



CE 2007 17/07/07



# Reaching readiness in technological change through the application of capability maturity models principles

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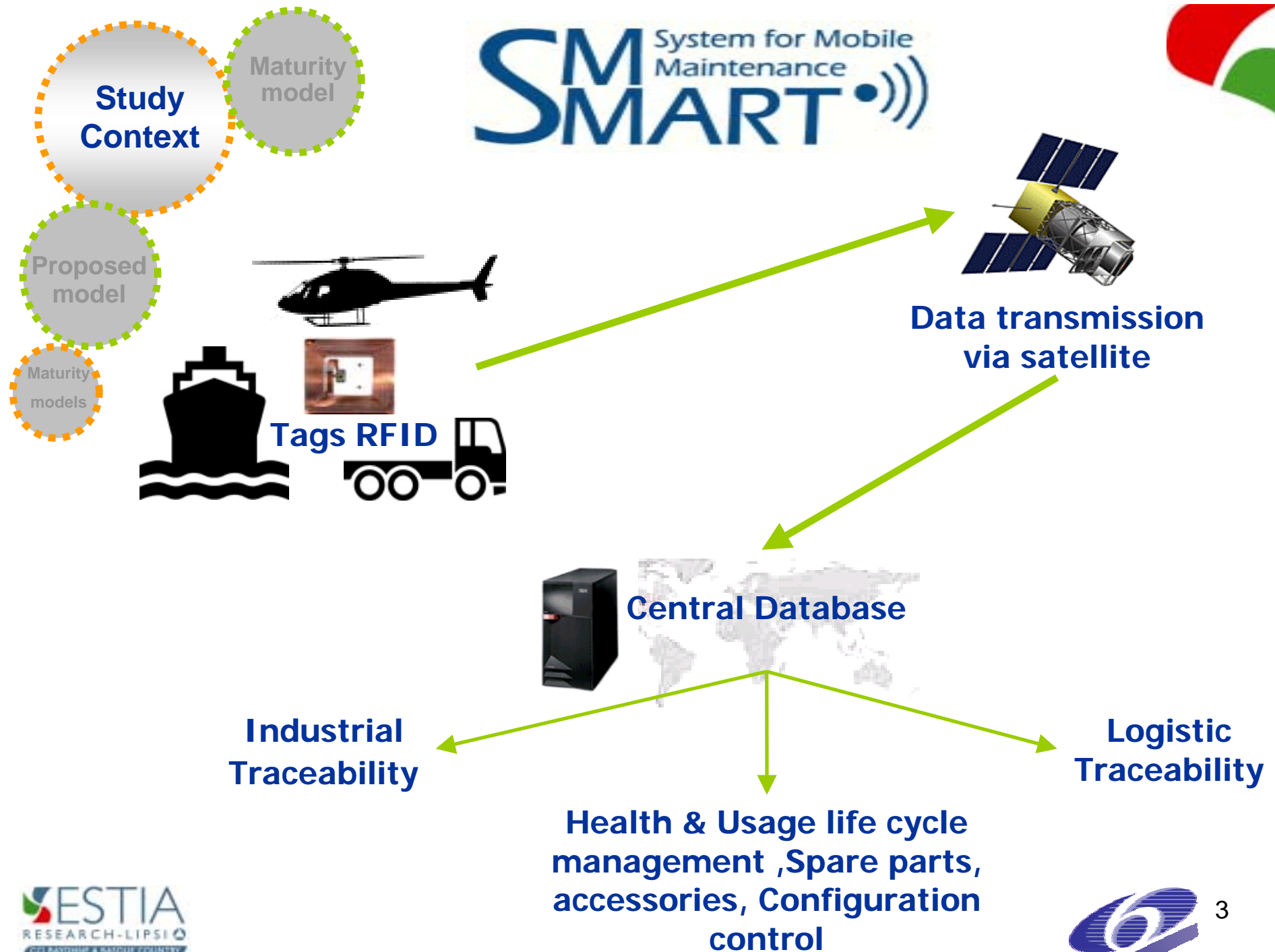


# Agenda

- Study Context
- Maturity concept
- Maturity Model
- Potential change maturity model

# SM SMART

System for Mobile Maintenance





Study  
Context

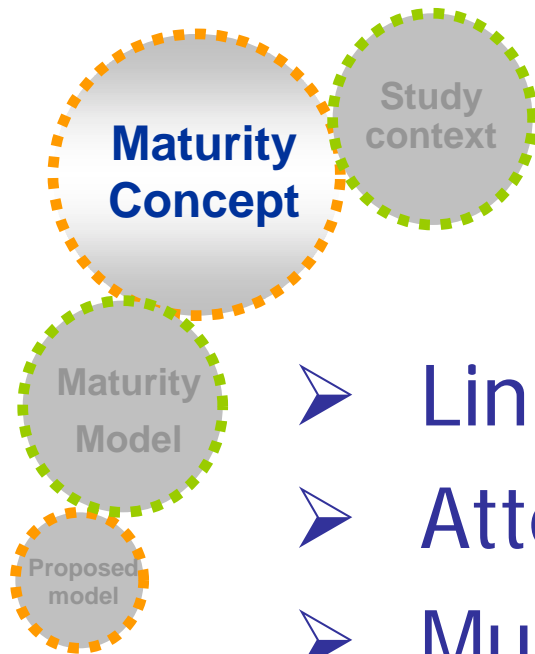
Maturity  
model

# Maintenance Repair and Overhaul (MRO)

Proposed  
model

Maturity  
models

- Original Engine Manufacturers (OEM's)
- Reduce maintenance time/  
Maximize operation time
- Measure change capabilities (On troubleshooting activity)



