

# Smart specialisation and regional innovation strategy

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Annual Conference of the AECR  
Bilbao, 22 November 2012

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D.Foray, P.A. David and B.Hall : *Smart Specialisation: the Concept*

*Knowledge for Growth* expert group for the EC



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## Thematic ex-ante conditionalities ... state-of-play regarding RIS3 conditionality...

Thematic objectives	Ex ante conditionality	Criteria for fulfilment
<p>1. Strengthening research, technological development and innovation (R&amp;D target) (referred to in Article 9(1) )</p>	<p><b>1.1. Research and innovation:</b></p> <p>The existence of a national or regional research and innovation (strategy) (<i>strategic policy framework(s)</i>) for smart specialisation in line with the National Reform Programme, to leverage private research and innovation expenditure, [ which complies with the features of well-performing national or regional research and innovation systems.]</p> <p><b>For research infrastructures only:</b></p> <p>1.2 The existence of a multi-annual plan for budgeting and prioritization of investments.</p>	<ul style="list-style-type: none"> <li>- is based on a SWOT analysis to concentrate resources on a limited set of research and innovation priorities;</li> <li>- outlines measures to stimulate private RTD investment;</li> <li>- contains a monitoring [ and review ] system.</li> </ul> <p>A framework outlining available budgetary resources for research and innovation;</p> <p>A [indicative] multi-annual plan for budgeting and prioritization of investments linked to EU priorities [and, where appropriate, the] European Strategy Forum on Research Infrastructures - ESFRI</p>

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## Feedback from first interactions with Regions : some FAQs

- RIS versus S3
- Specialisation versus diversification
- How many specialisations?
- Evolving priorities versus continuity of support
- R&I and ICT
- S3 versus cluster policy

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## RIS and S3

- RIS : horizontal measures and neutral policy: improving framework conditions and capabilities
- S3 : a new 'module' that emphasizes a more 'vertical and non neutral' logic of resource allocation and prioritization
- Why is it important? The logic of 'specialisation' is intact
  - Significant returns to size in R&D and innovation activities. Indivisibilities, gains from specialisation, even the ability to capture spillovers depends on the existence of sufficiently large nearby R&D sector
  - Small is not (necessarily) beautiful (even in the information age)!
- **Horizontal: Easy to identify; vertical : difficult to identify**
  - Defining a method to help policy makers to identify desirable areas for interventions in such a 'vertical' logic (some technologies, fields, sub-systems)
  - Entrepreneurial knowledge; interactive process

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## RIS and S3

- You need to improve framework conditions (horizontal policy): this is not smart specialisation but strongly needed to succeed in a S3
- You need to determine priorities in terms of R&D & technological activities : this is smart specialisation
- Strong complementarities: not *RIS versus S3*; but S3 is built on RIS
- S3 is difficult because it implies guessing future development of technologies and markets. **Mistakes and failures are possible**
- Usual responses:
  - Cafe para todos!
  - Imitating the next region (or California!)
- **Smart specialisation suggests another approach to help policy makers to manage these risks**

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## 5 principles/1

- Self-discovery (or entrepreneurial discovery)
  - The best bet is entrepreneurial trial and error
  - Priorities will be identified where and when opportunities are discovered by entrepreneurs
  - Prioritization is no longer the role of the omniscient planner but involves an interactive process, in which the private sector is discovering and producing information about new activities and the government assesses potential and then empowers those actors most capable of realizing the potential
  - This principle is so important that any policy that did not include this provision would have an entirely different character
  - But need for pragmatic interpretation (in particular in regions with poor entrepreneurial capabilities)

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## 5 principles/2

- The response to the big question 'what are my priorities?' is not given at sector level nor at the individual level of companies but at the level of « new activities »
  - In the pulp and paper/nano case, what needs to be prioritized is not the sector as such but *the activity of exploring the potential of nano* to improve operational efficiency
  - In the plastic industry case, what is supported is not the plastic industry as such but *the activity of exploring diversification path* of the plastic firms from the car industry to biomedical sector
- These activities:
  - Are new, aim at experimenting and discovering opportunities, have the potential to generate learning spillovers;
  - Are likely to generate desirable structural changes; and
  - Need public funding to emerge and grow (have scale and agglomeration economies, can fail because of coordination failures)
- In doing so, the government achieves two things: i) improves the general performance of a sector; and ii) builds capabilities

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## 5 principles/3

- In general what is discovered as future priorities are those activities where innovative projects complement existing productive assets (related variety)
  - Modernisation
  - Diversification
  - Transition
  - Radical foundation (may happen!)

