REViSITE: Roadmap Enabling Vision and Strategy for ICT-enabled Energy Efficiency

ICT for Sustainable Homes

Workshop

"European RTD roadmapping on ICT for energy efficiency"

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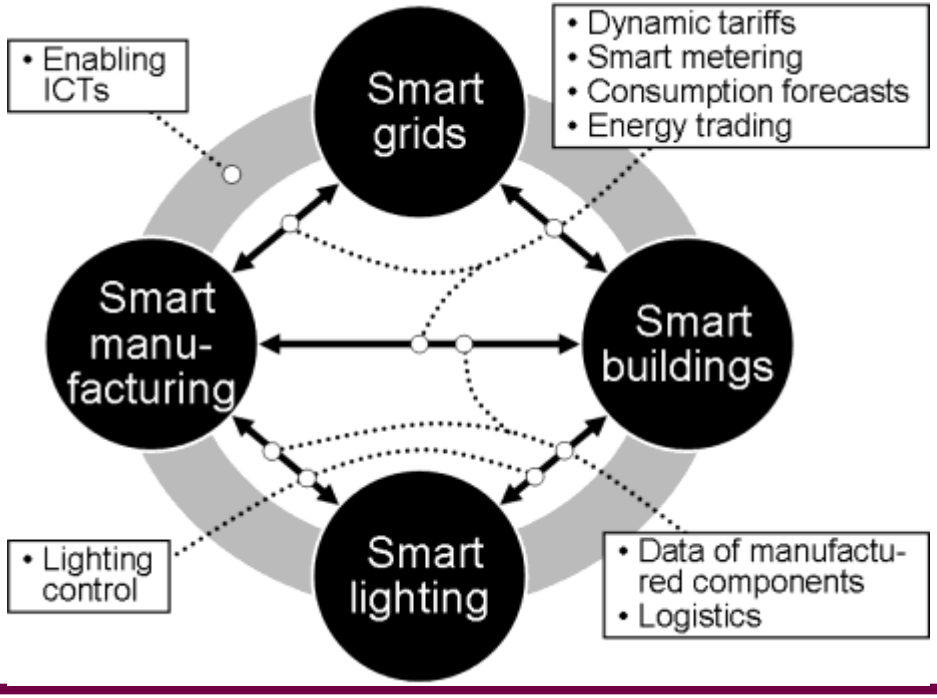
Project Summary

- **Project title: Roadmap Enabling Vision and Strategy for ICT-enabled Energy Efficiency**
- **Project acronym: REViSITE**
- **Project duration: 24 months, starting 1st Feb 2010**
- **Budget: €1.8M, EC contribution €1.25M**
- **Project partners:**

No	Partner Name	Country	No	Partner Name	Country
1	Loughborough University (LOU)	UK	5	Intel Performance Learning Solutions Ltd. (INTEL)	IE
2	Technical Research Centre of Finland (VTT)	FI	6	Fraunhofer Institute for Production Systems and Design Technology (FHG)	DE
3	Centre Scientifique & Technique du Batiment (CSTB)	FR	7	Innova SpA. (INN)	IT
4	KEMA Consulting	NL			