# Measurements for what ?

- Links with quality
- Attest of a minimum level of service
- Multiple use

## Project Management

PMI PMbook

Kerzner PMMM

## Development of Technical procedures

SEI CMM

CMMI

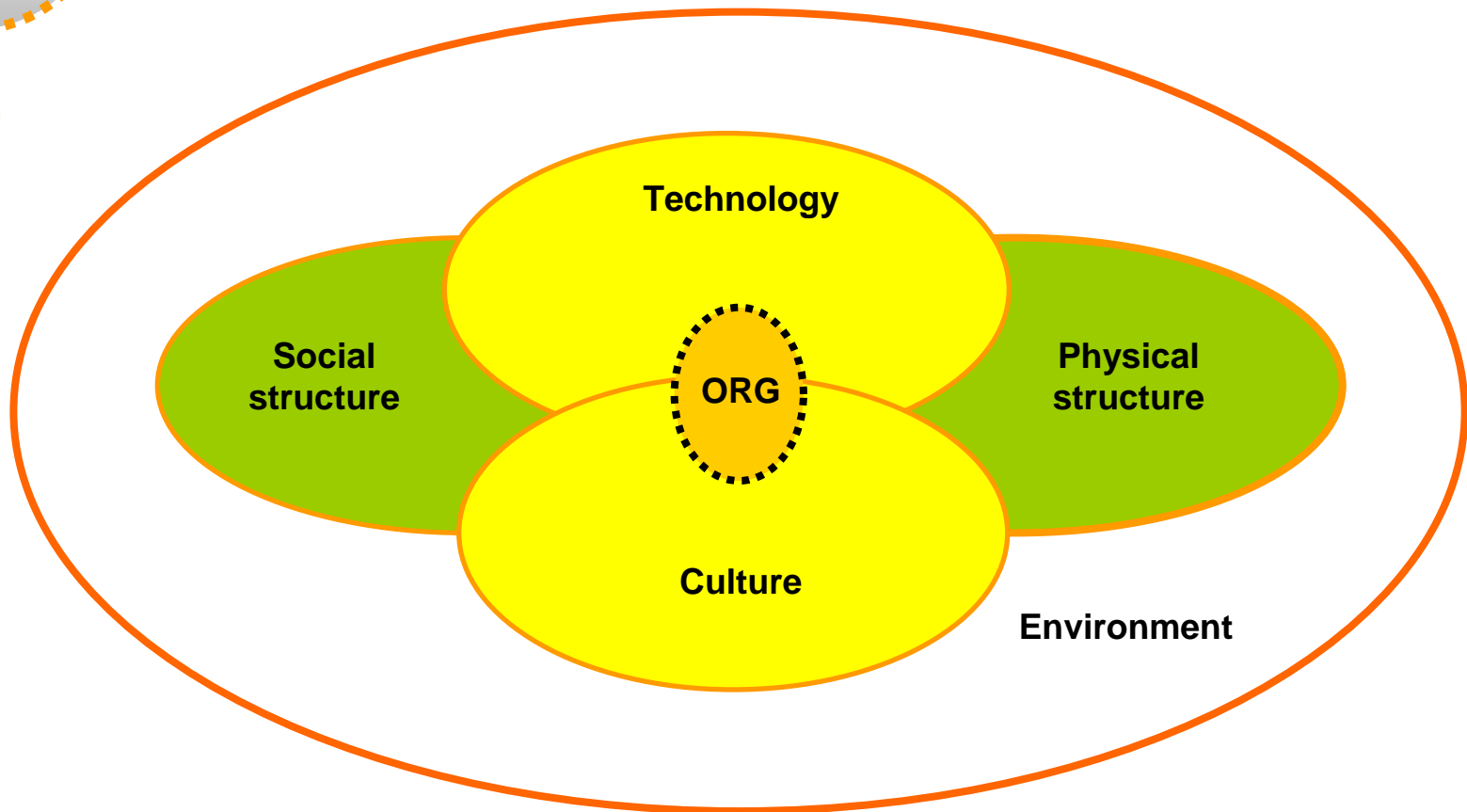
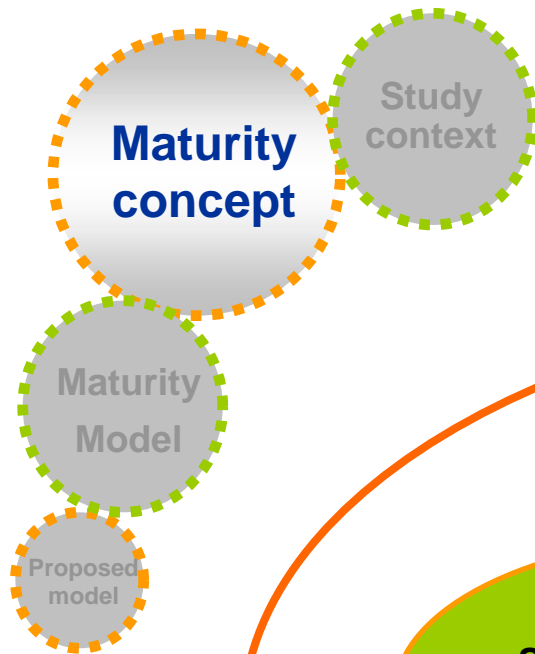
## Organizational maturity