## 5 principles/4

- While at  $t_0$  some priorities emerge and subsequent activities will be supported, it is likely that 3 or 4 years later other discoveries will be made in other parts of the regional system and the subsequent emerging activities will be supported as well
- The main purpose of S3 is to **diversify** the economy (new activities) through strong commitment of resources (**specialisation**)

## 5 principles/5

- Assessment: clear benchmark and criteria for success and failures are needed
  - The nature of this policy is experimental!

## 5 principles/summary

- Non neutral policy
- Entrepreneurial discovery
- Activity (not sector) as the right level for decisions
- No reason to keep the same priority over time (diversification)
- Experimental nature of policy
- What matters is the policy process (which helps identifying areas of desirable interventions)

## Goals and programs

- Goals

- Facilitating emergence and growth of new activities which are rich in innovation and spillovers
- Diversifying the regional system
- Generating critical mass, critical networks, critical clusters within a diversified system

- Programs

- Maximizing public-private entrepreneurial discoveries
- Observation, detection, evaluation
- Early stage and growth
- Aligning incentives

*Details of programs need to be adjusted on more detailed prior analysis and as experience with any of them is acquired in practice. Many alternative*

*programs could also be proposed*

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## Feedback from first interactions with Regions : some FAQs

- SRI versus S3
- Specialisation versus diversification
- Sectoral level versus project level (how many specialisations?)
- Evolving priorities versus continuity of support
- R&I versus ICT
- S3 versus cluster policy

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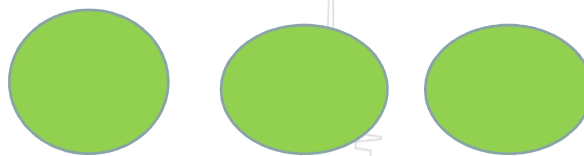
## Sectoral versus project level

- At what level choices need to be made?
- A too high level transforms smart specialisation into sectoral prioritization...
- ..but a too fine grained level transforms smart specialisation into an horizontal policy (through which all projects of some merits will be funded)

