



Knowledge transfer and the impact issue: an institutional perspective

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**Safe and Ethical Cyberspace, digital assets and risks:
*How to assess the intangible impacts of a growing phenomenon?***

The World Conference on Intellectual Capital for Communities

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Presentation structure

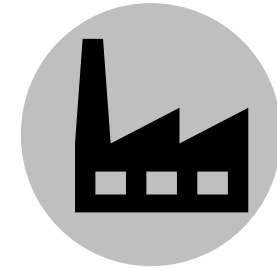
1. Knowledge transfer and innovation
2. Current study on holistic-practice based maturity model for knowledge transfer organisations
3. Need for an institutional perspective

1. Knowledge transfer and innovation



Know-how, technical knowledge and/or technology

(Roxas, Piroli, & Sorrentino, 2011, p. 7)



Technology-push model



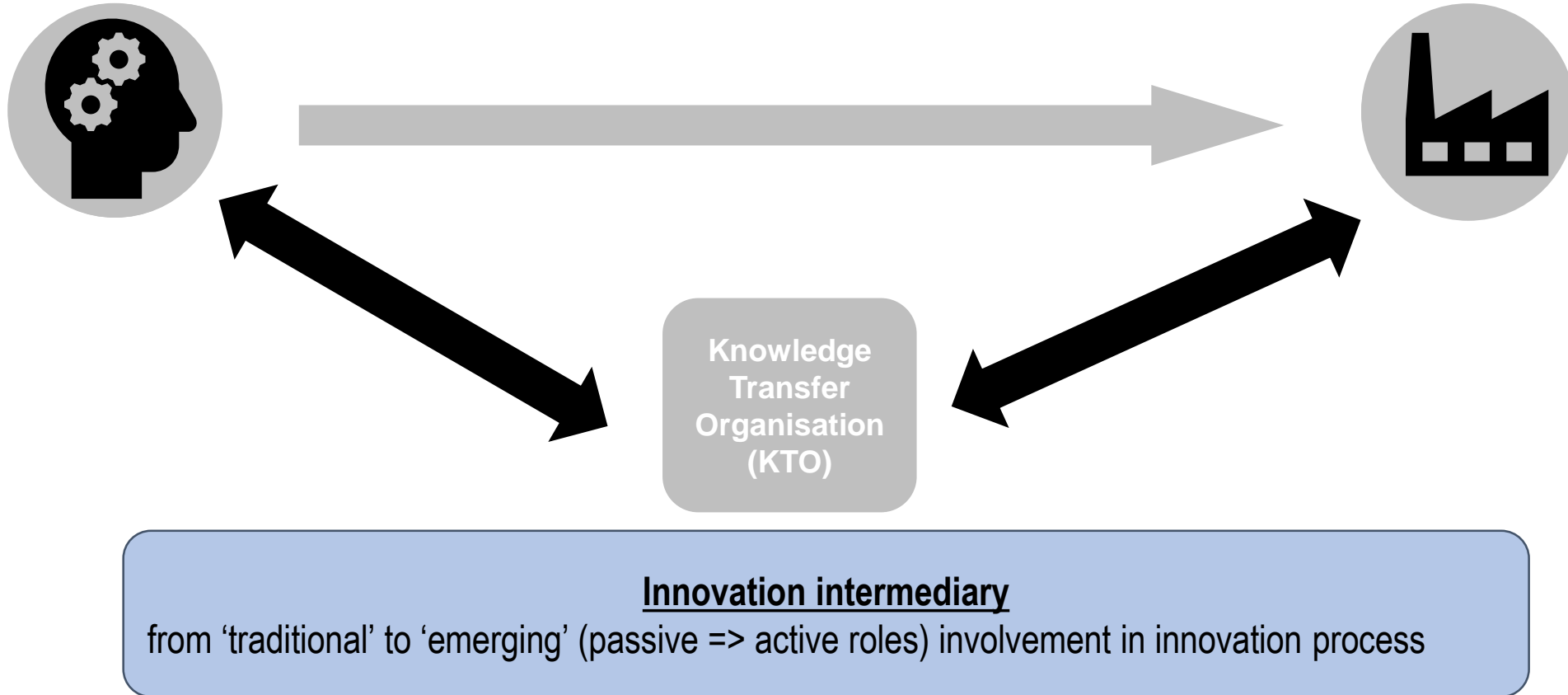
Interactive model of innovation

(Hidalgo & Albers 2008)