EFQM

Baldrige Award



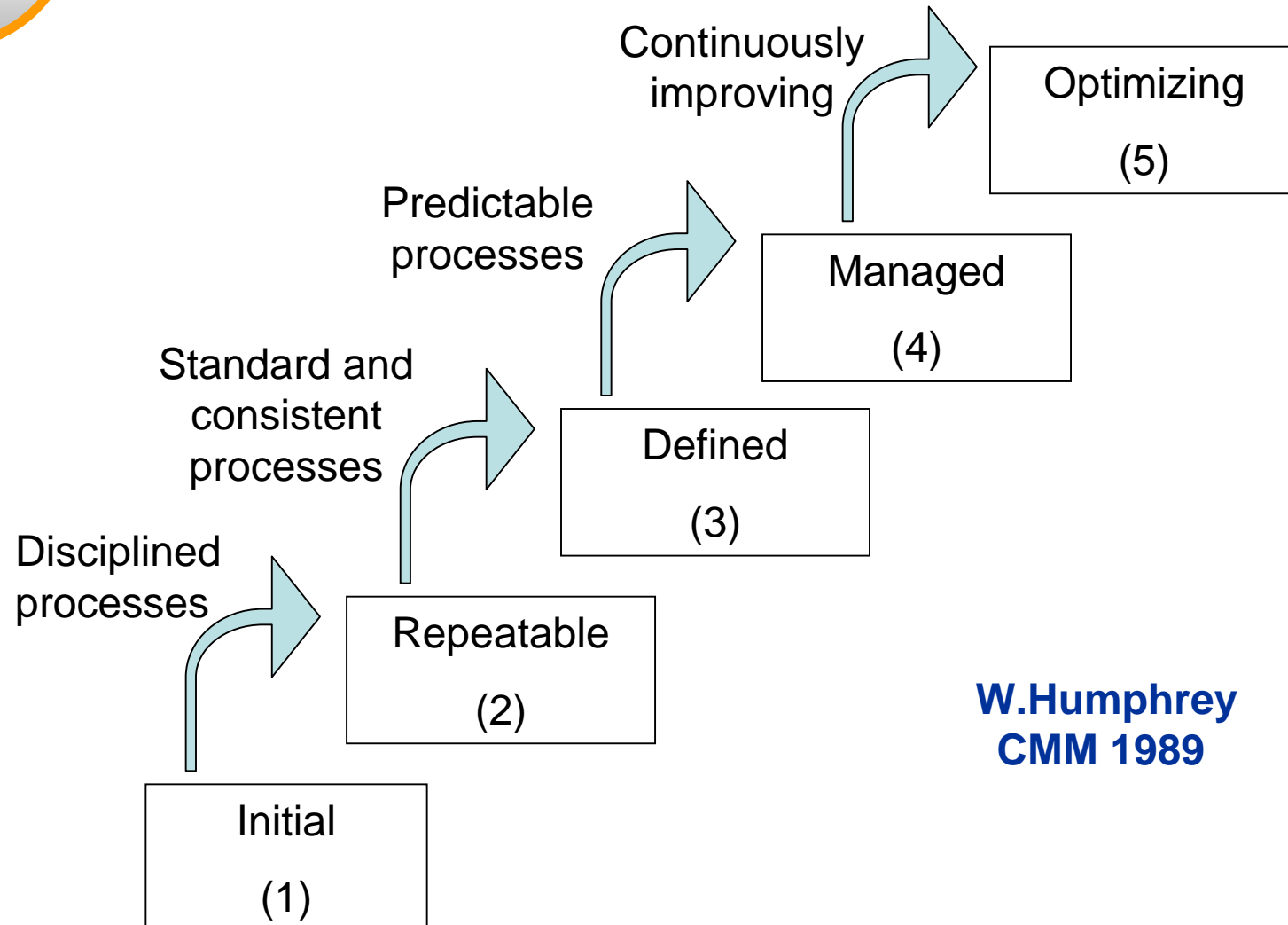
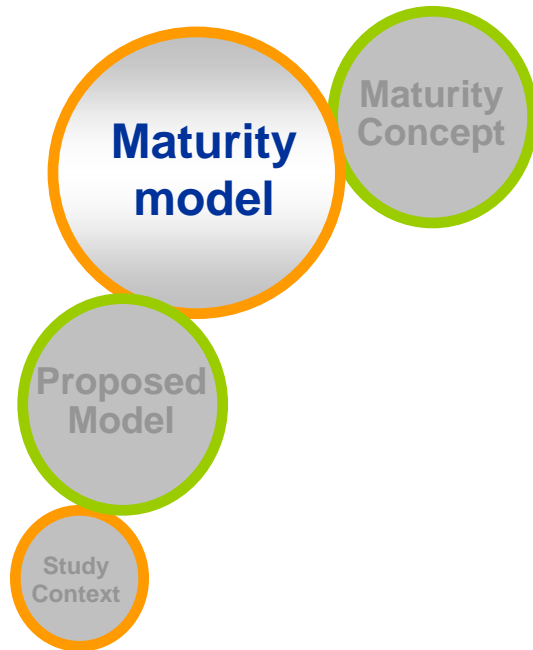
# Maturity : a plurality ?