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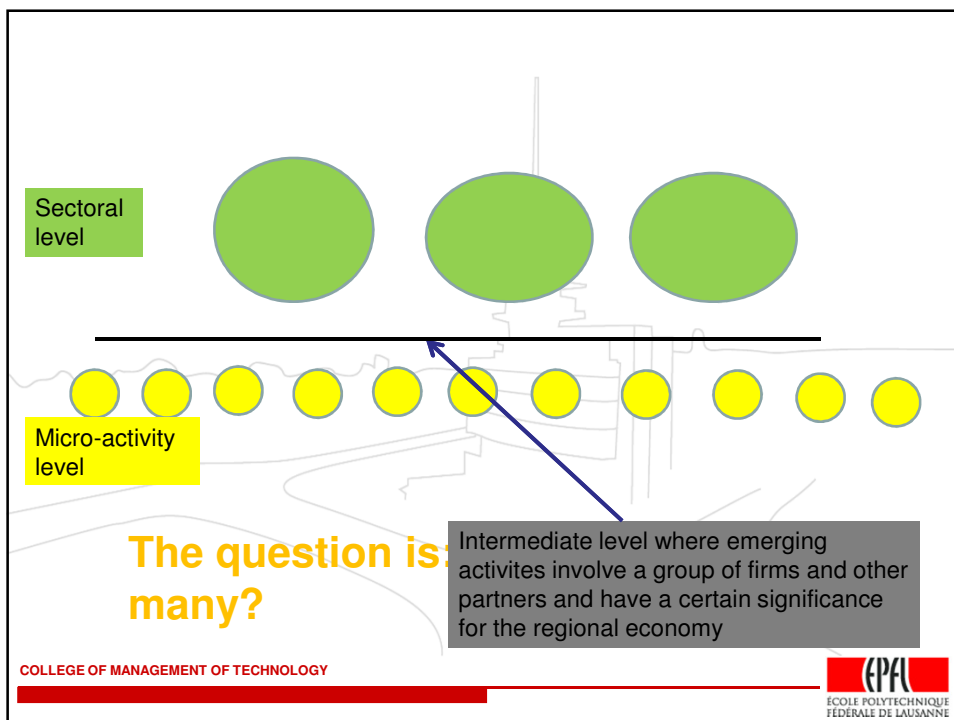
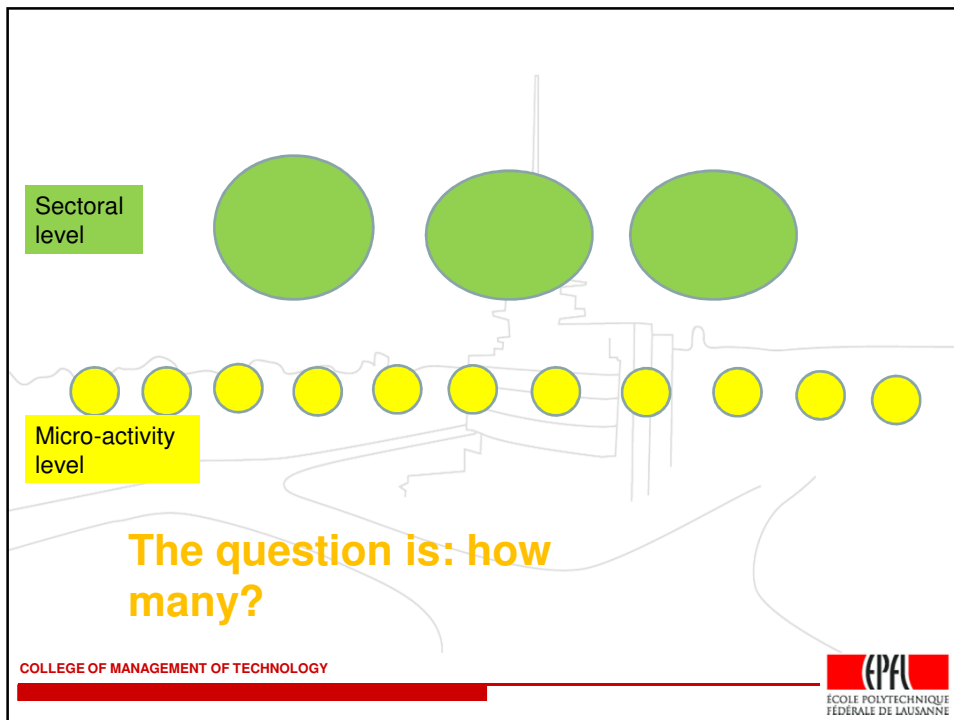
Sectoral level



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## Evolving priorities versus continuity of support

- Priorities that emerge at  $t_0$  are not taken for ever (diversification)
  - This may imply the design of some kind of sunset clause for withdrawing support after an appropriate amount of time has elapsed and so new priorities can be funded
- But, emergence and early growth do require time (5 years?)

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- After a certain period of time (4-5 years), new priorities emerge and the old one will no longer be supported through the smart specialisation funding...
- ...but financing can continue through the horizontal policies (R&D tax credit, innovation costs subsidies, etc..)
  - *«there is a life outside of S3; projects will move between S3 and regional strategies»!*