Concept

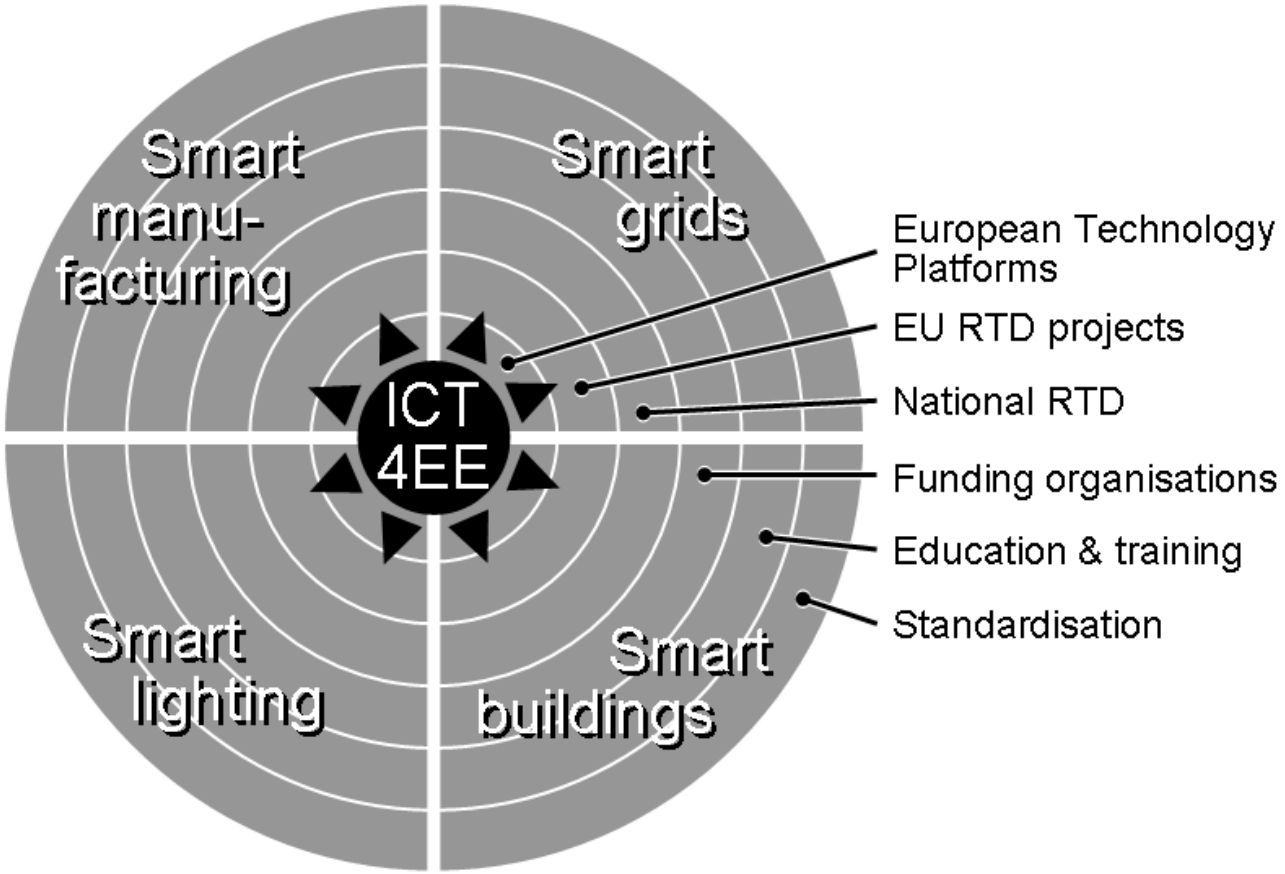
- **Co-ordinate co-operation and communication within Europe multidisciplinary 'ICT for Energy Efficiency' research community.**



