of agglomeration and of development of local systems of innovation work well, as well as self-discoveries and self-organizing coordination
- Is there a case for regional policies level 2? Energy transition?
- Regional policies – 2/3 cases
 - Some sectors are important in some regions (relative specialisation) but are not dynamic (in terms of entrepreneurial activities and innovation)
 - In the dynamic part of the economy – situations where some sources of complementary capabilities have dried up and local eco-systems tend to be degraded (in particular large firms don't play anymore their role of *Anchor Tenant* (to provide capabilities and public inputs through spillovers of research, training, etc..))
 - In the dynamic part of the economy – situations where strategic moves towards some very new technological fields – characterized potentially by large spillovers effect to the rest of the economy - are needed

MOOC - Massive
Open Online Course

Smart Specialisation Strategies