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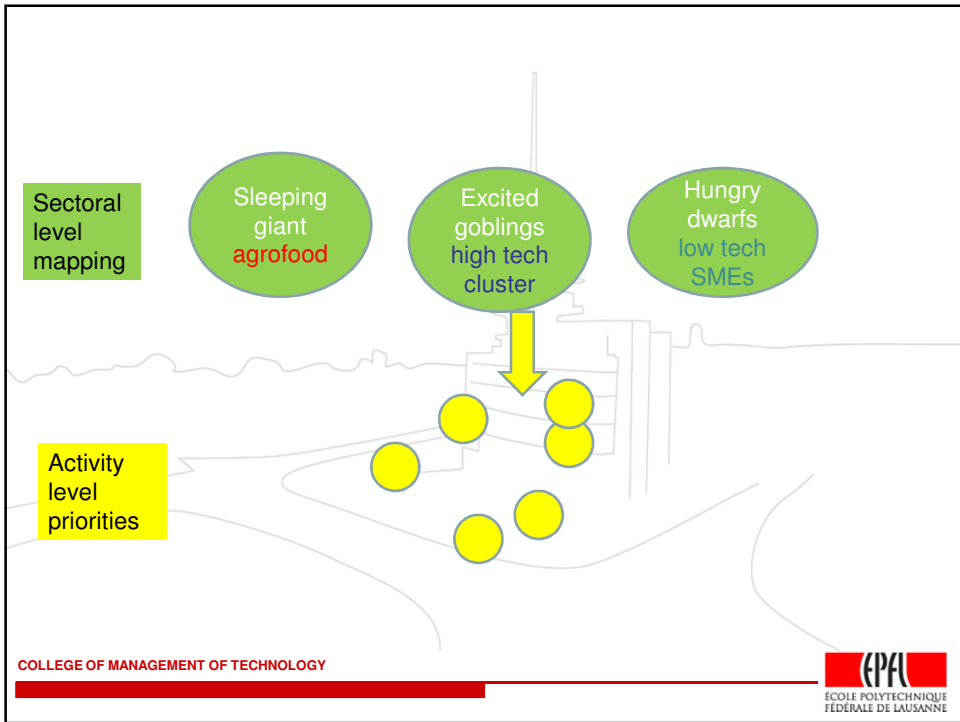
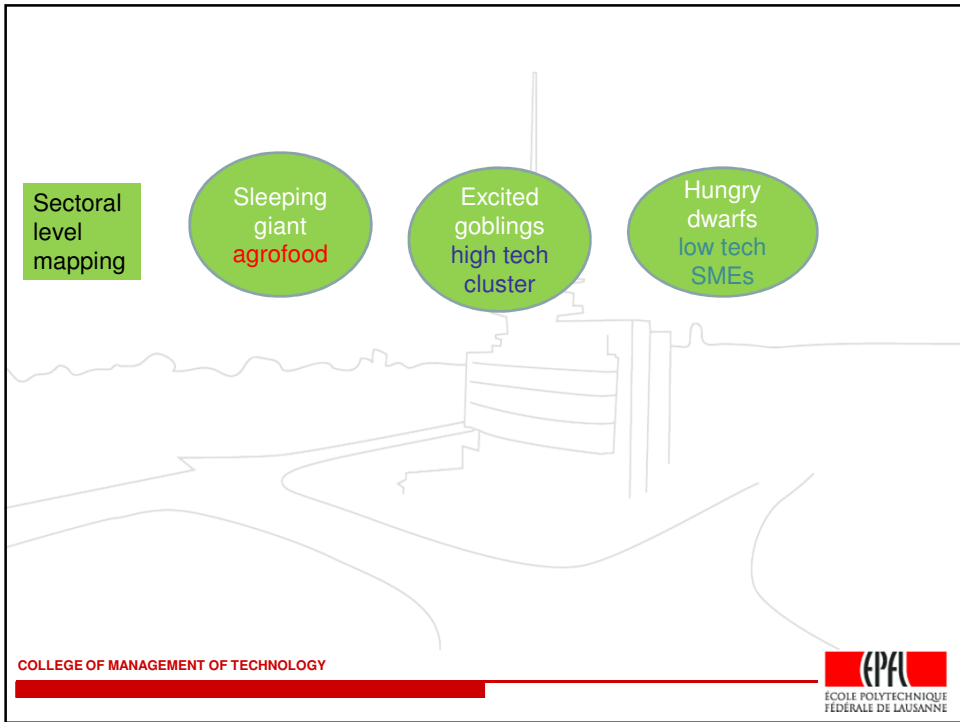