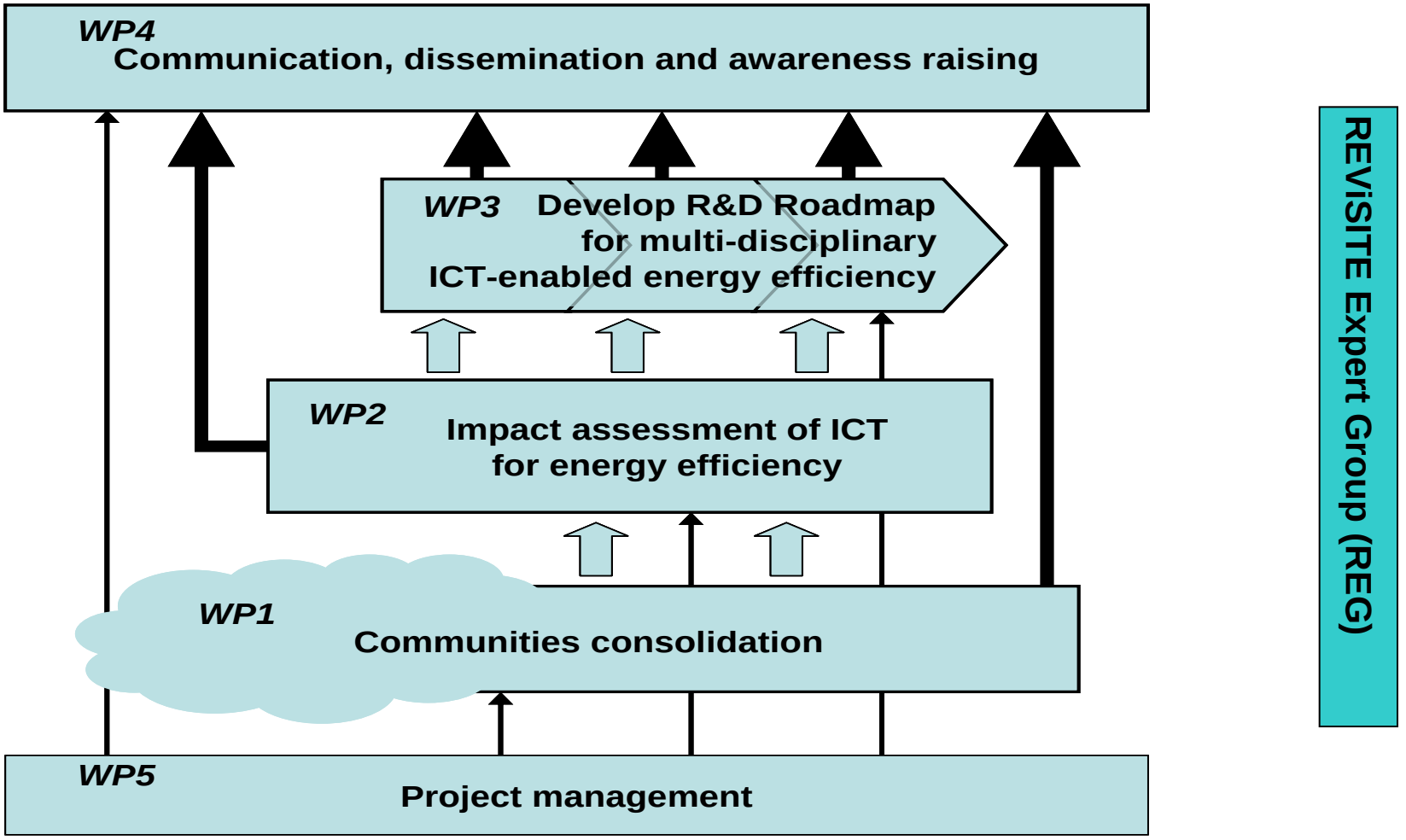
REViSITE Objectives

- Consolidation of the stakeholders communities from the four target sectors
- Develop causal model on the potential impacts of ICT on energy efficiency
- Develop a cross-sectoral RTD roadmap
- Identify opportunities for Interoperability and standardisation between the four target sectors
- Awareness raising, education and training

