



GRASP

University of Patras
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REPUBLIC-MED Open Day

Piraeus, Greece

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Project Facts

- **Program:** MED
- **Reference:** 1C-MED12-33
- **Acronym:** GRASP
- **Full title:** Green procurement And Smart city suPport in the energy sector
- **Countries participating:** Ellas, Italy, France, Cyprus, Spain, Malta, Albania and Bosnia & Herzegovina



GRASP Consortium (1/2)

- University of Patras, Ellas (LP)
- Province of Perugia, Italy
- Institute for the Research and Improvement of Social Sciences (IRISS), Malta
- Chamber of Commerce and Industry of Terrassa, Spain
- Mountain Community ALTO BASENDO, (Program Area Basento Bradano Camastra), Italy
- Municipality of Spata-Artemis, Ellas
- APEA Siena - Provincial Agency for Energy,
- Environment and Sustainable Development, Italy



GRASP Consortium (2/2)

- ATLANTIS Consulting, Cyprus
- Chamber of Commerce, Industry and Navigation of Castellón, Spain
- Inter-District Association of Electrification and Lighting of Haute-Corse (SIEEP), France
- Municipality of Pilea-Hortiatis, Ellas
- University of Vlora “Ismail Qemali,” Albania
- City Development Agency East Sarajevo-RAIS, Bosnia & Herzegovina



Project Goals

□ Promote

- smart management of supply and demand to support innovative solutions in Mediterranean
- ensure that renewable energy and energy efficiency solutions are implemented in the most cost-efficient way

□ Improve

- knowledge for better energy management for SMEs



Main Objectives (1/2)

- **Improve knowledge for better energy management**
 - Energy efficiency (EE)
 - Renewable energy sources (RES)

- **Promote smart management of supply & demand**
 - increase skills of public procurement services on EE/RES
 - set up networks of public procurers
 - ensure cost-optimal measures in public demand



Main Objectives (2/2)

- **Promote smart management of supply & demand**
 - promote these measures in SMEs
 - inform final users to better identify needs
 - ensure efficient use of technologies
 - mobilise intermediary bodies (Ch. of Commerce, Bus. Ctrs, innov. Agencies) to improve quality of public demand of EE/RES solutions