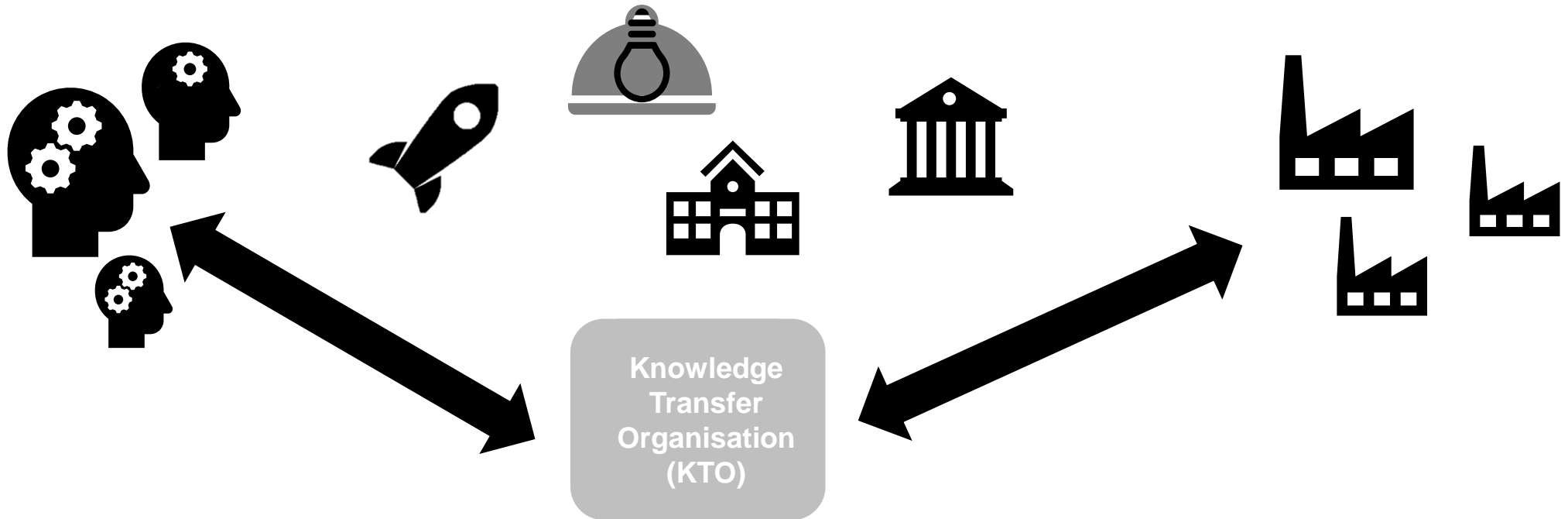
Innovation is a (diversified/interactive/learning) **process**

- exchange of codified and tacit knowledge *(Patel and Pavitt, 1994)*
- relationships between firms with different actors *(Kline and Rosenberg, 1986)*
- interdependence between actors generates an innovative system *(Edquist, 1997)*

1. My research on knowledge transfer



1. KTOs in regional innovation systems



Influence of external stakeholders

- adoption of new organisational roles (university defender, cultural change agent, territorial builder)
- duality of roles results in organisational tensions

2. The impact issue

*“**Impact** is a measure of the tangible and intangible effects (consequences) of an entity's action or influence upon another.”*

(businessdictionary.com)