Overall Strategy



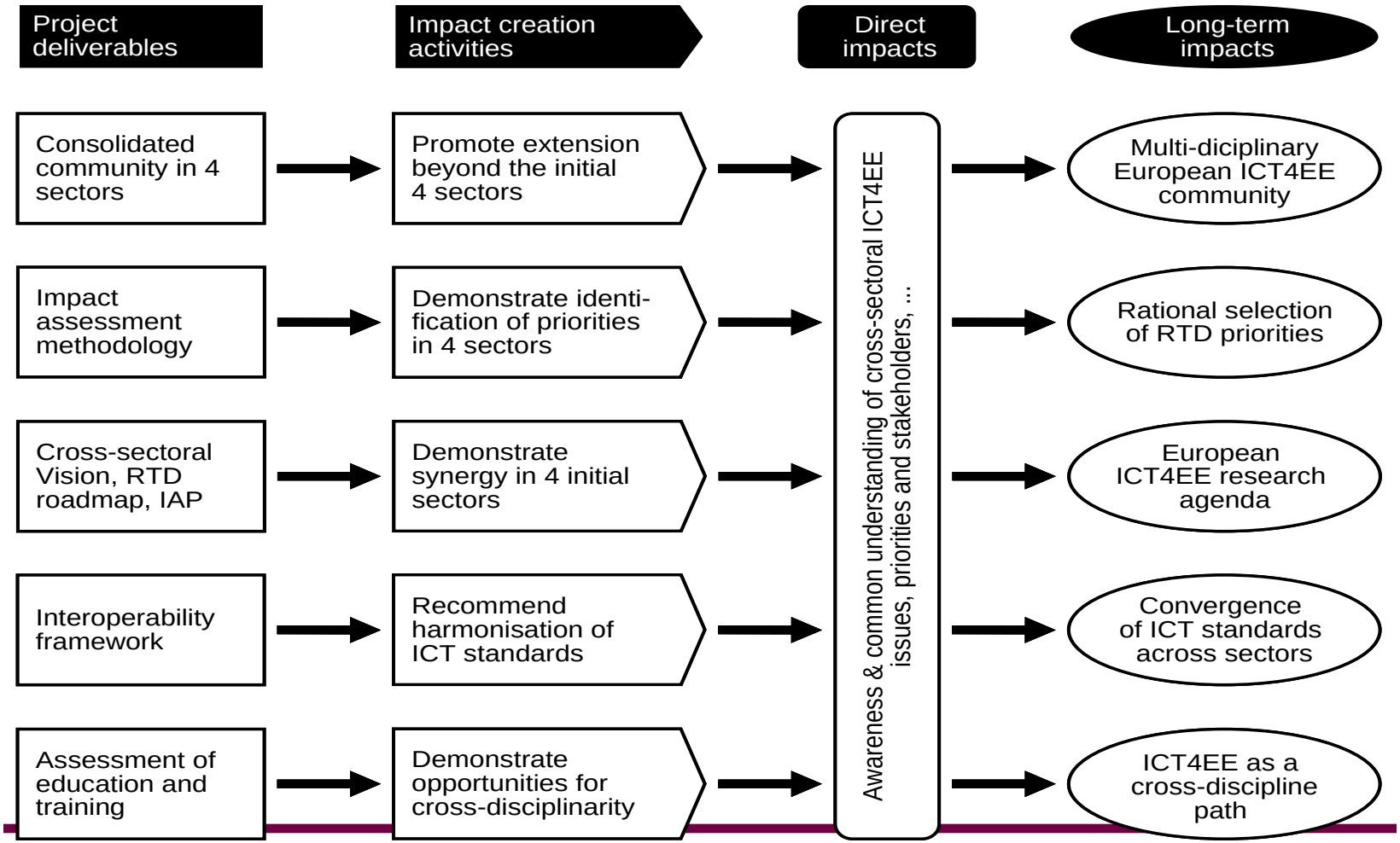
REViSITE Structure



Partners and their relevant expertise

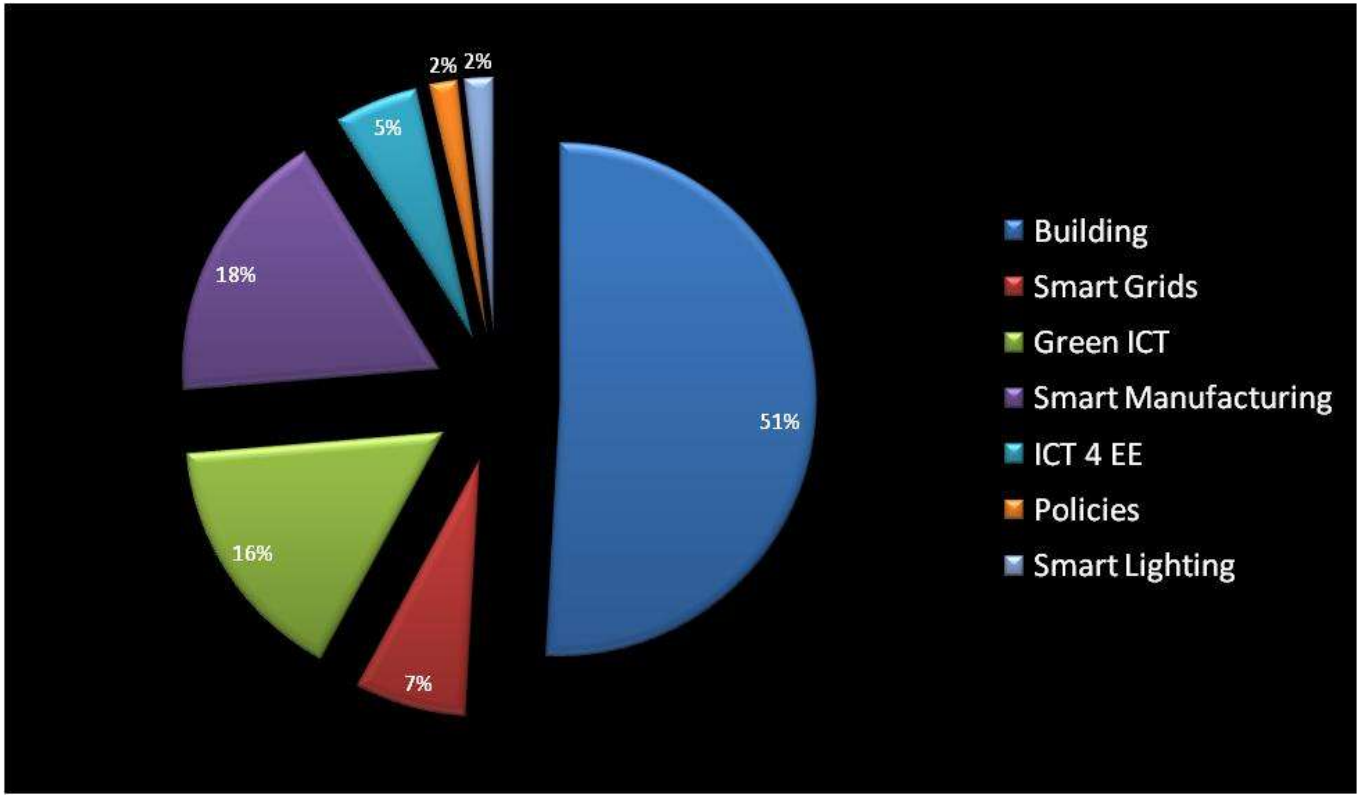
Partner	Area of complimentary expertise	Country
Loughborough University	Hosts the Energy Technology Institute (ETI), a 1.1 Billion Pounds national initiative for new energy technologies, expertise in ICT, smart buildings and smart manufacturing, member of the ECTP, education and training	United Kingdom
VTT (VTT Technical Research Centre of Finland)	Experience drawn from their various institutes, focus on impact assessment, smart lighting and road-mapping activities	Finland
CSTB (Centre Scientifique & Technique du Bâtiment)	Expertise in smart buildings and coordinator of the REEB EU project, hosting the secretariat of the ECTP, experience in road-mapping activities,	France
KEMA Consulting	Expertise in smart grids, KEMA CEO is the chairman of the smart-grids technology platform, expertise in interoperability and standards	Netherlands
Fraunhofer IPK	Expertise in ICT for production technologies, smart manufacturing, sustainable product development and related RTD, member of the European network EMIRAcle. (European Manufacturing and Innovation Research Association)	Germany
Innova SpA	Expertise in technology transfer, dissemination and awareness activities and coordinators of the GENESYS EU project	Italy
Intel	World wide leaders in ICT, expertise in development of green IT strategy, sustainable computing	Ireland

