PROJECT FINAL REPORT

Grant Agreement number:	FP7 – 262060
Project acronym:	**EXPEER**
Project title:	Distributed Infrastructure for EXPErimentation in Ecosystem Research
Funding Scheme:	Combination of CP & CSA
Period covered:	from 1 December 2010 to 31 May 2015

Project co-ordinator name, title and organisation:

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1.3 Description of the main S&T results/foregrounds

WP1

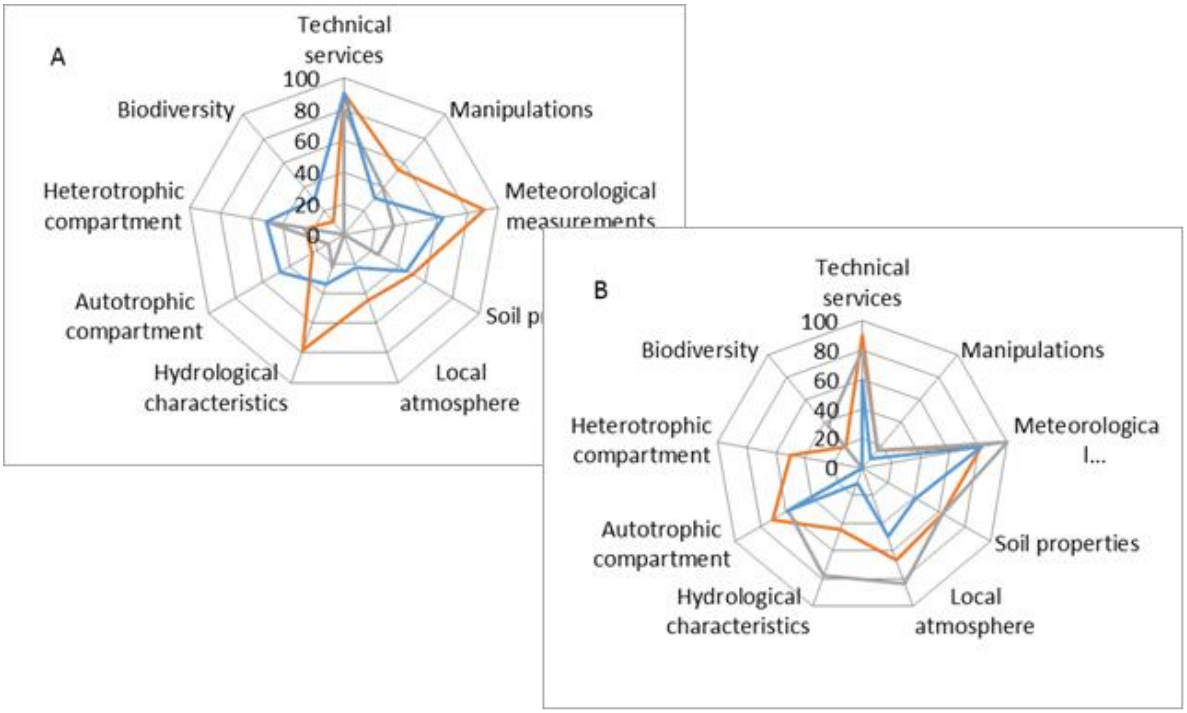

Figure 1. A: Agriculture: Orange: Harz Tereno(Germany), Blue: Rothamsted (England), Gray: Apelsvoll (Norway) and B, Forest ; Orange: Hyytiälä (Finland), Gray: Zöbelboden (Austria), Blue: Hesse (France)