Hatch, 2000



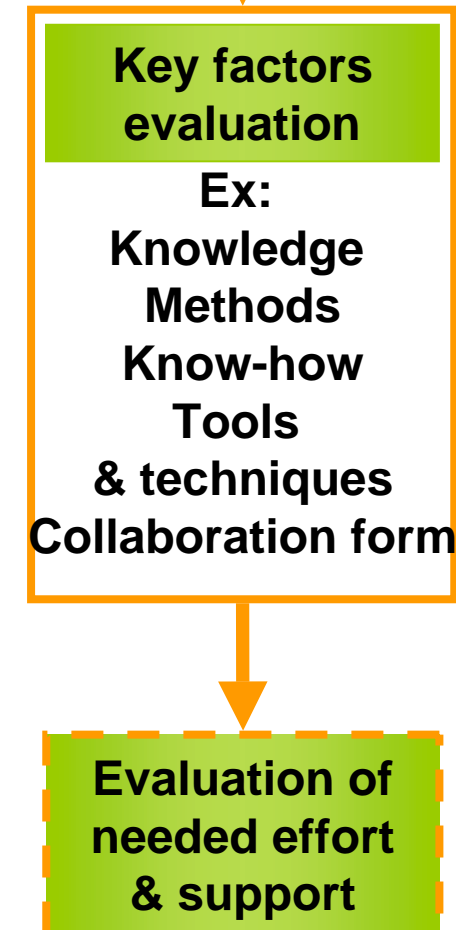
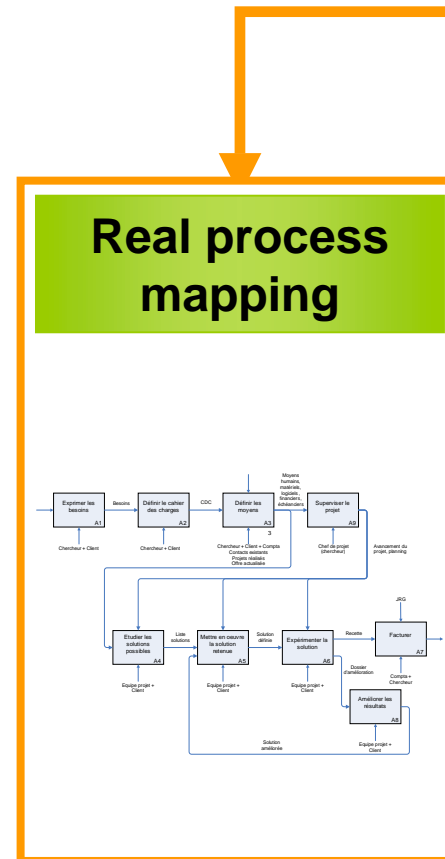
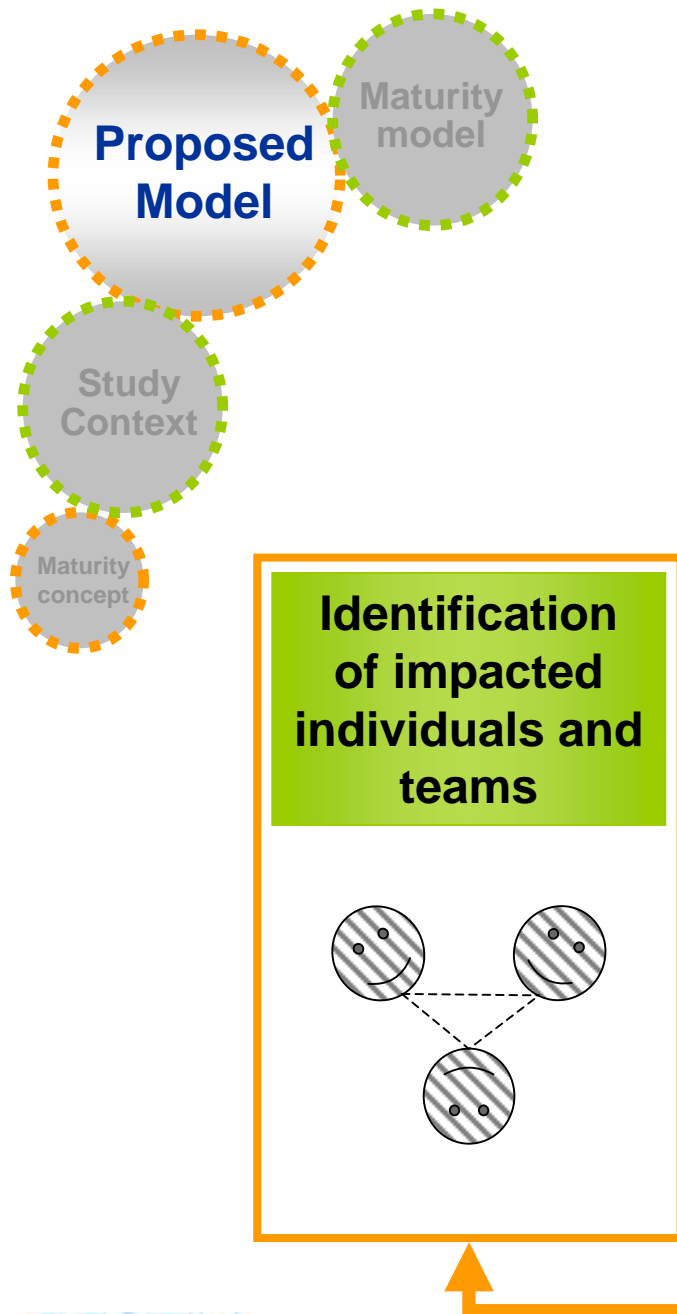
# Evolution concept