- **Promote cost-efficient implementation**

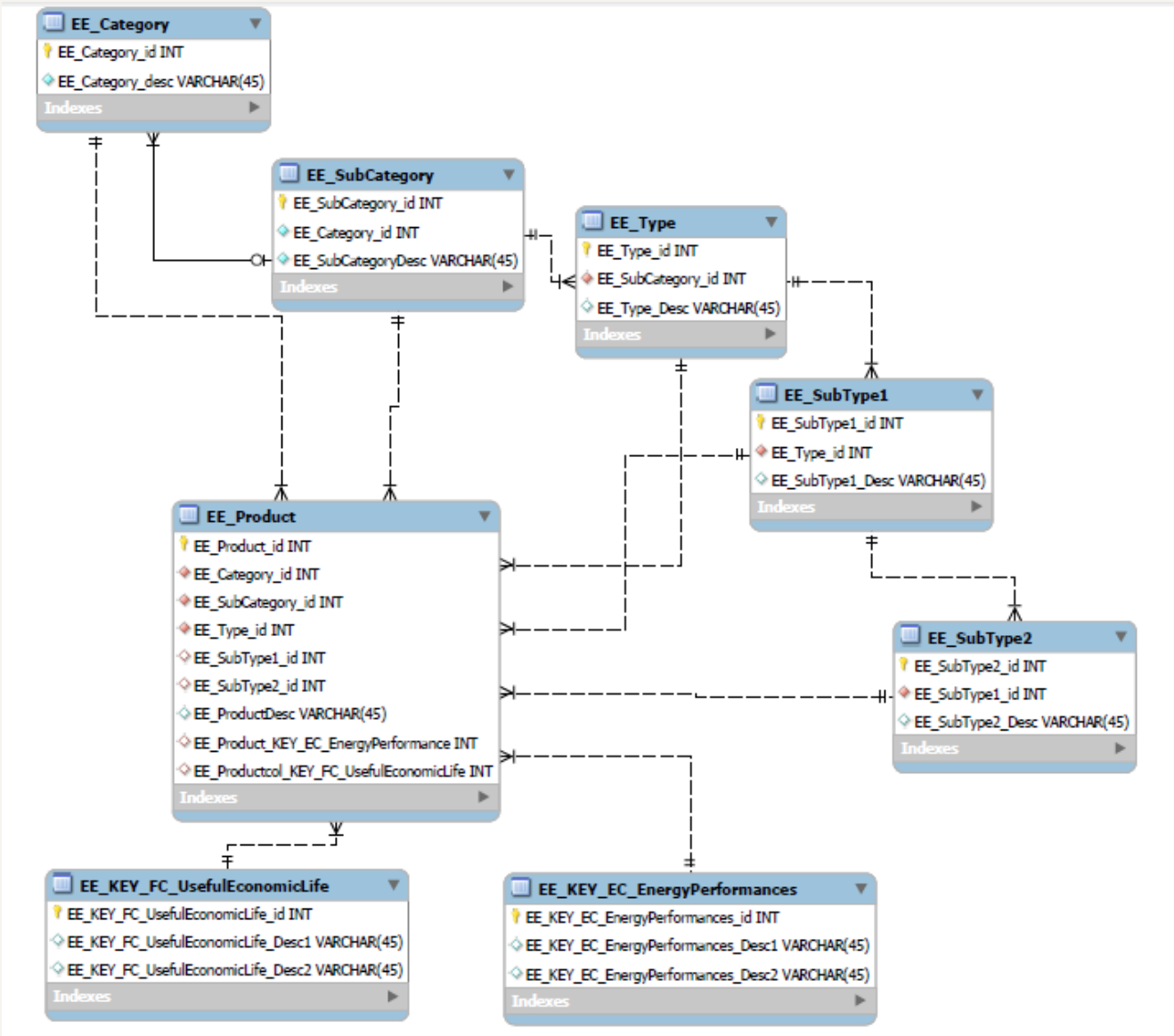


Expected Output

- GRASP Transnational Mediterranean Network
 - Databases for public bodies and SMEs
 - Knowledge database
 - Solutions database including major options in market
 - E-procurement on-line service (& toolkit) with smart characteristics and functionalities
 - Joint Pilot Actions (method, implementation, evaluation)
 - Action Plans & Impact Case Studies (how partner implements output
 - & expected impact, especially after project end)

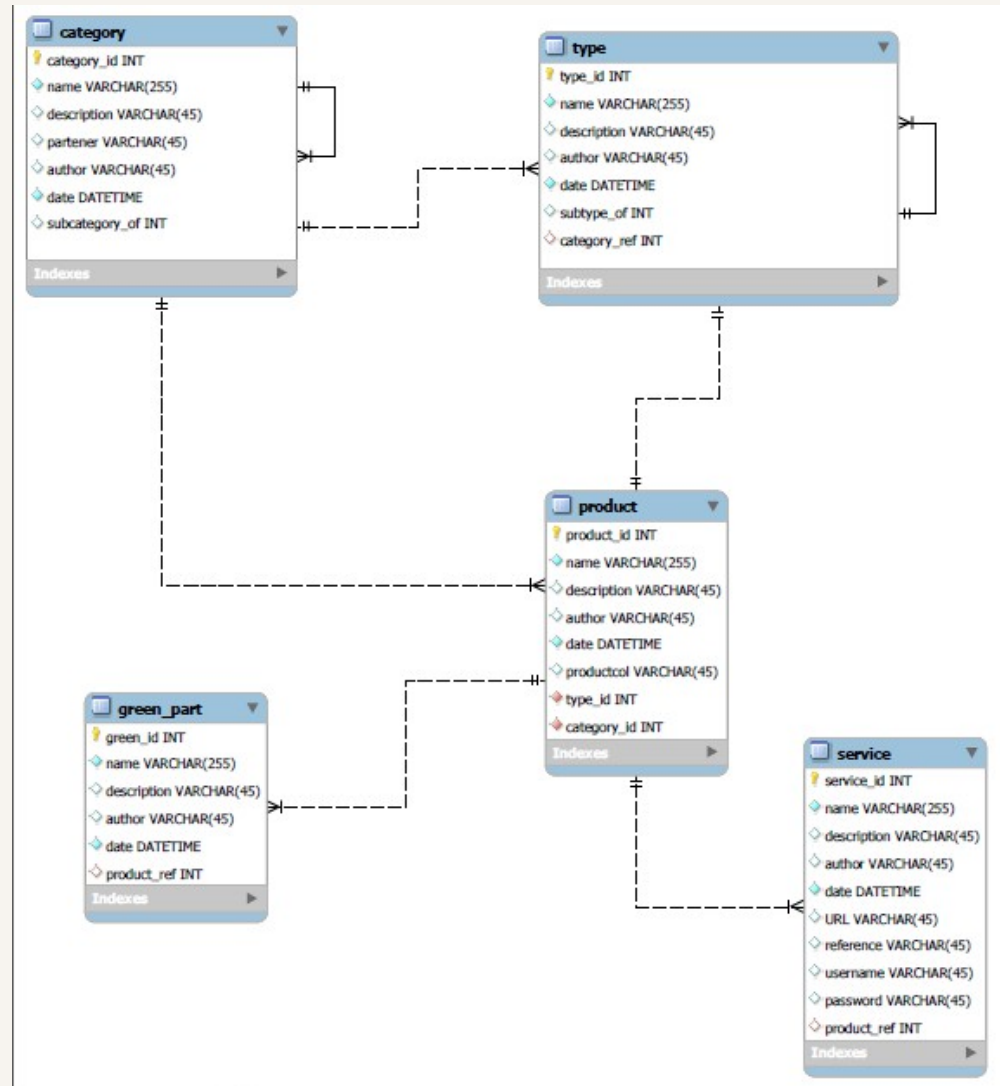


Database – Model 1





Database – Model 2



GRASP Progress (1/3)