Potential Impact



Community & Focus Group Status

- More than 300 invitations sent
- 60 positive answers

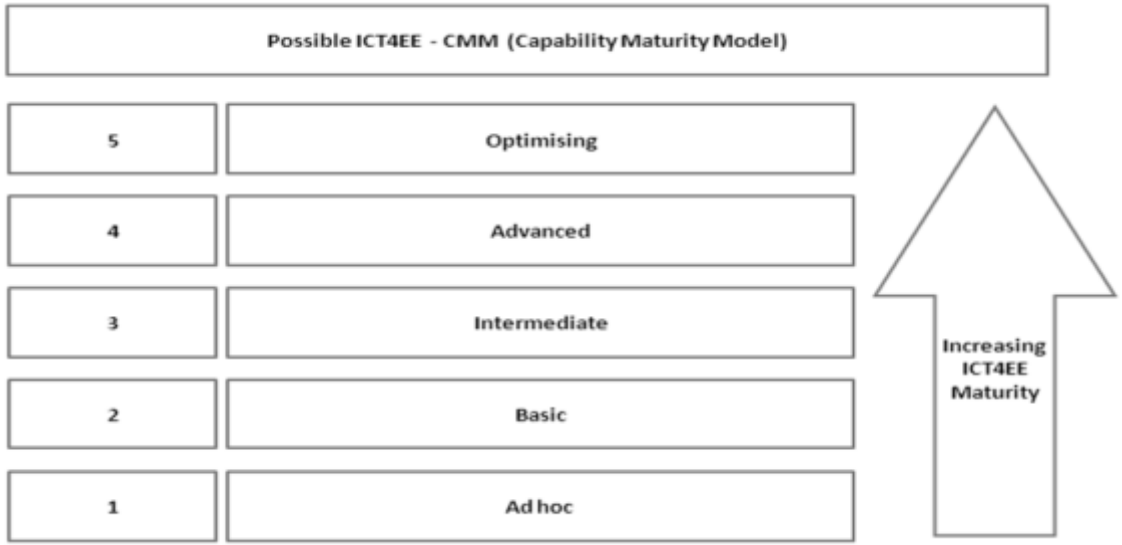


Impact assessment methodology

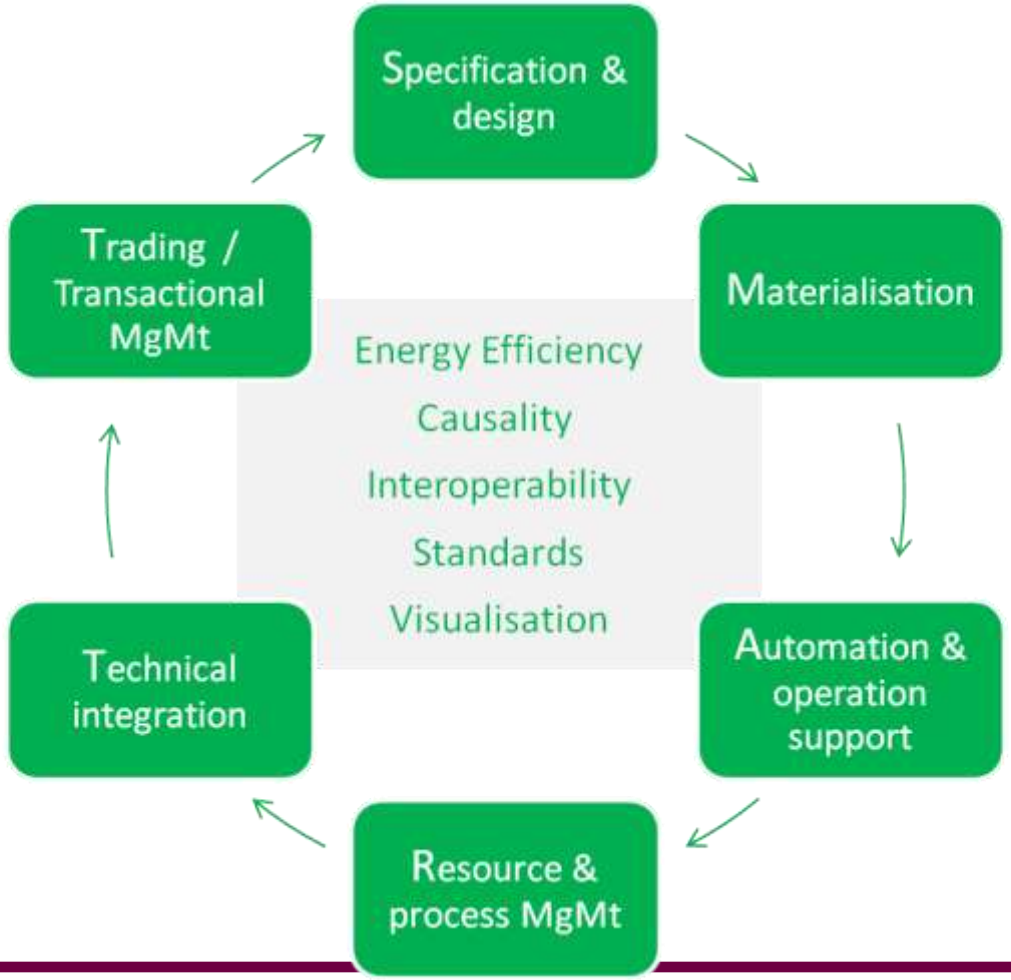
- The proposed common methodology is a hybrid approach that seeks to adopt elements of Life Cycle Analysis and Capability Maturity Model methodologies
- The methodology uses ‘observation data’ and ‘qualitative research’ techniques common in the social, economic and political sciences. Essentially relying on the heuristics & expertise of partners
- The approach is more in keeping with Life Cycle thinking then say detailed Life Cycle Analysis. CMM allows for a quantitative rating of the qualitative