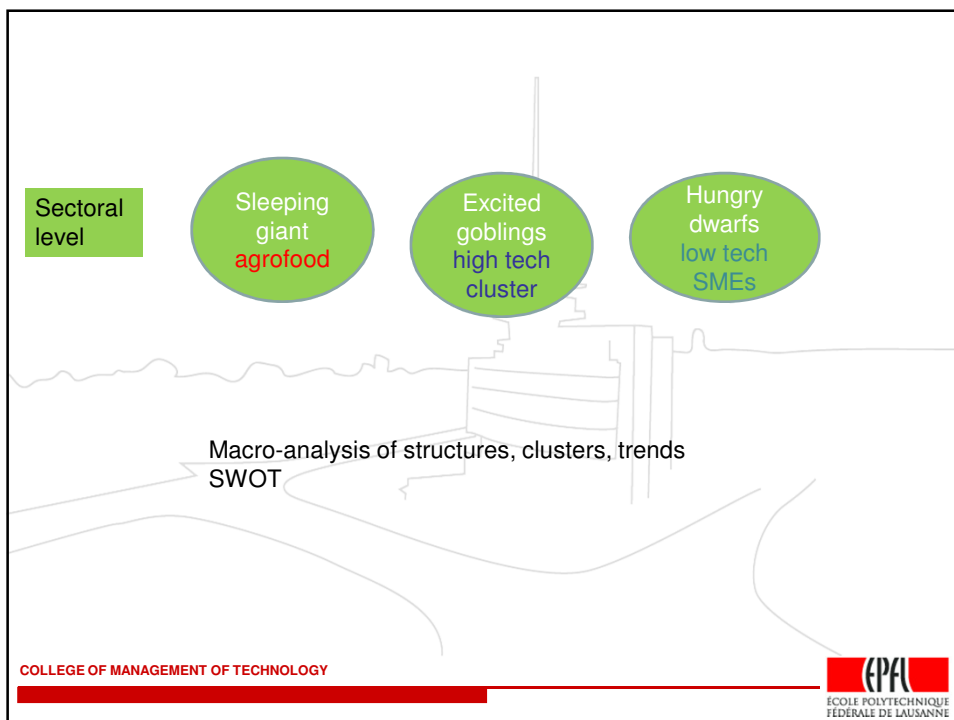
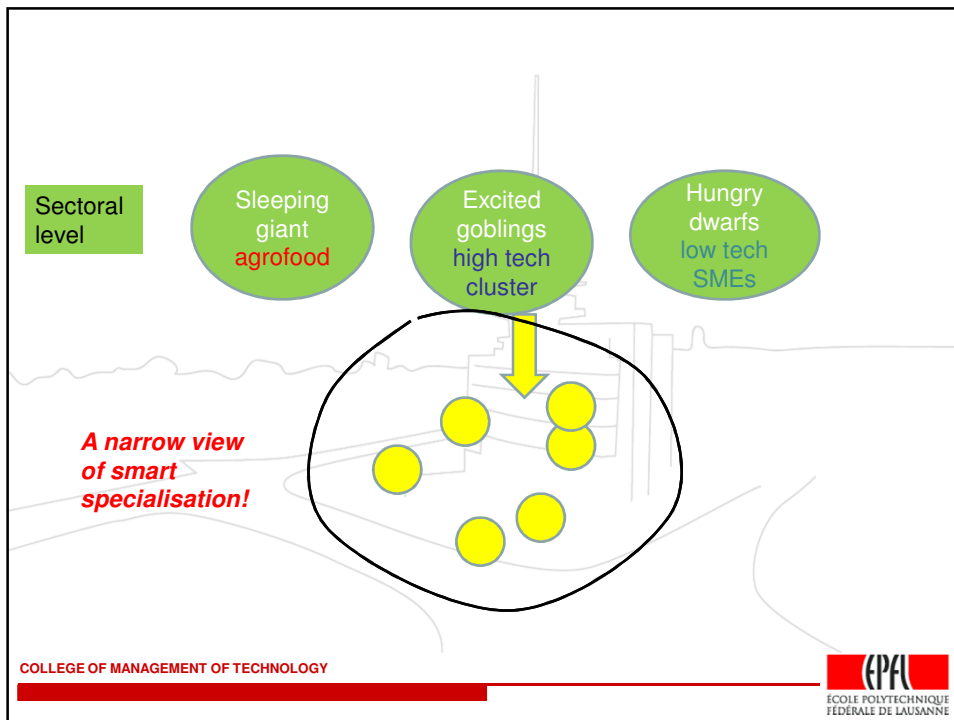
## What to do and how to start?