- Definition and operationalization in respective context
- KTO performance is more complex than economic input-output measurement (KTO treated as ‘blackbox’)
- The KTO community has recognized the need for impact metrics

Progress since IC13

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Challenges & opportunities today

<p>Limitations current maturity models</p> <p>functions (Secundo et al 2015) →</p> <p><i>operational</i></p> <ol style="list-style-type: none"> 1. appraisal of status quo 2. roadmap how to proceed 3. monitor progress <p><i>strategic</i></p> <p>Solely appraisal of status-quo</p>	<p>European TTO comparability</p> <ul style="list-style-type: none"> • Participation in (inter-)national data collection <p>Incentivize to participate / support</p> <ul style="list-style-type: none"> • Comparability of national metrics <p>Need to standardize existing metrics</p>
<p>Develop approach for strategic management of TTO practices</p>	<p>Foster measurement and benchmarking of TTO performance</p>

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Future work

Develop approach for strategic management of TTO practices

↔

Foster measurement and benchmarking of TTO performance

Pre-requisites

- Considering maturity of practices
- Understanding influence of stakeholders on TTO roles and practices
- Broader conceptualization of performance (public value, stakeholder impact etc.)
- Develop indicators & link to TTO practices

contingent TTO performance assessment framework

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2. Development of holistic practice-based KTO maturity model

Understand if there is a link between state of KTO managerial-practices and its internal and external resource base and the organisations' outputs, and outcomes, i.e. ecosystem impact

Conceptual model phase

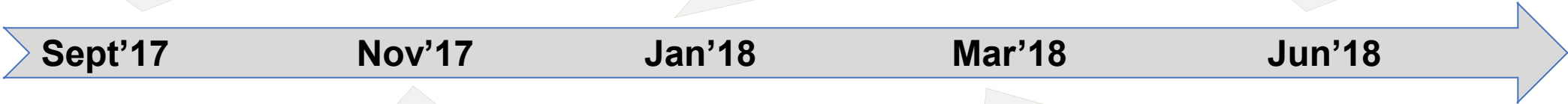
- Literature review on KTO managerial practices
- Development of 5 model dimensions

Pilot stage

- Review of with selected European KTOs
- Refine self-assessment form based on feedback

Analysis

- Data analysis and presentation of results at R&D management conference



Presentation at Fall meeting



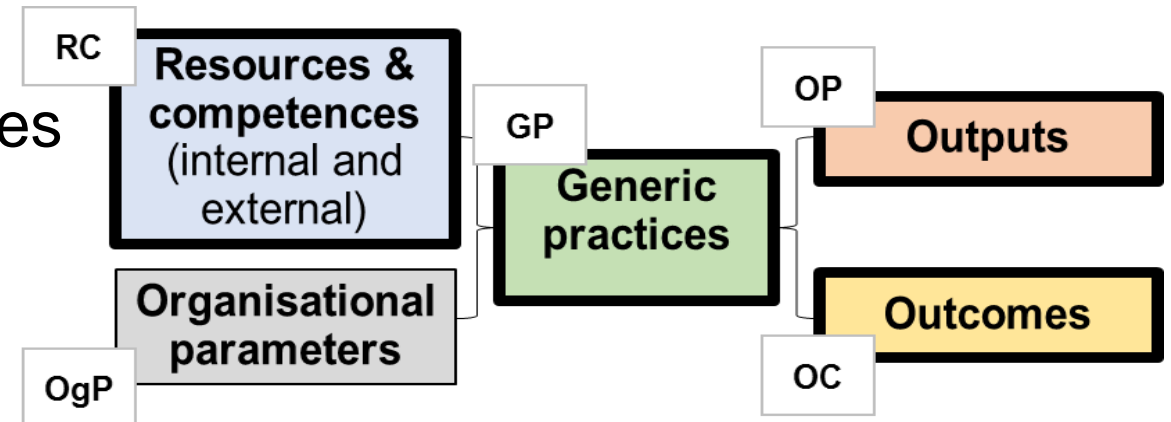
Roll-out

- Revision of KTO model after pilot stage
- final KTO maturity model is rolled-out to European KTOs