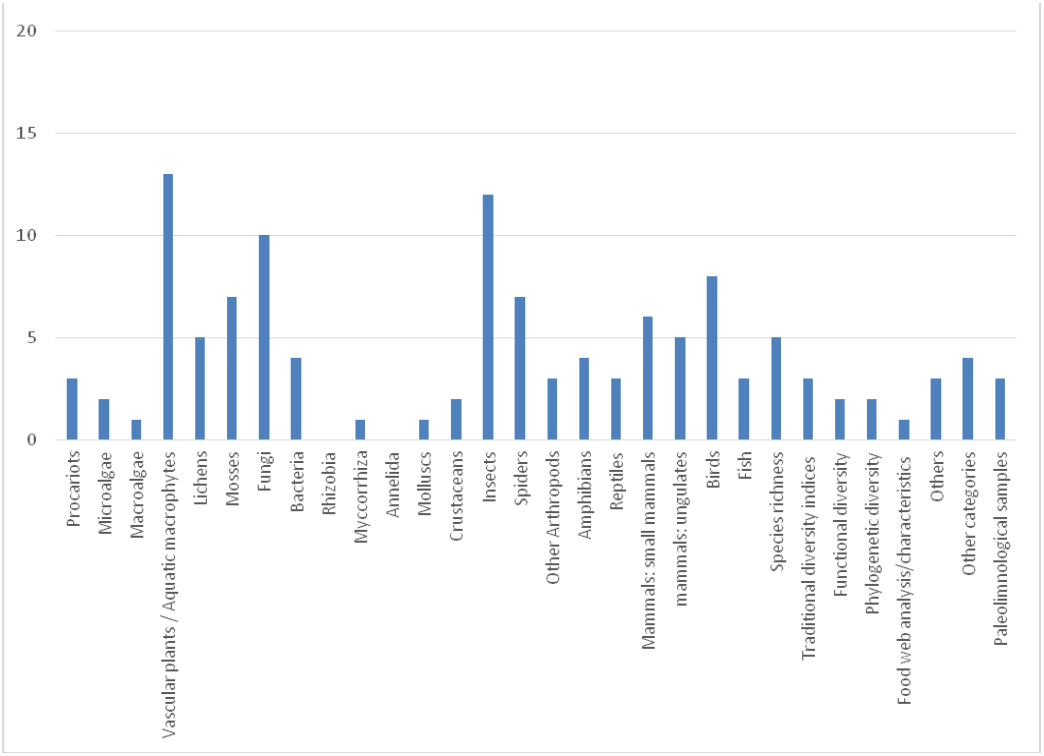

Figure 2. Number of ExpeER sites conducting biodiversity measurement on specific categories of organisms (Traditional diversity indices: Shannon, Simpson, etc.; Food web analysis/characteristics: length, connectivity, etc.)