**W.Humphrey**  
**CMM 1989**



# Our evaluation model

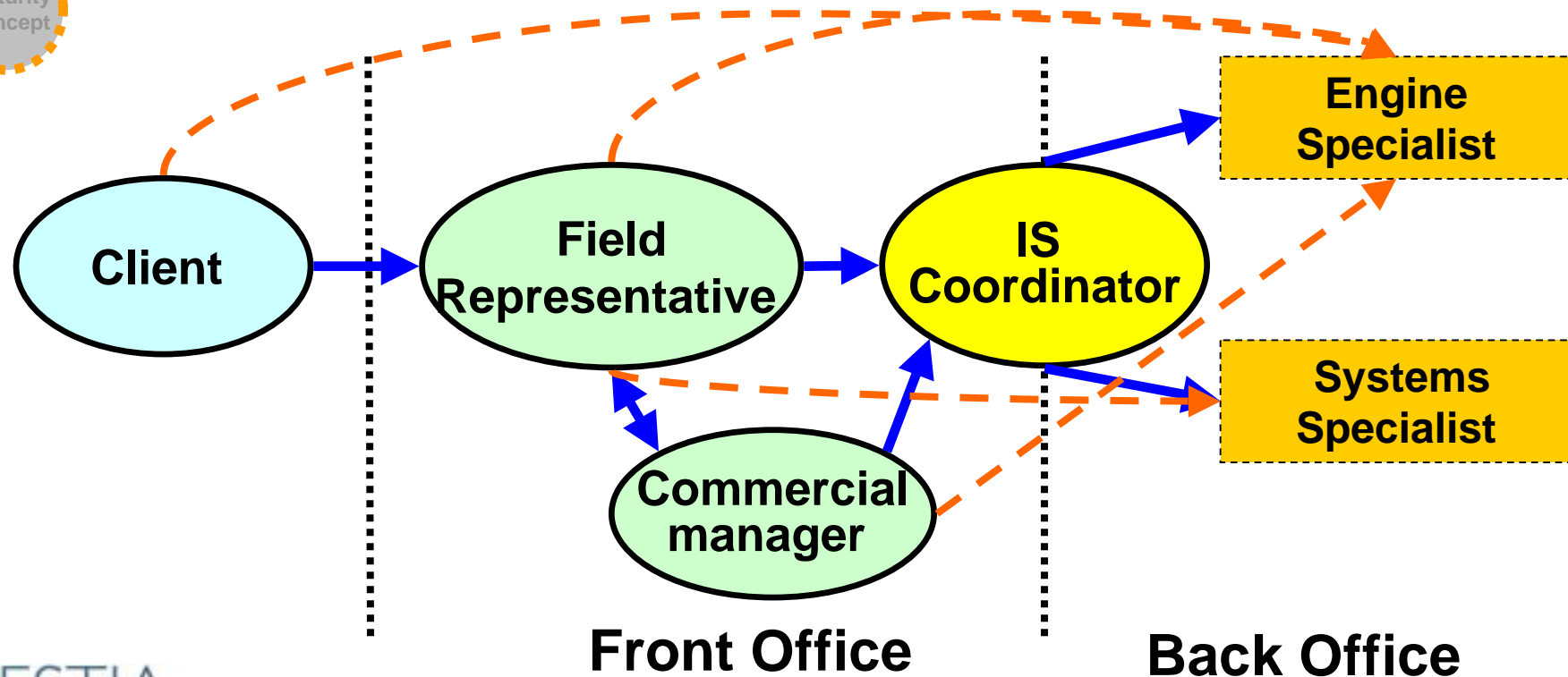
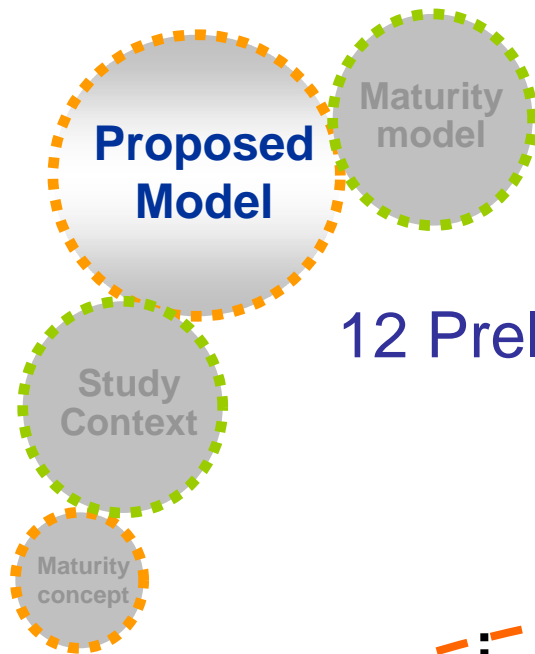