2. Model structure

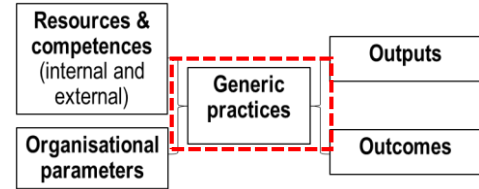
Main building blocks*:

1. Organisational parameters
2. Resources and competences (internal and external)
3. Generic practices
4. Outputs
5. Outcomes



* (Bounfour 2003, JIC, “The IC-dVAL approach”)

2. Model detail – generic practices



Maturity levels and generic KTO practice-dimensions

		KTO generic-practices dimensions					
		Sensing & seizing opp. (GP3.1)	Boundary spanning (GP3.2)	Combination&translation (GP3.3)	Co-creation & development (GP3.4)	Cultural change management (GP3.5)	Knowledge Management (GP3.6)
		GP3.1.9 GP3.1.8 GP3.1.7 GP3.1.6 GP3.1.5 GP3.1.4 GP3.1.3 GP3.1.2 GP3.1.1	GP3.2.7 GP3.2.6 GP3.2.5 GP3.2.4 GP3.2.3 GP3.2.2 GP3.2.1	GP3.3.7 GP3.3.6 GP3.3.5 GP3.3.4 GP3.3.3 GP3.3.2 GP3.3.1	GP3.4.3 GP3.4.2 GP3.4.1	GP3.5.6 GP3.5.5 GP3.5.4 GP3.5.3 GP3.5.2 GP3.5.1	GP3.6.7 GP3.6.6 GP3.6.5 GP3.6.4 GP3.6.3 GP3.6.2 GP3.6.1
Maturity level	B-Initial						
	B Managed						
	A-Defined						
	AAA Advanced						
	AA Generalised						

Each practice is assessed individually for its intensity of use:

SURVEY QUESTION EXAMPLE

Indicate the extent to which the following statements apply to your organization:

	Not done	Experimentation phase	Done in <u>minority</u> of transfer projects	Done in <u>majority</u> of transfer projects	Fully deployed
We scan and select R&D opportunities					

2. Preliminary insights (state of data collection)

- Online survey launched on 8 March 2018
- 9 KTO submissions from Norway, Spain, Ireland, Netherlands, Portugal, Hungary, France, Belgium, Lithuania



- Paper will be presented at R&D Management conference 2018

2. Model dimension 5 - outcomes (prelim.results)

Stakeholder impact

Academia	Industry partners	Public sector institutions	General public/ society
<ul style="list-style-type: none"> • Financing for research • Marketing • Improved attractiveness for students • Opportunities for government funding • Relevance of research • Concrete real-world insights for research • Researcher motivation 	<ul style="list-style-type: none"> • Marketing • Recruitment of talent • Access to new knowledge • Speed up development of new products and services & adoption of new technologies • Competitive advantage/first-mover • Better positioned and prepared for long-term survival and growth 	<ul style="list-style-type: none"> • Relevant education • Creation of jobs • Ensure strong and competitive industry • Treatments are adopted as consensus treatment for the respective patient group across Europe 	<ul style="list-style-type: none"> • Relevant education • Creation of jobs • Safer & more effective cancer treatment

Value creation

Economic value	Social value	Environmental value
<ul style="list-style-type: none"> • Make education fun again • disinfects water and air • safer mines, faster oil production(less carbon footprint) • New jobs created in spin-offs • Improved competitiveness of industry partners 	<ul style="list-style-type: none"> • Language preservation • Empower women refugees to use ICT • Use of our software for transplants (healthcare) 	<ul style="list-style-type: none"> • disinfection of water and air • secure and fair transactions through new block chain technology • security in cybersecurity in chatrooms to avoid grooming • (not relevant)