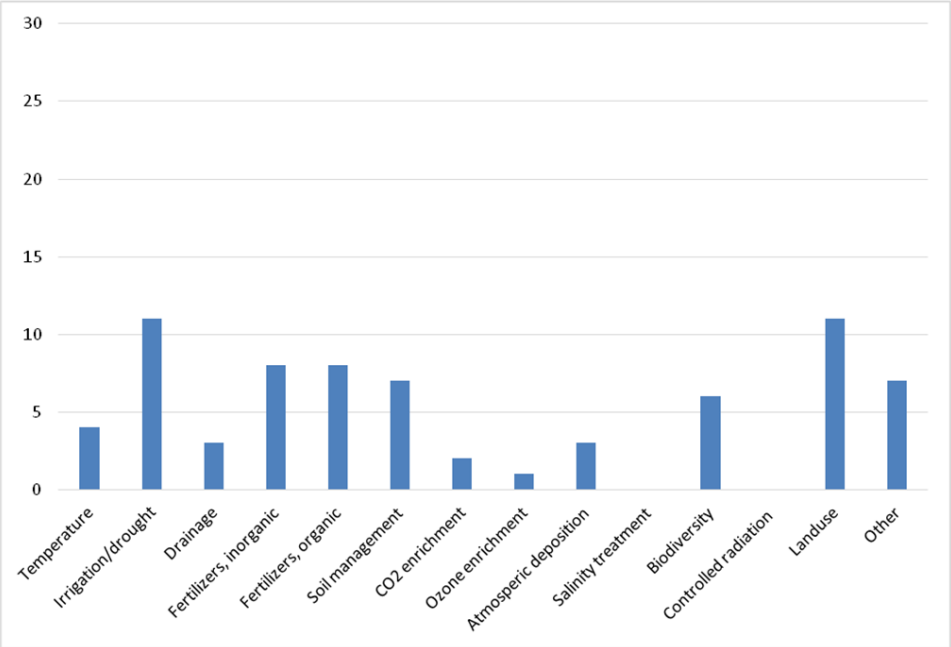

Figure 3. Number of ExpeER in situ sites manipulating various ecosystem drivers. (Controlled radiation includes light intensity and spectrum treatment).

WP2

Ecological functions	Protocol
Matter storage	Above ground biomass
Matter loss, nutrient cycling	Decomposition
Habitat diversity, habitat management	Land use and management
Energy capture	Leaf area index
Faunal diversity	Soil macrofaunal diversity
Matter storage, element concentration	Soil organic matter – C & N stocks
Metabolic efficiency	Greenhouse gas emissions from soils

Table 1. Set of seven protocols, reflecting a broad range of ecological functions

Image 1. Practical lesson of biomass sampling in grassland during the SAéPER course in Amsterdam