Proposed methodology (2)

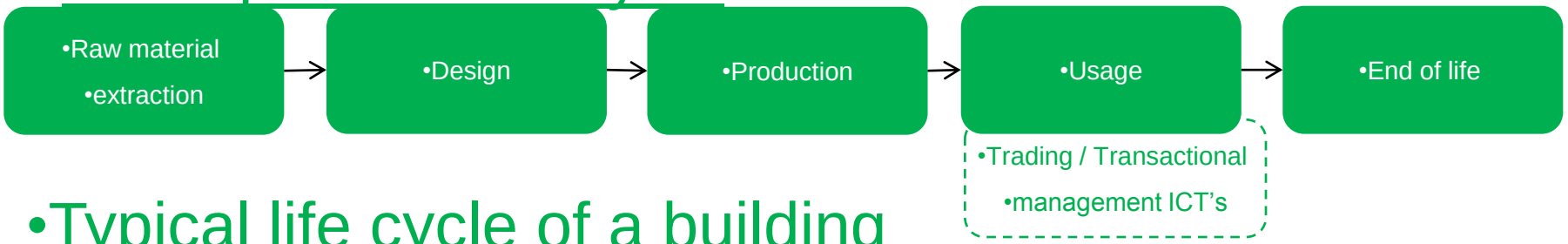
- CMM (Capability Maturity Model)
- The value in utilising CMM is that it allows partners to quantitatively illustrate and analysis what is essentially inductive qualitative research based on case studies and expert opinion in their sectors.