Need to develop impact metrics

- Lack of existing metrics
- Anecdotal evidence

3. Innovation and impact

*“**Innovation** is the development and implementation of new ideas by people who over time engage in transactions with others within an institutional order” (Van de Ven 1986, p.590)*

Innovation

1. IS the process & the outcome (product/idea implementation) of this process
2. HAPPENS WITHIN an institutional order

3. The need for an institutional perspective

“Institutions are stabilizations of economic (or social) interactions or correlated patterns of behaviour” (Setterfield 1993)

- Context specific
- Inimitable
- Expectation based
- Enforced through sanctions
- 2 perspectives on institutions (Glückler and Lenz, 2016)
 - Theories of institutions
(*antecedents* – how institutions emerge, change and are sustained)
 - Institutional theories
(*outcomes* - social and economic effects of institutions)

3. Contemporary institutional theory

- Institutions are carried out through and shaped by social behaviour
- Constructed and maintained by individual actors, operate on multiple levels

Institutional elements/systems	Regulative	Normative	Cognitive
Compliance based on			
Legitimacy based on			
Indicators			
Promoted by			
Ontology (nature of reality)			
Carriers Cultures < Social structures < Routines <			

3. Institutions in knowledge transfer & football

Institutional elements/systems	Regulative (set of rules)	Normative (social obligation)	Cognitive (Symbols, categories)
Knowledge transfer			
Football (soccer)			



Let the games begin

Thank you for your attention

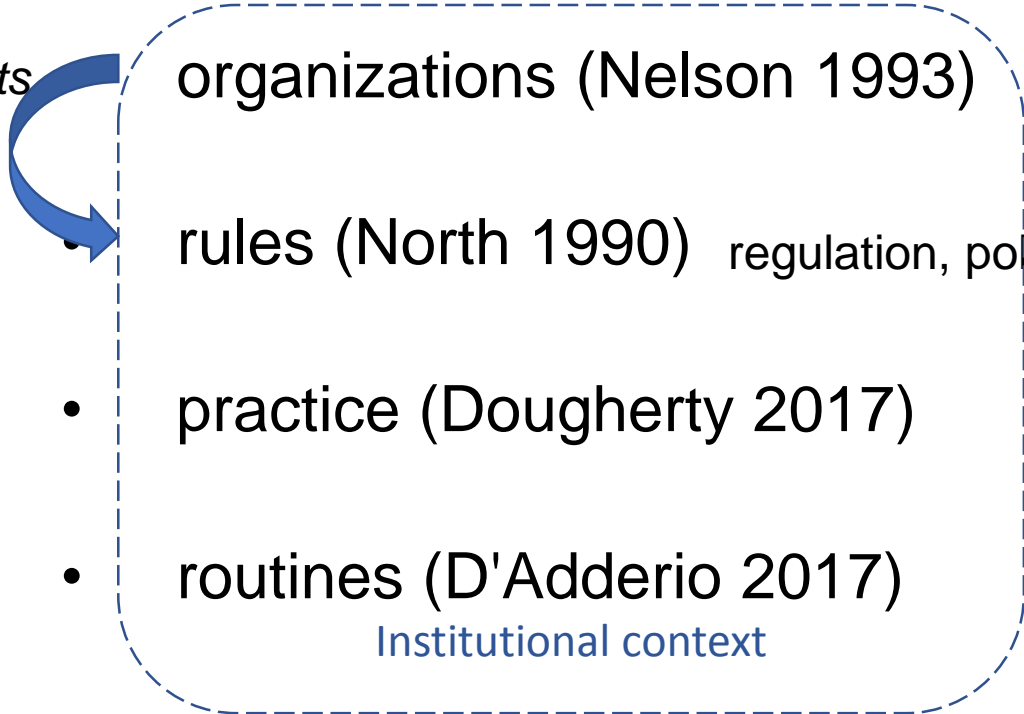
Laura Kreiling, University Paris-Sud

Not sure about
this slide yet

2. Challenge to link innovation and institutions

- institutions are often viewed and treated in different ways:

*Firms & governments
create*

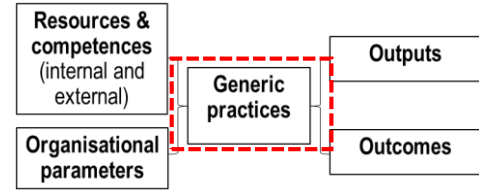


*May not be followed
Subject to interpretation*

Outcomes
may differ

Economic (inter-)action are guided by rules and regulation
> Difference between intended and actual outcome

3. Model detail – generic practices



GP3.1 Sensing & seizing opportunities

TTO intelligence capabilities: ability to identify good signals and acting upon KT / TT opportunities in academia and industry

GP3.3 Translation & Combination

Matching capabilities: Ensuring understanding amongst partners and matching based on their capabilities

GP3.5 Cultural change management

Changing the mindset capabilities: Institutionalising research commercialization at universities and absorption of external knowledge in industry.

GP3.2 Boundary spanning

Cross-fertilizing capabilities: Enabling the formation of innovation projects between previously disconnected actors

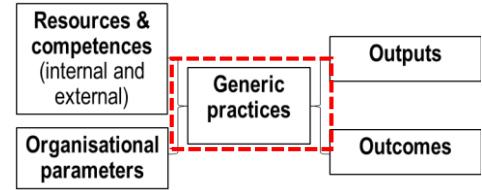
GP3.4 Co-creation & development

Platformic bundling capabilities: Active involvement in the KT/TT innovation process

GP3.6 Knowledge management

Managing the knowledge base: leveraging and combining existing knowledge, acquire and absorb new knowledge, access unrelated knowledge for the creation of internal value.

3. Detailed example of model



GP3.3 Translation & Combination
Matching capabilities: Ensuring understanding amongst partners and matching based on their capabilities.

Individual practices within GP3.3

Translation & combination (GP3)		Not done	Experimentation phase	Done in minority of organisation	Done in majority of organisation	Fully deployed
GP3.3.1	Help secure financial resources for IP development and help academics to become entrepreneurs			X		
GP3.3.2	Increasing cooperation by liaising with people from both sides (academic & industry)				X	
GP3.3.3	Identification of suitable partners and match them based on their expertise				X	
GP3.3.4	Ensure that the needs and interests of customers are adequately transmitted to suppliers, and the capabilities and interests of suppliers are adequately transmitted to customers		X			
GP3.3.5	Making decisions on which information is forwarded, e.g. we filter out irrelevant information. (Gatekeeper)	X				
GP3.3.6	Manage collaborative projects			X		
GP3.3.7	Providing the narrative when creating new projects, set its agenda and use storytelling to bring both partners together				X	

Maturity levels

Example: GP3 practice assessment



Status quo & action plan (organisational summary)										
ID	Practice	B-(1)	B(2)	A-(3)	AA(4)	AAA(5)	Target	Planned actions	Action owner	Date
GP3.1	Sensing & seizing opportunities		x				A-			
GP3.2	Boundary spanning			x			AA			
GP3.3	Translation & combination			x			AA			
GP3.4	Managerial leadership				x		AAA			
GP3.5	Cultural change management	x					B			
GP3.6	(Co-)development / co-creation	x					A-			

1.) Status quo for each practice dimension (scoring)

2.) Action plan to achieve targets (narrating)

1. Survey for assessment of as-is for each practice

2. Visualisation as-is vs. target maturity of practice

3. Definition of action plan after status-quo for each practice dimension

Avenue for future research

“*innovation research* needs to investigate
the **impact of institutional contexts**
and the co-development
of institutions and innovation
more systematically (...)”

(Bathelt et al 2017)