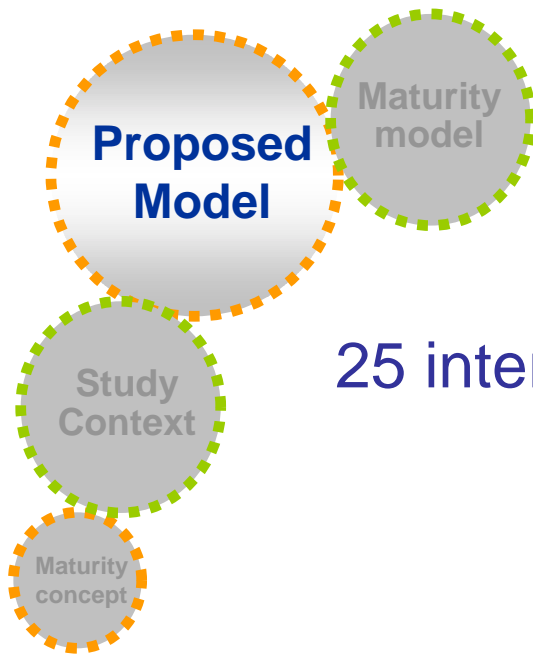




# Activated Social Network

12 Preliminary interviews





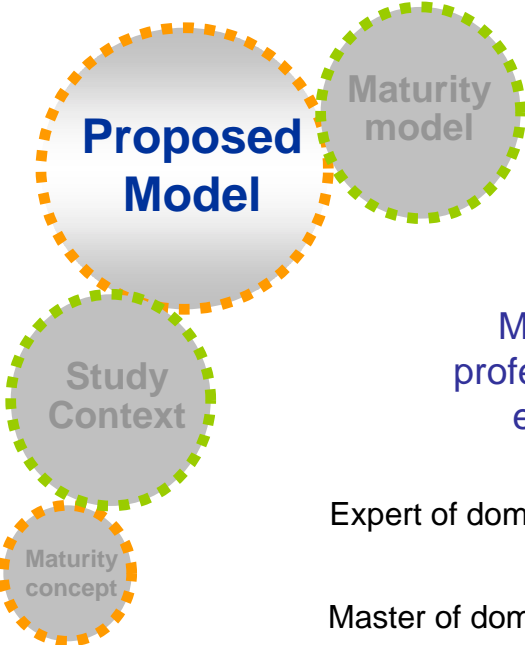
# Activity decomposed

25 interviews regrouping 5 professional corps

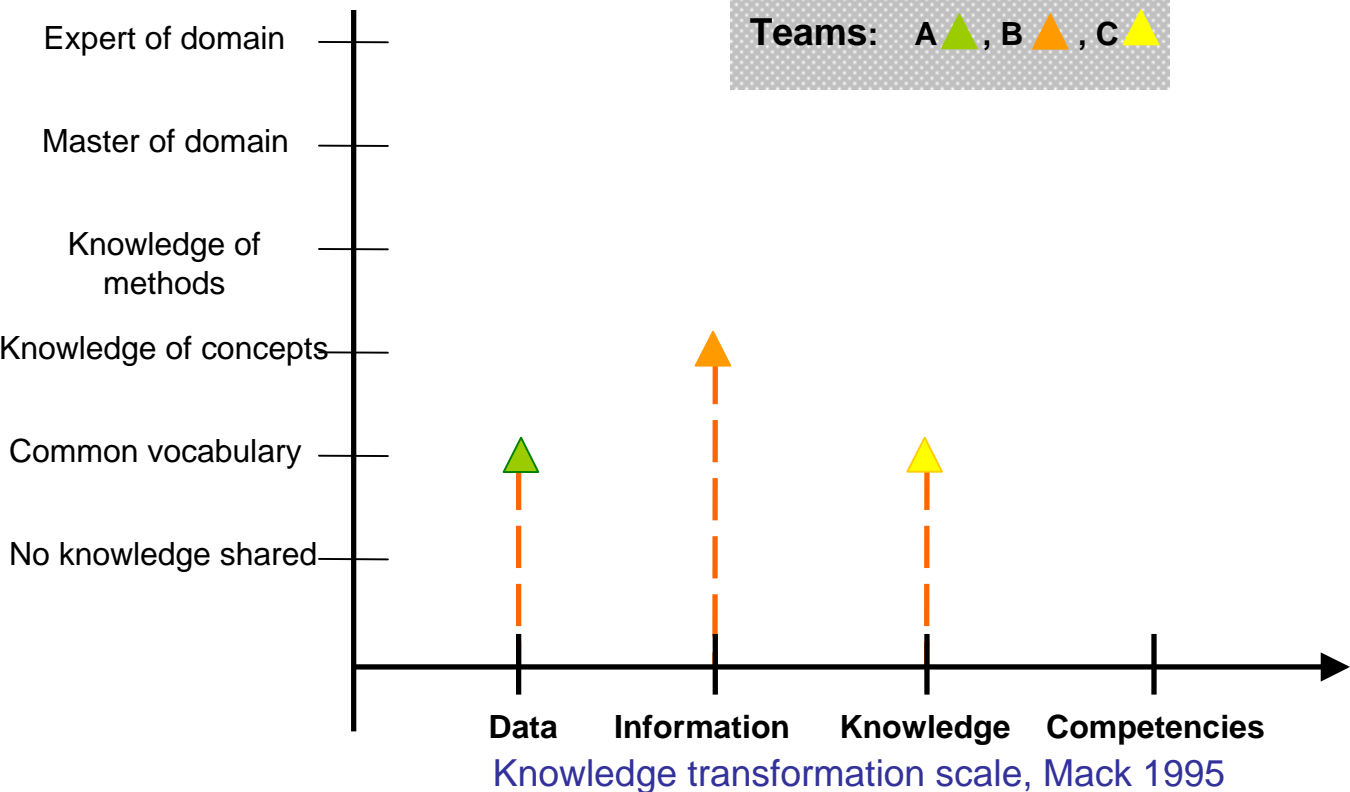
Trouble shooting activity	Description	Actors Role		Tools/Data	Critical decisions	Improvement possibilities
		Respons ible	contrib utor			
<b>Client call</b>	Client Identification/ Diagnostic	FR	CT/ES	Maintenance manual	Define solution	Unique Database
<b>Fault identified</b>	Solution application + Report	FR	CM/ISC	Event Reporting tool	Confirm diagnostic	Knowledge database
<b>Fault non identified</b>	Solution Definition	ES/SS	FR/CM/ ISC	Fault identification manual	Tradeoff within financial & time constraints	Spare parts availability