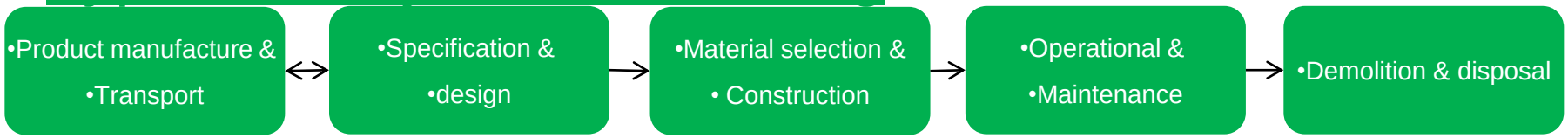
REViSITE SMARTT -Taxonomy



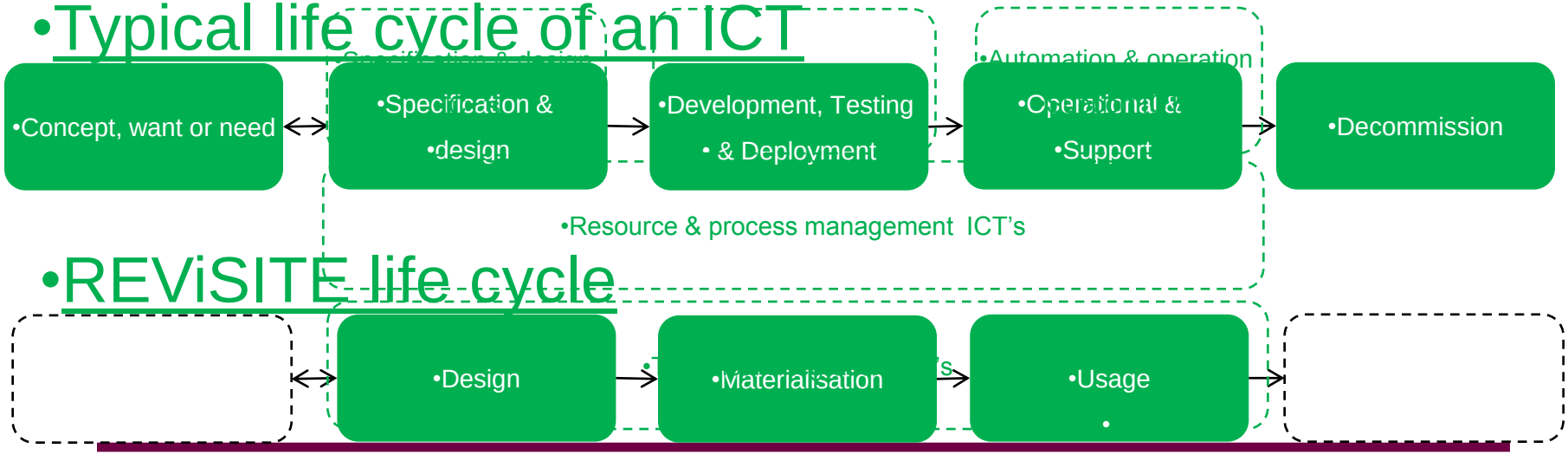
•Basic product life cycle



•Typical life cycle of a building



•Typical life cycle of an ICT



•REViSITE life cycle

SMARTT-Taxonomy sub-categories

1. Specification & design ICT's
   - Design conceptualisation:
   - Detailed design:
   - Modelling:
   - Performance estimation:
   - Simulation:
   - Specification & product/component selection:

2. Material selection & Materialisation ICT's
   - Decision support & Visualisation:
   - Management & control:
   - Real-time communication:

3. Automation & operational support ICT's
   - Automated monitoring & control:
   - Operational decision support (visualisation):
   - Quality of service:
   - Wired/Wireless sensor networks:

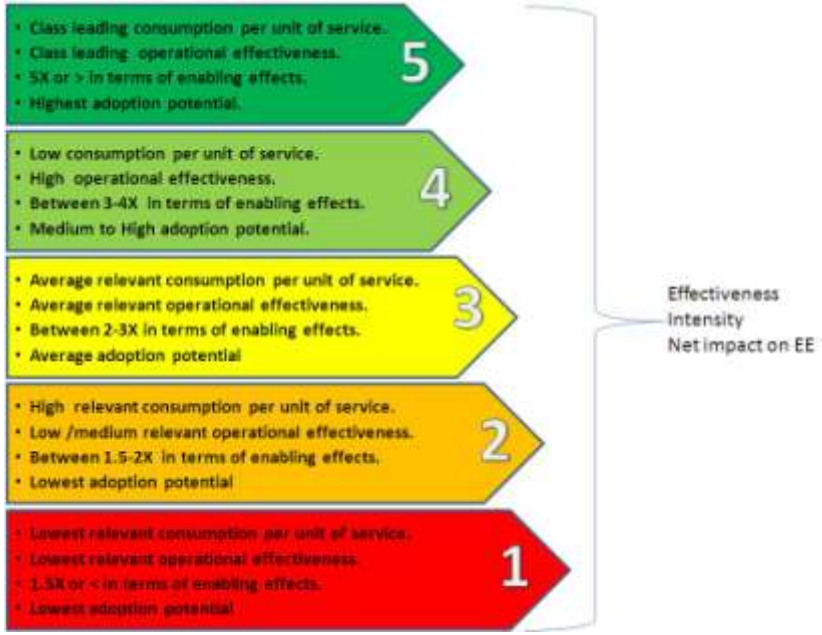
4. Resource & process management ICT's
   - Inter-enterprise coordination:
   - Process integration:
   - Knowledge sharing:

5. Technical integration ICT's
   - Technical integration & interoperability :

6. Trading / Transactional management ICT's
   - District level:
   - Facility level :
   - Citizen level:

REVISITE Template

- The REVISITE template is a simple document design which is effectively a cause & effect matrix
- It has a dual purpose.
  1. It allows for the succinct mapping of RTD & ICT's to the SMARTT-Taxonomy which allows for effective cross-sectoral comparison.
  2. It asks partners to make an assessment in scoring (see opposite) the potential impact of specific ICT's / RTD themes on energy efficiency