Energy efficiency

- Public Lighting
- Building renovation & retrofitting
- Building climate control
- Heating and cooling efficiency
- IT equipment

Renewable energy

- Solar energy
- Wind energy
- Geothermal energy

GRASP Progress (2/3)

Key elements

- Environmental criteria
 - Energy performance
 - Key technologies
 - Health
 - Waste
 - Emissions

- Financial considerations
 - Useful economic life
 - Operational cost
 - Investment cost

Example: Wind power category

<u>TYPE</u>	<u>Sub-Type 1</u>	<u>Sub-Type 2</u>	<u>Power</u>	<u>Useful life</u>
			<u>KW</u>	<u>Year</u>
ON-shore	Domestic-scale wind power	Horizontal axis wind turbine	1-20	20
ON-shore	Small-scale wind power	Horizontal axis wind turbine	20-200	20
		Vertical axis wind turbine		
ON-shore	Medium-scale wind power	Horizontal axis wind turbine	200-1000	20
		Vertical axis wind turbine		
ON-shore	Flat Wind Farm	Horizontal axis wind turbine	1000-5000	20
		Vertical axis wind turbine		
ON-shore	Flat Wind Farm	Horizontal axis wind turbine	> 5000	20
		Vertical axis wind turbine		
OFF-shore	Offshore Wind Farm	Horizontal axis wind turbine	1-5000	25
		Vertical axis wind turbine		
OFF-shore	Offshore Wind Farm	Horizontal axis wind turbine	> 5000	25
		Vertical axis wind turbine		
High-altitude wind power		Parachute	60-600	

Example: Geothermal Energy Components

<u>SUBCATEGORY</u>	<u>TYPE</u>	<u>Sub-Type 1</u>	<u>GREEN PARTS & SERVICES</u>
Geothermal heat pumps	Open loop		Heat exchanger
			Compressor
			Duct cleaning agents
			Condenser
			Evaporator
	Closed loop		Heat exchanger
			Compressor
			Condenser
			Evapor ator
			Pipes./ducts
Industrial (electricity production)	Enhanced geothermal		Turbines / Generators
			Condenser
			Wells /pipelines
			Pumps
			Cooling tower
			Gas removal
			Hydrogen sulphide control

Example: Solar Energy

<u>SUBCATEGORY</u>	<u>TYPE</u>	<u>Sub-Type 1</u>	<u>GREEN PARTS & SERVICES</u>	
Photovoltaics	Large scale systems		Panels <ul style="list-style-type: none"> • Crystalline Silicone <ul style="list-style-type: none"> ○ monocrystalline ○ polycrystalline • Rigid Thin film • Flexible Thin film 	
			Solar Trackers	
			DC to AC converters / micro-inverters	
			Roof mounts	
	Home systems		Panels <ul style="list-style-type: none"> • Crystalline Silicone • Rigid Thin film • Flexible Thin film 	
			Solar Trackers	
			DC to AC converters / micro-inverters	
			Panel base foundation	
	Solar thermal	Industrial Power Plants		Reflector <ul style="list-style-type: none"> • Linear Parabolic • Tubes • Parabolic • Sterling • Tower
				Absorber system
			Turbines	
			Generators	
			Pumps	
			Cooling Tower	
			Condenser	
			Evaporator	
		Solar Trackers		
		Solar water heaters	Solar Panel	
		Storage tank		
		Piping		

GRASP Progress (3/3)

- Identification of Criteria (Certificates) to assure Green designation of tenderers
- Development of Weights for fair Evaluation of Green certification in tendering process
- Identification of specs for Green products / services

Main challenge

Resolve conflicts/barriers between GRASP method and existing national methods/legislation.



GRASP Synergies (1/3)

- Interaction with other MED projects
 - Template & Updating
 - Attendance of meetings and other events
 - Exploring cooperation potential

- Meeting with REPUBLIC-MED & REMIDA in Spata, Ellas:
 - Project Progress
 - Common Ground
 - Memorandum of Understanding



GRASP Synergies (2/3)

Memorandum of Understanding

- Development of Databases
- Specification of Green Assessment Indicators
- Certification/Evaluation of these Indicators
- Cooperation on common Dissemination Activities



GRASP Synergies (3/3)

Memorandum of Understanding

- Assistance on each other's challenges:
 - Technology Sorting/Best Practices in Energy Pilots of PPPP's (REMIDA)
 - Best Practices on Procurement/Legal Framework at national and European level (GRASP)
 - Development of Socio-Economics of Energy consumption



Questions?

THANK YOU!

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