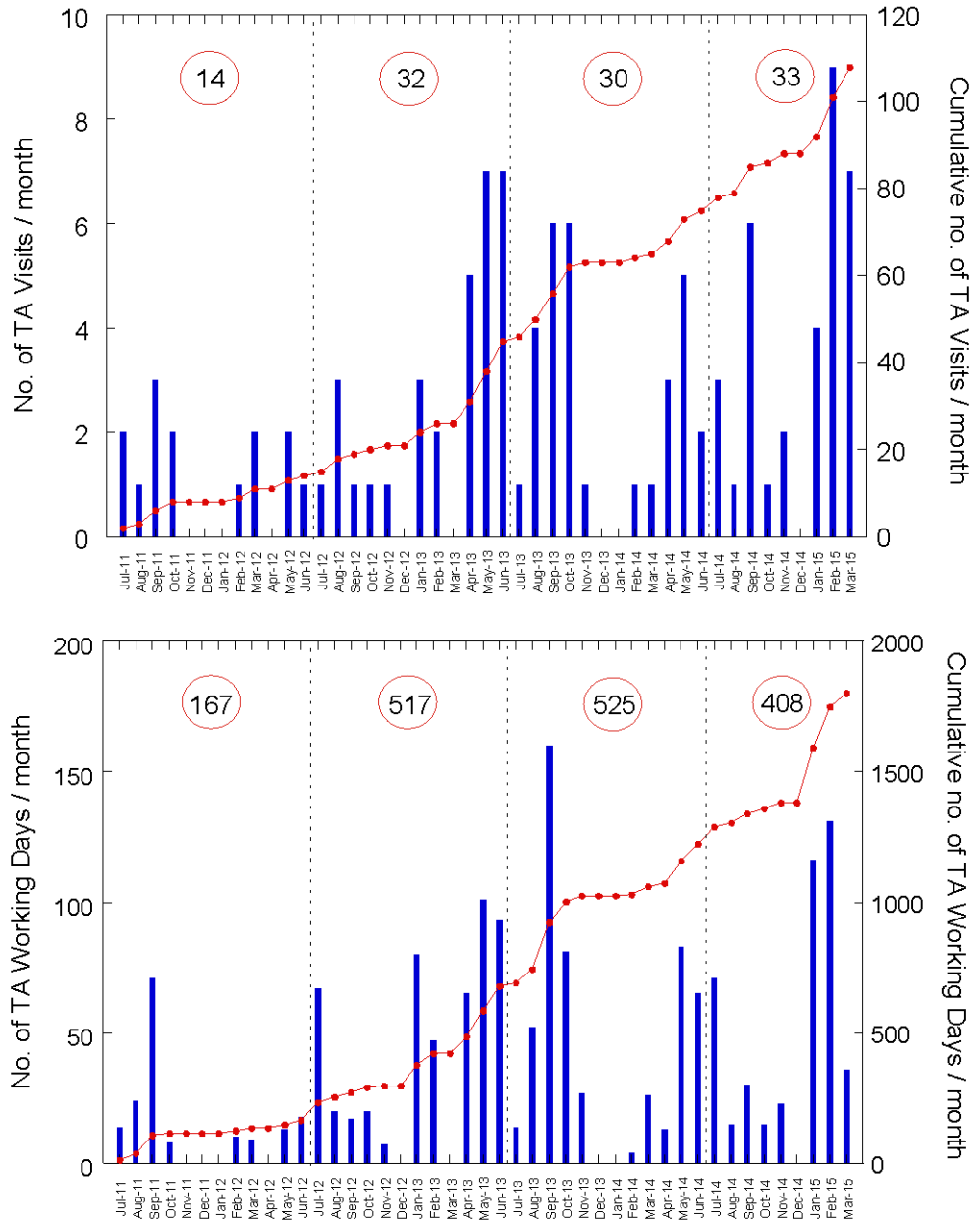

Figure 4. TA activity throughout the ExpeER project: number of TA visits per month and cumulative total (top) and number of TA working days per month and cumulative total (bottom). Yearly totals are shown in red circles.

TA Site Name	Min. quantity of TA to be provided	Number of TA Visits	Nº. TA Days Used	% TA Days Used
Apelsvoll, Norway	29	0	0	0
Braila Islands, Romania	57	0	0	0
Seehornwald, Switzerland	22	0	0	0
Therwil, Switzerland	22	0	0	0
Moor House, UK	90	1	3	3%

Lusignan, France	120	2	10	8%
Tatra Windstorm, Slovakia	264	2	25	10%
Hesse, France	57	2	7	12%
Hartz, Germany	64	2	12	19%
Ecosylve, France	36	2	9	25%
Eifel, Germany	120	3	36	30%
Roma-Lecceto, Italy	61	3	39	64%
Whim, UK	120	9	99	83%
Beano, Italy	25	4	23	92%
Rothamsted, UK	32	5	30	94%
Fruska gora, Serbia	75	5	75	100%
Hyytiala, Finland	168	10	172	102%
Jena, Germany	72	4	74	103%
Molecular Ecology Lab, Italy	48	4	50	104%
Tetto Frati, Italy	43	4	47	109%
Achenkirch, Austria	58	4	71	122%
Puechabon, France	41	3	51	124%
Negev, Israel	124	12	156	126%
Donana, Spain	67	5	85	127%
Biogeochemistry Lab, France	80	4	110	138%
Zöbelboden, Austria	15	4	21	140%
Höglwald Forest, Germany	140	6	205	146%
Klausenleopoldsdorf, Austria	33	2	49	149%
Montpellier Ecotron, France	98	9	158	161%

Table 2. Summary of TA activity across ExpeER sites, including number of visits, number of TA days used, and the % of TA days used as per DoW (as per updated figures 2nd July, 2014). TA sites are ranked in order of % TA days used.