# Our evaluation grid



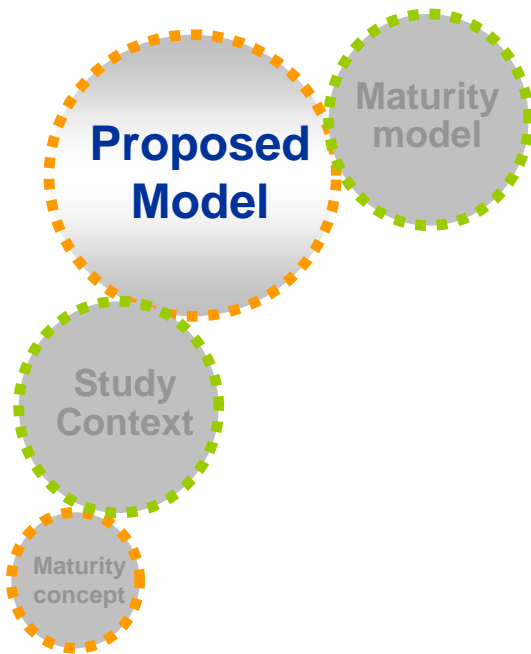
Minel 2004, Within  
profession Cooperation  
evaluation scale





# Job profiles Transformations

Field representative

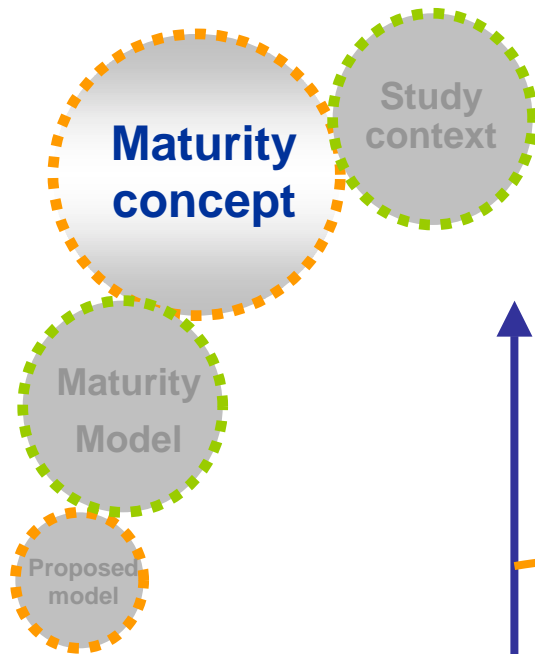


		Level of Importance				Evolving Dimensions				Transforming Methods/Tools
						Data	Information	Knowledge	Competency	
Curative Activities	Faults identification	1	2	3	4	X				Electronic Manual
	Intervention on site	1	2	3	4				X	Mobile Tool
	Solution definition	1	2	3	4		X			Case base reasoning
Proactive Activities	Fleet evolution management	1	2	3	4			X		SMMART Database
	Audits/Training	1	2	3	4				X	Mobile Tool
	Methods/Tools Upgrading	1	2	3	4				X	Collaboration Meetings

●—● AsIS  
●—● ToBe



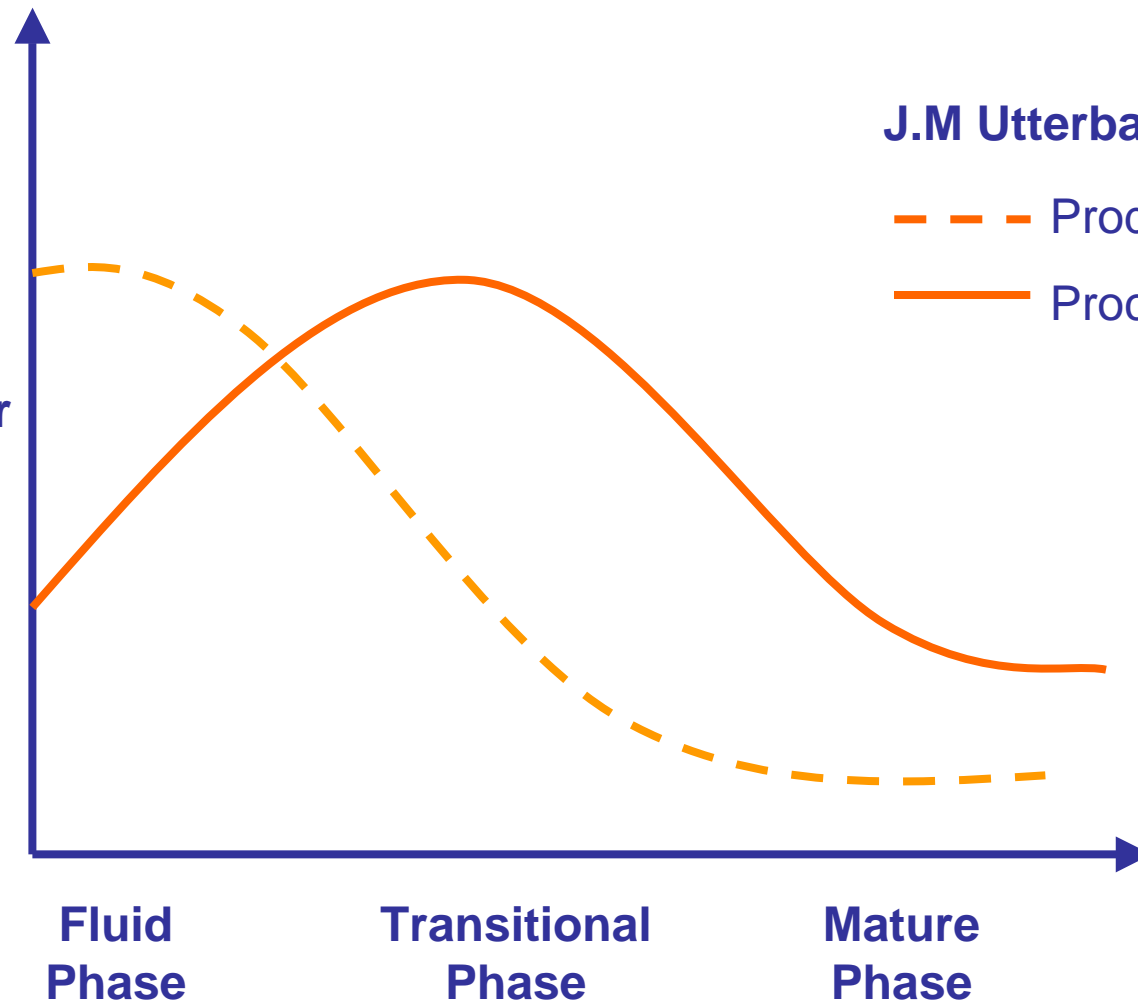
# Innovation lifecycle process V/S product