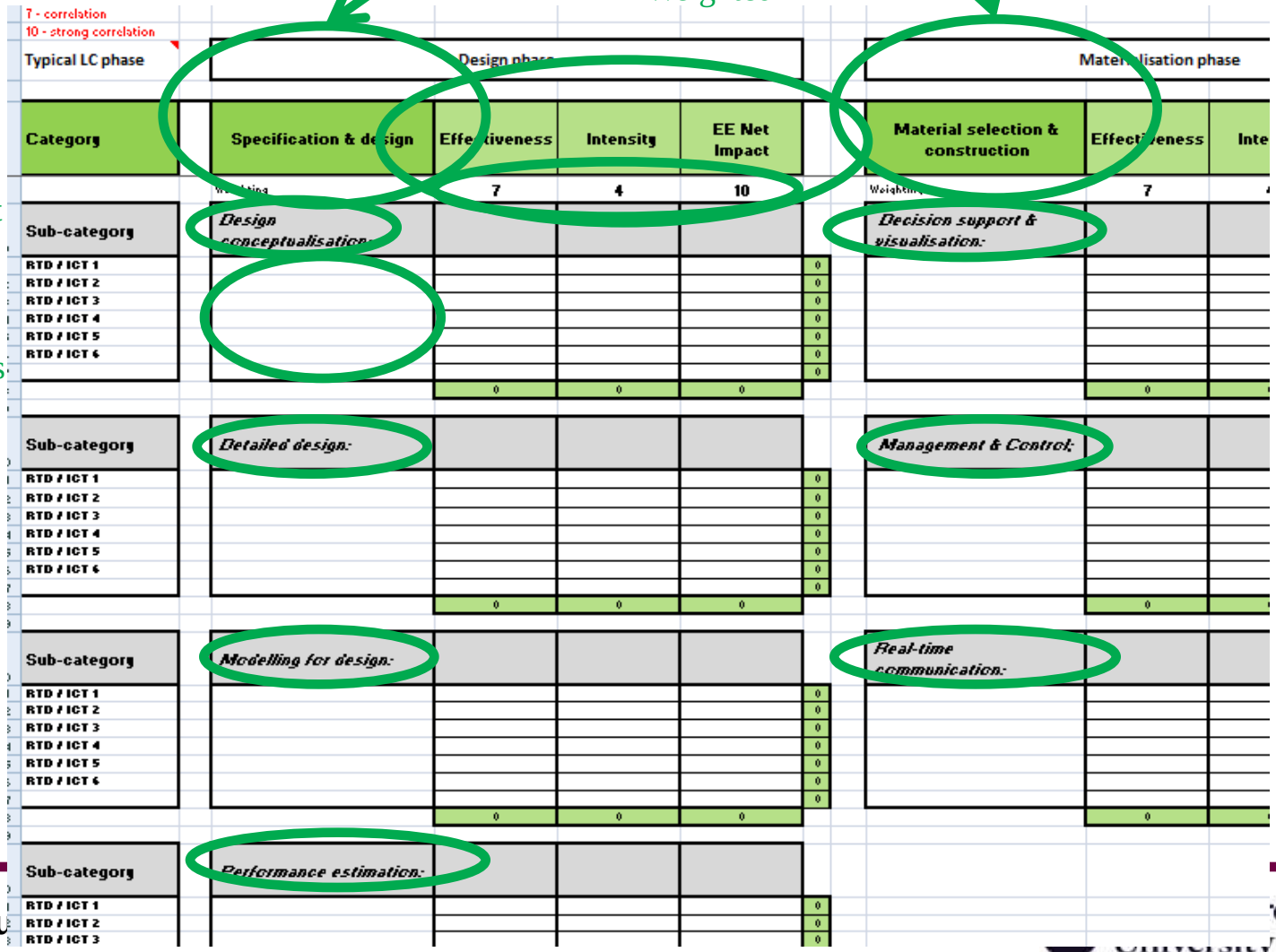


An Example

•SMARTT categories are defined, & are aligned to Life cycle phases

•Weighted

- •Scored against
- •3 effects
- •Sub-categories are fixed
- •RTD/ICT's entered
- •By partners



7 - correlation
10 - strong correlation

Typical LC phase		Design phase				Materialisation phase		
Category	Specification & design	Effectiveness	Intensity	EE Net Impact		Material selection & construction	Effectiveness	Inte
	Weighting	7	4	10		Weighting	7	
Sub-category	Design conceptualisation:					Decision support & visualisation:		
RTD / ICT 1					0			
RTD / ICT 2					0			
RTD / ICT 3					0			
RTD / ICT 4					0			
RTD / ICT 5					0			
RTD / ICT 6					0			
		0	0	0			0	
Sub-category	Detailed design:					Management & Control:		
RTD / ICT 1					0			
RTD / ICT 2					0			
RTD / ICT 3					0			
RTD / ICT 4					0			
RTD / ICT 5					0			
RTD / ICT 6					0			
		0	0	0			0	
Sub-category	Modelling for design:					Real-time communication:		
RTD / ICT 1					0			
RTD / ICT 2					0			
RTD / ICT 3					0			
RTD / ICT 4					0			
RTD / ICT 5					0			
RTD / ICT 6					0			
		0	0	0			0	
Sub-category	Performance estimation:							
RTD / ICT 1					0			
RTD / ICT 2					0			
RTD / ICT 3					0			

Next Steps

- Identify RTD commonalities between the four target sectors
- Develop the cross sectoral vision for ICT4EE
- Develop the cross sectoral roadmap including the SRA and IAP with the ultimate goal of shaping the European research agenda for ICT4EE and future FPs

Conclusions

- **The REViSITE project will produce a multi-disciplinary Roadmap Enabling Vision and Strategy for ICT-enabled Energy Efficiency. It will collect and analyse the up to date research results on ICT4EE and will identify opportunities for integration and applications cross subjects within Europe multidisciplinary 'ICT for Energy Efficiency' research community.**

- **REViSITE started to Establish communication between sectoral ICT4EE communities, and to develop causal model on the potential impacts of ICT on energy efficiency and promote interoperability between the four target sectors**

- **It is consequently expected to bring a strong contribution to EC' development policies by consolidation of the stakeholders communities in ICT4EE, raise awareness and inform policy makers and funding bodies, and promote ICT4EE as a cross disciplinary path in education and training**

Thank You

www.revisite.eu

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