WP7

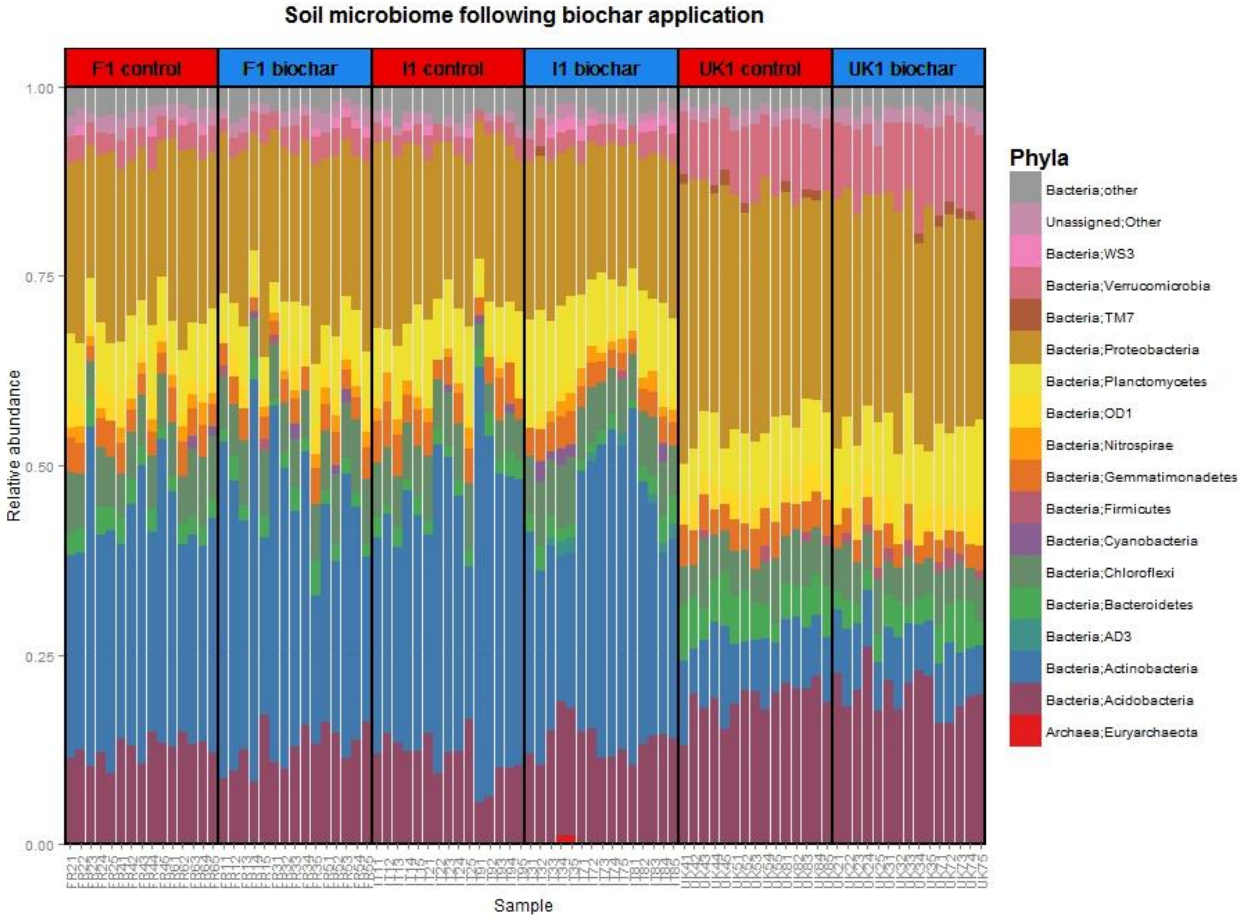

Figure 5. phylum level shifts in bacteria due to treatment. F = France, I = Italy, UK= UK. Blue and red column headers denote treatment, with control samples in blue and biochar samples in red.

WP8

Figure 6. Set-up to test a new infrared heater control based on the energy balance (Antwerp, Belgium)