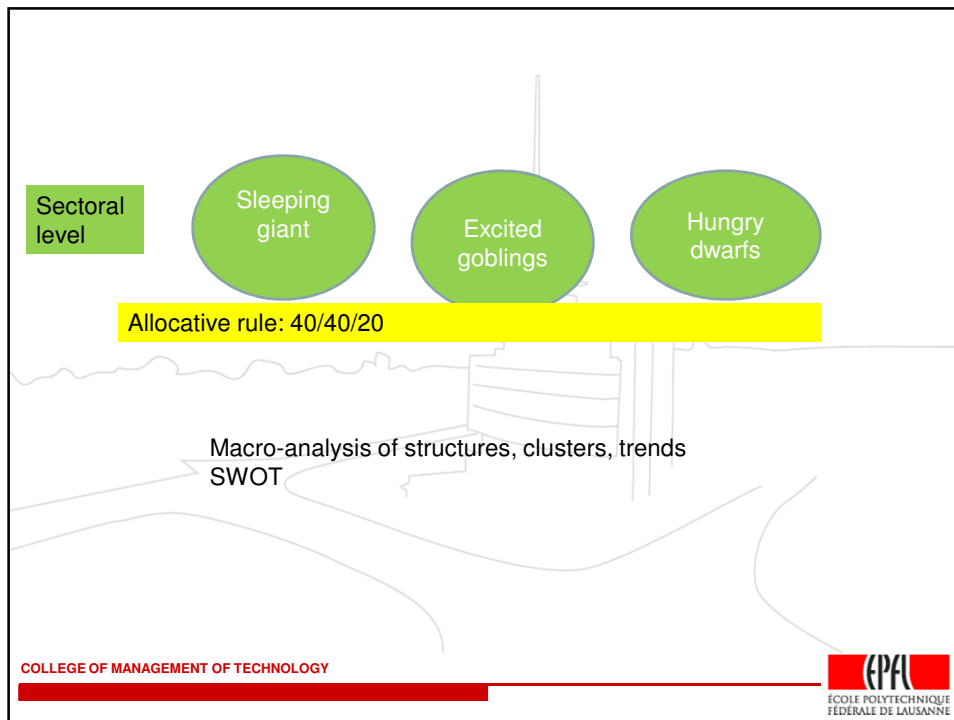
- Horizontal measures (easy identification)
  - But not horizontal measures **only** (smart specialisation is about more difficult vertical prioritization)
- Vertical measures
  - But not *ex post* policy **only** (existing clusters are (at best) the results of past smart specialisation)
  - It is needed to support smart specialisation *in progress*

