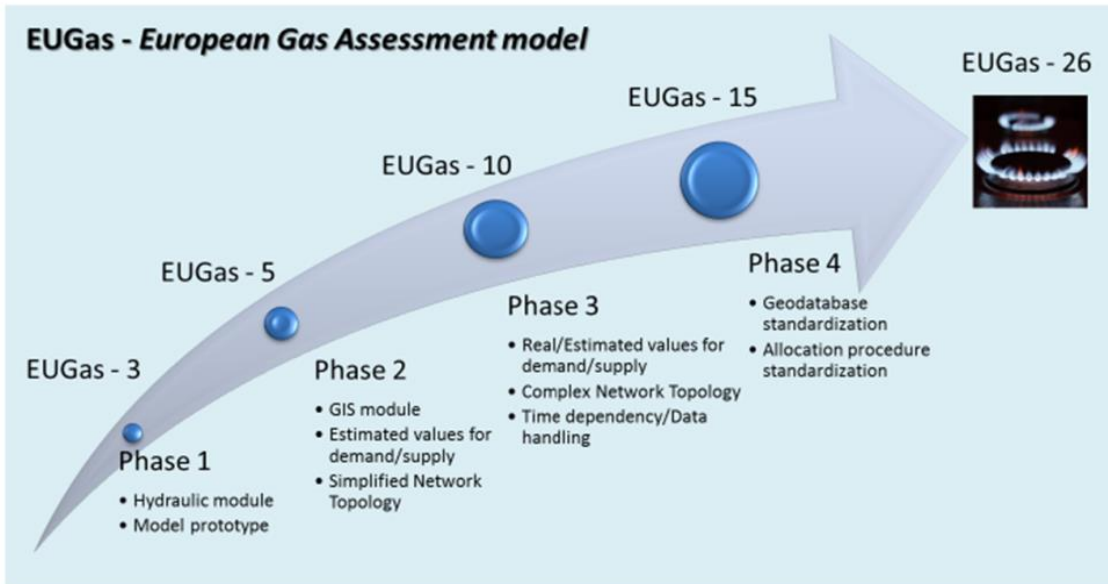


Reference No.	Title:	EXTENSION OF THE EUROPEAN NATURAL GAS TRANSMISSION INFRASTRUCTURE MODEL (EU GAS) TO 10 EU COUNTRIES						
Name of legal entity	Country	Overall project value (€)	Proportion carried out by candidate (%)	No of staff provided	Name of client	Origin of funding	Dates (start/end)	Partner
	Greece	138.388€	70%	6	EU JRC Petten NL	EU JRC Petten NL	13/11/2013 28/02/2015	
Summary of the Project						Type of services provided		
EUGas is a country level mathematical model of the European NNGTS covering 16 Member States (i.e., Austria, Bulgaria, Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Hungary, Latvia, Lithuania, Netherlands, Poland, Romania, Slovakia, Sweden). EUGas is built using a combination of commercially available software to provide a technical insight into the operation of such a complex system. In particular the software tools ESRI ArcGIS® and GL Noble Denton "SynerGEE® Gas" are used to collect, process, manage and run the model. The primary driver for the work is to support the security analysis of the European infrastructure being considered at IET-JRC and to allow a view to be taken on its resilience by evaluating and analysing scenarios of the network responses and dynamics caused by loss of facilities, geopolitical gas crises and other potential threats and hazards that could jeopardise EU energy security.						Epsilon International SA is has to complete the tasks by 30.2.15: - Collect, from validated data providers, the information concerning values of the gas demand/supply for each country - Check and update the topology and facilities' attributes of the NNTGS of each Country based on the validated geodatabase provided by the ESU JRC-IET - Merge all GIS data across the EU Gas utilities into a single and seamless ArcGIS database. - Develop a gas fluids model for each country to evaluate the national transmission system resilience and to support the creation of scenarios to simulate security implications. Elaborate, implement and test a procedure to link and integrate the results of a country level hydraulic model against the EUGas model as well as any model derived by aggregating single country models. Provide two reports, one concerning model development and one concerning models integration. The model developing report shall describe in details and for each country: (i) model assumptions, (ii) data assumptions and limits, (iii) model development steps, (iv) model inputs and outputs, and (v) model validation procedure. Provide a training session on: (i) major steps of model development, (ii) use of the developed model, (iii) scenario creation, and (iv) models link and integration. - Provide a "support service" to the ESU for 3 months after the delivery of results, models and reports.		
								
FIGURE 2. EVOLUTION OF THE EUGAS MODEL SHOWING THE ADDITION OF NEW FEATURES, THE INCREASE IN NUMBER OF ANALYSED COUNTRIES AND OF THE SPATIAL-TEMPORAL COMPLEXITY OF THE GAS NETWORK.								
						Key Epsilon Project Personnel (3 out of the 6)		
						- Prof. Marc Bonazountas – Project management – 2M/M - Mr. Andreas Kandiros – Permanent Associate – 3M/M - Mr. Anastasios Tripsidis – Permanent Associate – 7M/M		