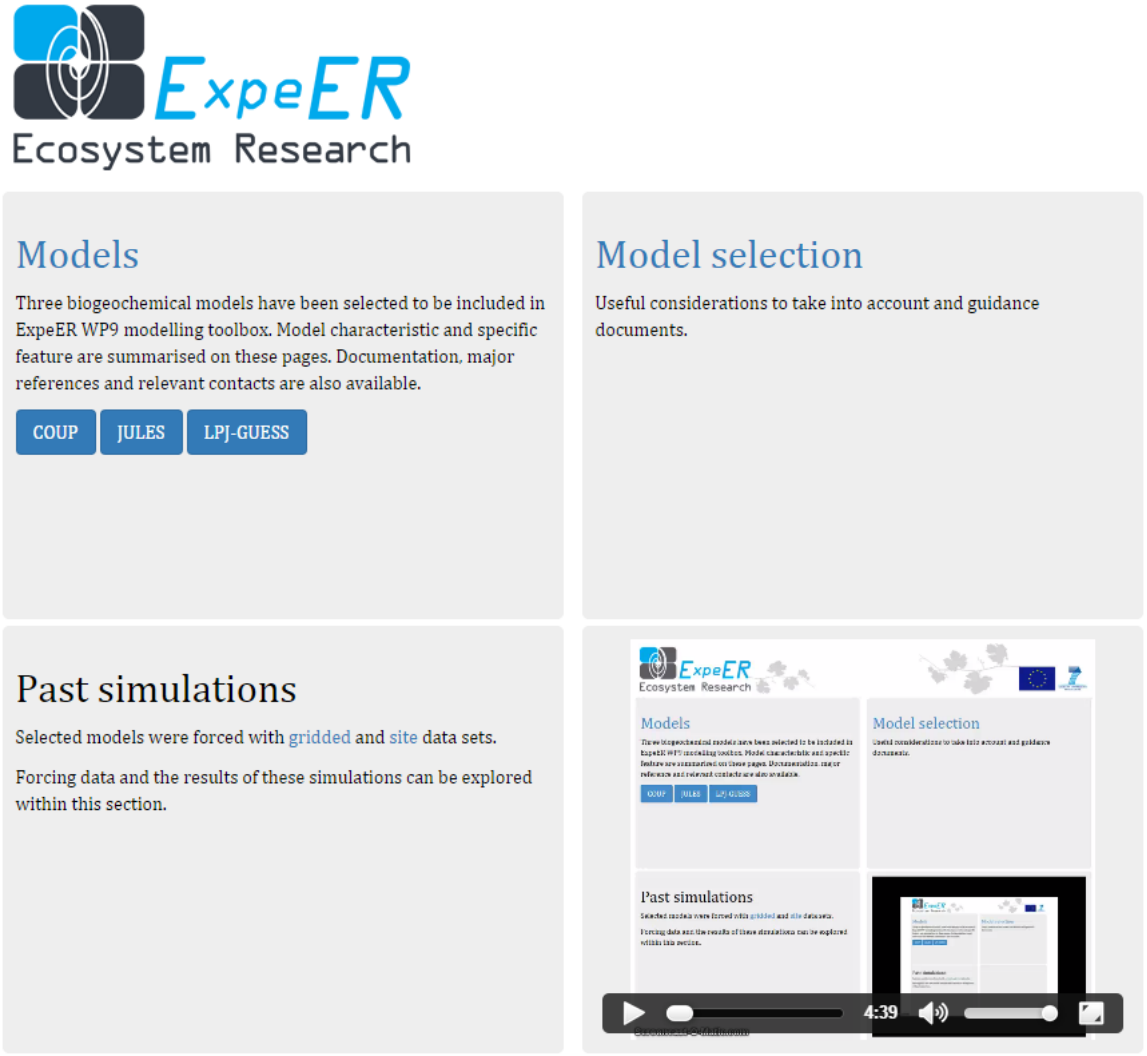

Figure 7. Toolbox webpage showing navigation for Models, Model Selection and Past Simulations.

	COUP	**LPJ-GUESS**	**JULES**
Purpose - Features	Quantification of basic hydrological and biological processes in the soil plant atmosphere system. The model simulates soil water and heat processes in many types of soils.	Dynamic global vegetation model for simulation of interactions between climate, atmospheric burdens of trace gases and vegetation, biogeochemical cycles and trace gas exchange.	Process-based model that simulates the fluxes of carbon, water, energy and momentum between the land surface and the atmosphere.
Scale – Spatial Unit	Spatial resolution: plot. However model can be run in distributed model representing any region.	10 minutes (Europe) or 0.5 degree (globe). May also be applied at stand or plot scale.	Typically 1km for the UK or 0.5 degree (globe) but may also be applied at stand or plot scale.