## What to do and how to start?

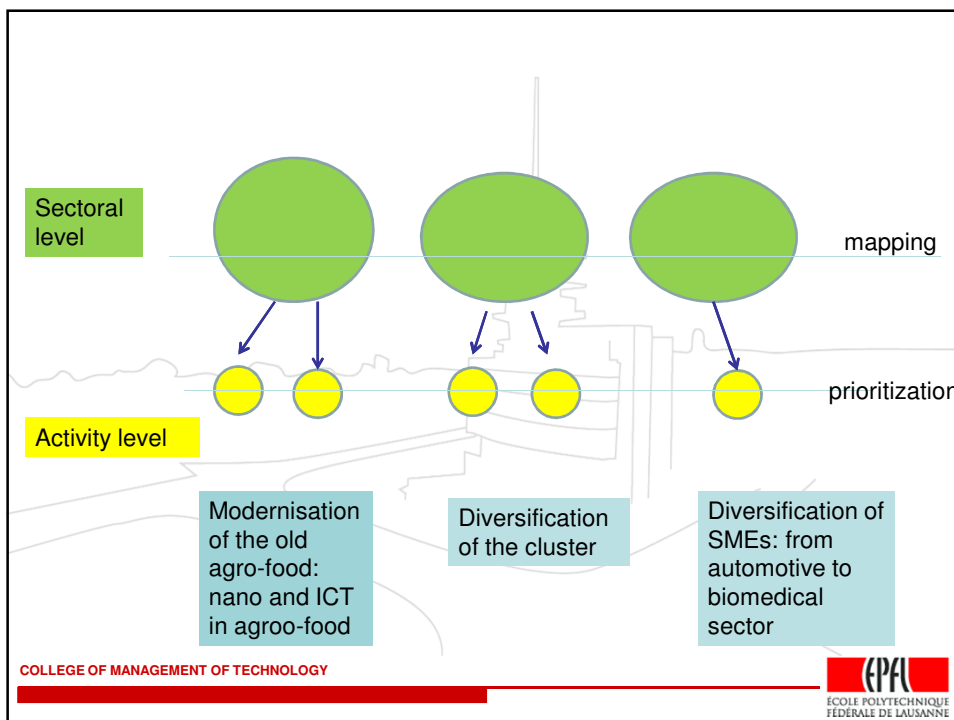
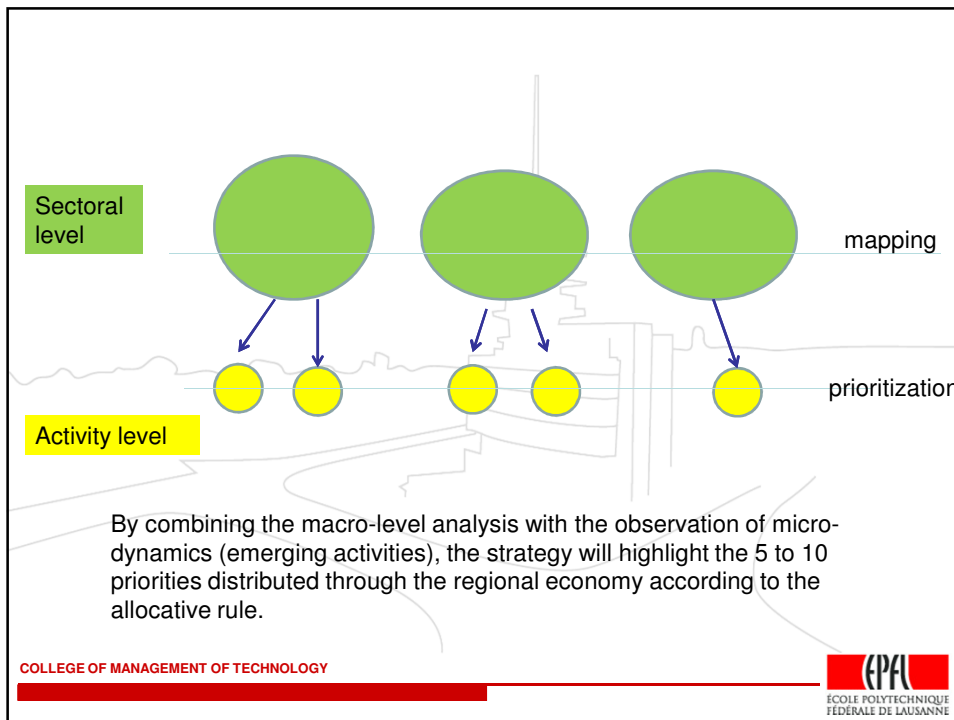
- Vertical measures and choices : **identification??**
- Start with high level agregation analysis: structures, clusters, trends and SWOT
- Thought experiment
  - Huge agro-food sector : **sleeping giant**
  - High tech cluster: **excited goblins**
  - Low tech SMEs: **hungry dwarfs**
- To derive from this mapping some kind of «allocative rule» so as to keep some balance between the sleeping giant, the excited goblins and the hungry dwarfs
  - To avoid that the goblins corner the whole funding (they have so many good projects) while the other sectors need also to be part of the strategy (need for modernisation, diversification)







- But the macro-approach **only** does not determine the vertical priorities
    - It determines the structural shape of the budget devoted to smart specialisation
  - The priorities will emerge from the macro-analysis **AND** the best knowledge of the policy makers about entrepreneurial discoveries and emerging activities
    - The strategic vision needs to be validated by the quality of entrepreneurial discoveries
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## S3 needs to be inclusive

- Does not mean that you need to support a project in every sector...but to give every sector a chance to be present in S3 through a good project
- «While dynamism is crucial, we want dynamism with economic justice – with what I call economic inclusion. It means drawing companies and people into the economic sector of a modern economy, where new ideas for new processes and products are conceived and experimented» (E.Phelps, 2012)

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