Rate of major  
Innovation

J.M Utterback, 1996

--- Product  
— Process

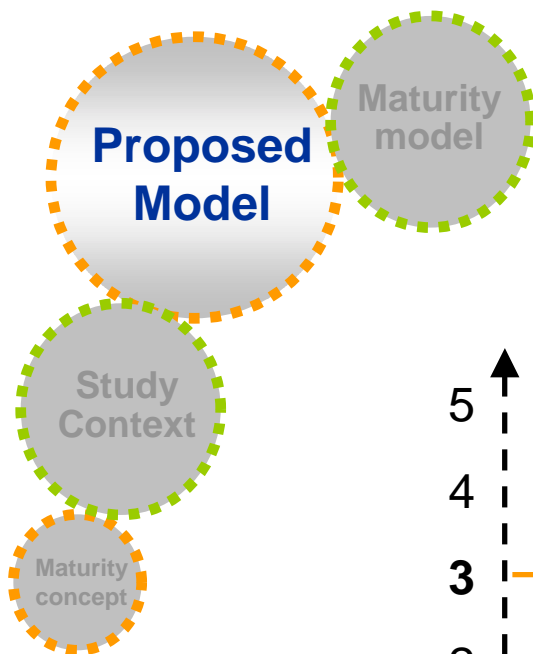


# Your questions !!!

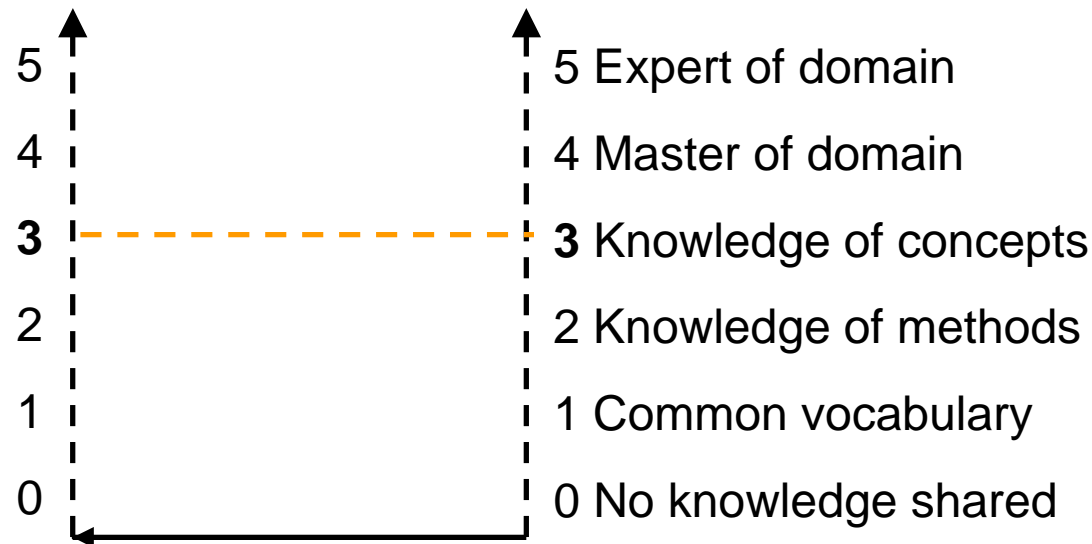
This work has been carried out within the SMMART (System for Mobile Maintenance Accessible in Real Time) project that received funding from the European FP6 Program.

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# Cooperation and information transformation



Within professions Cooperation evaluation scale, S.Minel 2004

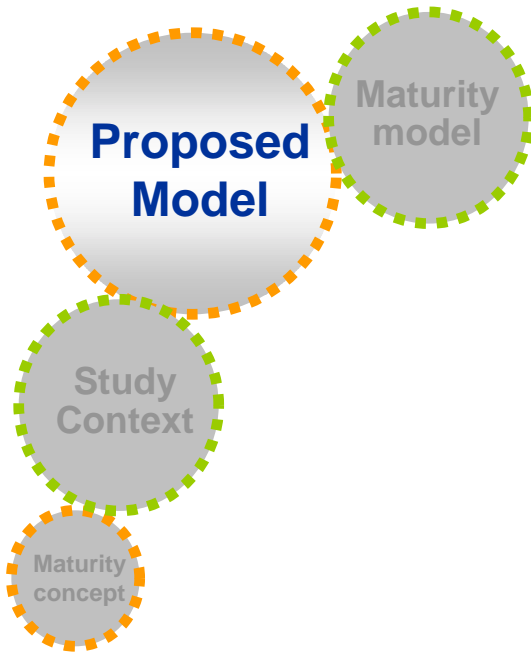


Knowledge transformation scale, Mack 1995



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Field representative



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