Table 3. Summary of whole-ecosystem models in the WP9 Modelling Toolbox

1.4 Potential impact, the main dissemination activities and exploitation of results

WP1

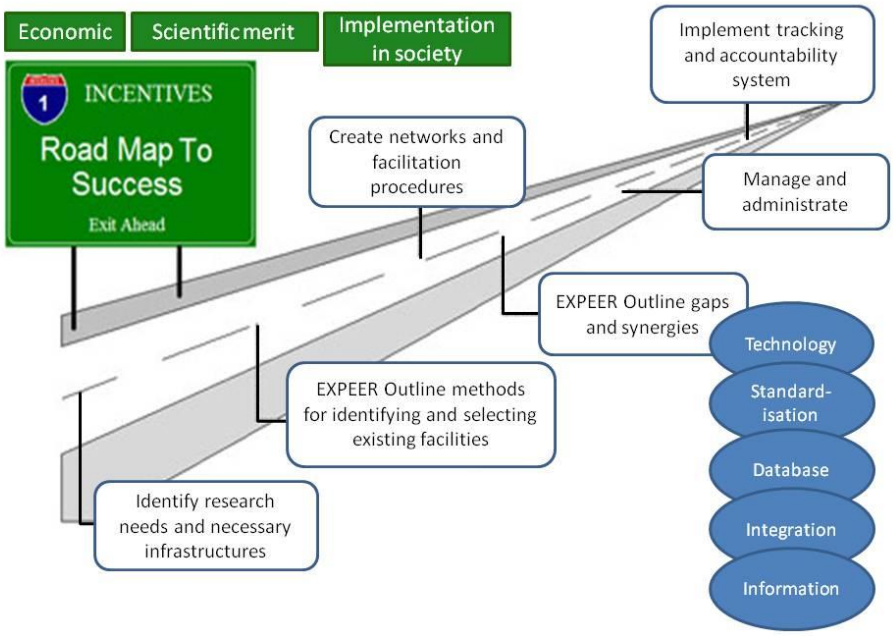

Figure 8. Necessary steps towards a successful implementation of pan-European infrastructure for ecosystem research. Contributions by the ExpeER project in blue and incentives necessary in green (Figure from ExpeER deliverable D 1.3)

WP8

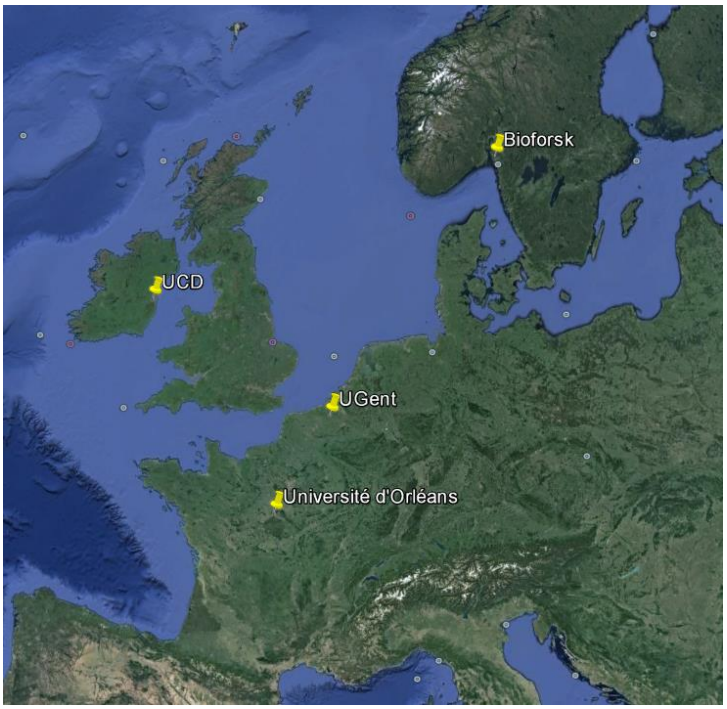

Figure 9. Inventory of consultation on IR warming provided by UA